This is a 100% Small Business Set A-side

SOLICITATION, OFFER AND AWARD

1. THIS CONTRACT IS A RATED ORDER UNDER DPAS (15 CFR 700)	RATING	PAGE 1	OF PAGES 272	
2. CONTRACT NO.	3. SOLICITATION NO. DACW37-01-R-0013	4. TYPE OF SOLICITATION [ ] SEALED BID (IFB) [X] NEGOTIATED (RFP)	5. DATE ISSUED 21 Nov 2001	6. REQUISITION/PURCHASE NO.

7. ISSUED BY
CONTRACTING DIVISION
USACE - ST PAUL
190 5TH STREET E
ST PAUL MN 55101-1638
CODE DACW37
TEL:
FAX: 651-290-5706

8. ADDRESS OFFER TO (If other than Item 7) CODE
See Item 7
TEL:
FAX:

NOTE: In sealed bid solicitations "offer" and "offeror" mean "bid" and "bidder".

SOLICITATION

9. Sealed offers in original and 0 copies for furnishing the supplies or services in the Schedule will be received at the place specified in Item 8, or if handcarried, in the depository located in _____ until 16 00 (Hour) local time 21 Dec 2001 (Date)

CAUTION - LATE Submissions, Modifications, and Withdrawals: See Section L, Provision No. 52.214-7 or 52.215-1. All offers are subject to all terms and conditions contained in this solicitation.

10. FOR INFORMATION CALL:	A. NAME	B. TELEPHONE (Include area code)(NO COLLECT CALLS)	C. E-MAIL ADDRESS
	KEVIN P HENRICKS	651-290-5415	kevin.p.henricks@usace.army.mil

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OFFER (Must be fully completed by offeror)

NOTE: Item 12 does not apply if the solicitation includes the provisions at 52.214-16, Minimum Bid Acceptance Period.

12. In compliance with the above, the undersigned agrees, if this offer is accepted within _____ calendar days (60 calendar days unless a different period is inserted by the offeror) from the date for receipt of offers specified above, to furnish any or all items upon which prices are offered at the price set opposite each item, delivered at the designated point(s), within the time specified in the schedule.

13. DISCOUNT FOR PROMPT PAYMENT (See Section I, Clause No. 52.232-8)

14. ACKNOWLEDGMENT OF AMENDMENTS (The offeror acknowledges receipt of amendments to the SOLICITATION for offerors and related documents numbered and dated):

AMENDMENT NO.	DATE	AMENDMENT NO.	DATE

15A. NAME AND ADDRESS OF OFFEROR — CODE _____ FACILITY _____

16. NAME AND TITLE OF PERSON AUTHORIZED TO SIGN OFFER (Type or print)

15B. TELEPHONE NO (Include area code)

15C. [ ] CHECK IF REMITTANCE ADDRESS IS DIFFERENT FROM ABOVE - ENTER SUCH ADDRESS IN SCHEDULE.

17. SIGNATURE

18. OFFER DATE

AWARD (To be completed by Government)

19. ACCEPTED AS TO ITEMS NUMBERED

20. AMOUNT

21. ACCOUNTING AND APPROPRIATION

22. AUTHORITY FOR USING OTHER THAN FULL AND OPEN COMPETITION:
[ ] 10 U.S.C. 2304(c)( ) [ ] 41 U.S.C. 253(c)( )

23. SUBMIT INVOICES TO ADDRESS SHOWN IN (4 copies unless otherwise specified) ITEM

24. ADMINISTERED BY (If other than Item 7) CODE

25. PAYMENT WILL BE MADE BY CODE

26. NAME OF CONTRACTING OFFICER (Type or print)

27. UNITED STATES OF AMERICA (Signature of Contracting Officer)

28. AWARD DATE

IMPORTANT - Award will be made on this Form, or on Standard Form 26, or by other authorized official written notice.

SECTION B Supplies or Services and Prices

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0001	Equipment & Support Engineer Scvs. for Station A1 FFP			_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0001AA	Pump 1Controls FFP	1.00	Each	_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0001AB	Pump 2 Controls FFP	1.00	Each	_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0001AC	Sump Pump 1Controls FFP	1.00	Each	_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0001AD	Control Panel FFP	1.00	Each	_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0001AE	Data Link Telecommunication System FFP	1.00	Lump Sum	_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0001AF		1.00	Lump Sum		
	Transducers and Liquid Level Floats FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0001AG		1.00	Lump Sum		
	Support Engineering Services FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0002					
	Equipment & Support Engineer Svcs. for Station C4 FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0002AA		1.00	Each		
	Pump 1Controls FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0002AB		1.00	Each		
	Pump 2 Controls FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0002AC		1.00	Each		
	Sump Pump 1Controls FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0002AD		1.00	Each		
	Control Panel FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0002AE		1.00	Lump Sum		
	Data Link Telecommunication System FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0002AF		1.00	Lump Sum		
	Transducers and Liquid Level Floats FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0002AG		1.00	Lump Sum		
	Support Engineering Services FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0003					
	Equipment & Support Engineer Scvs. for Station E2 FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0003AA		1.00	Each		
	Pump 1Controls FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0003AB		1.00	Each		
	Pump 2 Controls FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0003AC		1.00	Each		
	Sump Pump 1Controls FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0003AD		1.00	Each		
	Control Panel FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0003AE		1.00	Lump Sum		
	Data Link Telecommunication System FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0003AF		1.00	Lump Sum		
	Transducers and Liquid Level Floats FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0003AG		1.00	Lump Sum		
	Support Engineering Services FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0004	Equipment & Support Engineer Svcs. for Station H4 FFP			_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0004AA	Pump 1Controls FFP	1.00	Each	_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0004AB	Pump 2 Controls FFP	1.00	Each	_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0004AC	Sump Pump 1Controls FFP	1.00	Each	_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0004AD	Control Panel FFP	1.00	Each	_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0004AE	Data Link Telecommunication System FFP	1.00	Lump Sum	_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0004AF		1.00	Lump Sum		
	Transducers and Liquid Level Floats FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0004AG		1.00	Lump Sum		
	Support Engineering Services FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0005					
	Equipment & Support Engineer Svcs. for Station D2 FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0005AA		1.00	Each		
	Pump 1Controls FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0005AB		1.00	Each		
	Pump 2 Controls FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0005AC		1.00	Each		
	Pump 3 Controls FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0005AD		1.00	Each		
	Sump Pump 1Controls FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0005AE		1.00	Each		
	Control Panel FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0005AF		1.00	Lump Sum		
	Data Link Telecommunication System FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0005AG		1.00	Lump Sum		
	Transducers and Liquid Level Floats FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0005AH		1.00	Lump Sum		
	Support Engineering Services FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0006					
	Equipment & Support Engineer Svcs. for Station A3 FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0006AA	Pump 1Controls FFP	1.00	Each	_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0006AB	Pump 2 Controls FFP	1.00	Each	_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0006AC	Sump Pump 1Controls FFP	1.00	Each	_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0006AD	Control Panel FFP	1.00	Each	_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0006AE	Data Link Telecommunication System FFP	1.00	Lump Sum	_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0006AF	Transducers and Liquid Level Floats FFP	1.00	Lump Sum	_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0006AG		1.00	Lump Sum		
	Support Engineering Services FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0007					
	Equipment & Support Engineer Svcs. for Station D3 FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0007AA		1.00	Each		
	Pump 1Controls FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0007AB		1.00	Each		
	Pump 2 Controls FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0007AC		1.00	Each		
	Sump Pump 1Controls FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0007AD		1.00	Each		
	Control Panel FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0007AE		1.00	Lump Sum		
	Data Link Telecommunication System FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0007AF		1.00	Lump Sum		
	Transducers and Liquid Level Floats FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0007AG		1.00	Lump Sum		
	Support Engineering Services FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0008					
	Equipment & Support Engineer Svcs. for Station C3 FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0008AA		1.00	Each		
	Pump 1Controls FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0008AB		1.00	Each		
	Pump 2 Controls FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0008AC		1.00	Each		
	Pump 3 Controls FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0008AD		1.00	Each		
	Sump Pump 1 Controls FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0008AE		1.00	Each		
	Control Panel FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0008AF		1.00	Lump Sum		
	Data Link Telecommunication System FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0008AG		1.00	Lump Sum		
	Transducers and Liquid Level Floats FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0008AH		1.00	Lump Sum		
	Support Engineering Services FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0009	Equipment & Support Engineer Svcs. for Station E1 FFP			_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0009AA	Pump 1 Controls FFP	1.00	Each	_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0009AB	Pump 2 Controls FFP	1.00	Each	_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0009AC	Pump 3 Controls FFP	1.00	Each	_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0009AD	Sump Pump 1 Controls FFP	1.00	Each	_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0009AE	Control Panel FFP	1.00	Each	_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0009AF		1.00	Lump Sum		
	Data Link Telecommunication System FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0009AG		1.00	Lump Sum		
	Transducers and Liquid Level Floats FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0009AH		1.00	Lump Sum		
	Support Engineering Services FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0010					
	Equipment & Support Engineer Svcs. for Station H1 FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0010AA		1.00	Each		
	Pump 1 Controls FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0010AB		1.00	Each		
	Pump 2 Controls FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0010AC		1.00	Each		
	Sump Pump 1 Controls FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0010AD		1.00	Each		
	Sump Pump 2 Controls FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0010AE		1.00	Each		
	Control Panel FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0010AF		1.00	Lump Sum		
	Data Link Telecommunication System FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0010AG		1.00	Lump Sum		
	Transducers and Liquid Level Floats FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0010AH		1.00	Lump Sum		
	Support Engineering Services FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0011	Equipment & Support Engineer Svcs. for Station D1 FFP			_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0011AA	Pump 1 Controls FFP	1.00	Each	_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0011AB	Pump 2 Controls FFP	1.00	Each	_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0011AC	Pump 3 Controls FFP	1.00	Each	_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0011AD	Sump Pump 1 Controls FFP	1.00	Each	_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0011AE	Sump Pump 2 Controls FFP	1.00	Each	_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0011AF		1.00	Each		
	Control Panel FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0011AG		1.00	Lump Sum		
	Data Link Telecommunication System FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0011AH		1.00	Lump Sum		
	Transducers and Liquid Level Floats FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0011AJ		1.00	Lump Sum		
	Support Engineering Services FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0012					
	Equipment & Support Engineer Svcs. for Station D4 FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0012AA		1.00	Each		
	Pump 1 Controls FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0012AB	Pump 2 Controls FFP	1.00	Each	_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0012AC	Pump 3 Controls FFP	1.00	Each	_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0012AD	Pump 4 Controls FFP	1.00	Each	_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0012AE	Sump Pump 1 Controls FFP	1.00	Each	_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0012AF	Sump Pump 2 Controls FFP	1.00	Each	_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0012AG	Control Panel FFP	1.00	Each	_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0012AH		1.00	Lump Sum		
	Data Link Telecommunication System FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0012AJ		1.00	Lump Sum		
	Transducers and Liquid Level Floats FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0012AK		1.00	Lump Sum		
	Support Engineering Services FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0013					
	Equipment & Support Engineer Svcs. for Station C1 FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0013AA		1.00	Each		
	Pump 1 Controls FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0013AB		1.00	Each		
	Pump 2 Controls FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0013AC	Sump Pump 1 Controls FFP	1.00	Each	_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0013AD	Sump Pump 2 Controls FFP	1.00	Each	_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0013AE	Control Panel FFP	1.00	Each	_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0013AF	Data Link Telecommunication System FFP	1.00	Lump Sum	_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0013AG	Transducers and Liquid Level Floats FFP	1.00	Lump Sum	_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0013AH	Support Engineering Services FFP	1.00	Lump Sum	_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0014	Equipment & Support Engineer Svcs. for Station G1 FFP			_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0014AA	Pump 1 Controls FFP	1.00	Each	_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0014AB	Pump 2 Controls FFP	1.00	Each	_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0014AC	Pump 3 Controls FFP	1.00	Each	_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0014AD	Pump 4 Controls FFP	1.00	Each	_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0014AE	Sump Pump 1 Controls FFP	1.00	Each	_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0014AF		1.00	Each		
	Sump Pump 2 Controls FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0014AG		1.00	Each		
	Control Panel FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0014AH		1.00	Lump Sum		
	Data Link Telecommunication System FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0014AJ		1.00	Lump Sum		
	Transducers and Liquid Level Floats FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0014AK		1.00	Lump Sum		
	Support Engineering Services FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0015					
	Equipment & Support Engineer Svcs. for Station J1 FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0015AA		1.00	Each		
	Pump 1 Controls FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0015AB		1.00	Each		
	Pump 2 Controls FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0015AC		1.00	Each		
	Pump 3 Controls FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0015AD		1.00	Each		
	Sump Pump 1 Controls FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0015AE		1.00	Each		
	Control Panel FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0015AF		1.00	Lump Sum		
	Data Link Telecommunication System FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0015AG		1.00	Lump Sum		
	Transducers and Liquid Level Floats FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0015AH		1.00	Lump Sum		
	Support Engineering Services FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0016		1.00	Each		
	Grand Forks Master Control System FFP - Including Operator's Remote Workstation				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0017		1.00	Lump Sum		
	Spare Parts FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0018		1.00	Lump Sum		
	Integrate Existing Grand Forks Pump Stations FFP - Integrate Existing Grand Forks Pump Stations into Master Control Station				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0019					
	Equipment & Support Engineer Scv. for Station K1 FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0019AA	Pump 1 Controls FFP	1.00	Each	_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0019AB	Pump 2 Controls FFP	1.00	Each	_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0019AC	Sump Pump 1 Controls FFP	1.00	Each	_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0019AD	Control Panel FFP	1.00	Each	_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0019AE	Data Link Telecommunication System FFP	1.00	Lump Sum	_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0019AF	Transducers and Liquid Level Floats FFP	1.00	Lump Sum	_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0019AG		1.00	Lump Sum		
	Support Engineering Services FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0020					
	Equipment & Support Engineer Scvs. for Station K7 FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0020AA		1.00	Each		
	Pump 1 Controls FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0020AB		1.00	Each		
	Pump 2 Controls FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0020AC		1.00	Each		
	Sump Pump 1 Controls FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0020AD		1.00	Each		
	Control Panel FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0020AE		1.00	Lump Sum		
	Data Link Telecommunication System FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0020AF		1.00	Lump Sum		
	Transducers and Liquid Level Floats FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0020AG		1.00	Lump Sum		
	Support Engineering Services FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0021					
	Equipment & Support Engineer Svcs. for Station K14 FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0021AA		1.00	Each		
	Pump 1 Controls FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0021AB		1.00	Each		
	Pump 2 Controls FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0021AC		1.00	Each		
	Sump Pump 1 Controls FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0021AD		1.00	Each		
	Control Panel FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0021AE		1.00	Lump Sum		
	Data Link Telecommunication System FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0021AF		1.00	Lump Sum		
	Transducers and Liquid Level Floats FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0021AG		1.00	Lump Sum		
	Support Engineering Services FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0022					
	Equipment & Support Engineer Svcs. for Station L2 FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0022AA		1.00	Each		
	Pump 1 Controls FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0022AB		1.00	Each		
	Pump 2 Controls FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0022AC		1.00	Each		
	Sump Pump 1 Controls FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0022AD		1.00	Each		
	Control Panel FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0022AE		1.00	Lump Sum		
	Data Link Telecommunication System FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0022AF		1.00	Lump Sum		
	Transducers and Liquid Level Floats FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0022AG		1.00	Lump Sum		
	Support Engineering Services FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0023					
	Equipment & Support Engineer Svcs. for Station L6 FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0023AA		1.00	Each		
	Pump 1 Controls FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0023AB		1.00	Each		
	Pump 2 Controls FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0023AC		1.00	Each		
	Sump Pump 1 Controls FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0023AD		1.00	Each		
	Control Panel FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0023AE		1.00	Lump Sum		
	Data Link Telecommu nication System FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0023AF		1.00	Lump Sum		
	Transducers and Liquid Level Floats FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0023AG		1.00	Lump Sum		
	Support Engineering Services FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0024					
	Equipment & Support Engineer Svcs. for Station L8 FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0024AA		1.00	Each		
	Pump 1 Controls FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0024AB		1.00	Each		
	Pump 2 Controls FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0024AC		1.00	Each		
	Sump Pump 1 Controls FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0024AD		1.00	Each		
	Control Panel FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0024AE		1.00	Lump Sum		
	Data Link Telecommunication System FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0024AF		1.00	Lump Sum		
	Transducers and Liquid Level Floats FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0024AG		1.00	Lump Sum		
	Support Engineering Services FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0025					
	Equipment & Support Engineer Svcs. for Station K10 FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0025AA	Pump 1 Controls FFP	1.00	Each	_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0025AB	Pump 2 Controls FFP	1.00	Each	_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0025AC	Pump 3 Controls FFP	1.00	Each	_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0025AD	Sump Pump 1 Controls FFP	1.00	Each	_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0025AE	Control Panel FFP	1.00	Each	_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0025AF	Data Link Telecommunication System FFP	1.00	Lump Sum	_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0025AG		1.00	Lump Sum		
	Transducers and Liquid Level Floats FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0025AH		1.00	Lump Sum		
	Support Engineering Services FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0026					
	Equipment & Support Engineer Svcs. for Station L1 FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0026AA		1.00	Each		
	Pump 1 Controls FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0026AB		1.00	Each		
	Pump 2 Controls FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0026AC		1.00	Each		
	Sump Pump 1 Controls FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0026AD		1.00	Each		
	Control Panel FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0026AE		1.00	Lump Sum		
	Data Link Telecommunication System FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0026AF		1.00	Lump Sum		
	Transducers and Liquid Level Floats FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0026AG		1.00	Lump Sum		
	Support Engineering Services FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0027					
	Equipment & Support Engineer Svcs. for Station K12 FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0027AA		1.00	Each		
	Pump 1 Controls FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0027AB		1.00	Each		
	Pump 2 Controls FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0027AC		1.00	Each		
	Pump 3 Controls FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0027AD		1.00	Each		
	Sump Pump 1 Controls FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0027AE		1.00	Each		
	Control Panel FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0027AF		1.00	Lump Sum		
	Data Link Telecommunication System FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0027AG		1.00	Lump Sum		
	Transducers and Liquid Level Floats FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0027AH		1.00	Lump Sum		
	Support Engineering Services FFP				
				_____.___	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0028		1.00	Each		
	East Grand Forks Master Control System FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0029		1.00	Lump Sum		
	Spare Parts FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0030		1.00	Lump Sum		
	Integrate Existing East Grand Forks Pump FFP - Integrate Existing East Grand Forks Pump Stations into Master Control Station				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0031		1.00	Lump Sum		
	Full System Intergration Services FFP				
				_____.____	_____.____

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0032		1.00	Lump Sum		
	Performance Bond FFP				
				_____.____	_____.____

NOTES TO OFFERORS

1. EFFECTIVE MAY 31, 1998, ALL CONTRACTORS MUST REGISTER WITH THE DEFENSE CENTRAL CONTRACTOR REGISTRATION (ccr) IN ORDER TO RECEIVE ANY CONTRACT AWARD. (other than those made via the Government credit card program). Contractors may register on line at http://www.ccr2000.com

2. FACSIMILES OF PROPOSALS WILL NOT BE ACCEPTED. FACSIMILES OF MODIFICATIONS TO PROPOSALS WILL NOT BE ACCEPTED UNLESS SPECIFICALLY REQUESTED BY THE CONTRACTING OFFICER.

3. All Quantities are estimated except where unit is given as "EA" (EACH) or "LS" (LUMP SUM).

4. THIS IS A 100% SMALL BUSINESS SET-ASIDE. NORTH AMERICAN INDUSTRY CLASSIFICATION SYSTEM (NAICS) CODE IS 334513; SMALL BUSINESS SIZE STANDARD IS NOT IN EXCESS OF 500 EMPLOYEES.

5. Any contract resulting from this solicitation will be a firm fixed price contract to be awarded utilizing negotiated, competitive source selection procedures. All proposals received will be evaluated on the basis of TECHNICAL MERIT, PAST PERFORMANCE, and PRICE. Technical merit and past performance, in combination, are significantly more important than price. Your attention is directed to clause 52.215-4005, “Preparation and Evaluation of Proposals.”

6. Each offeror is encouraged to attend a pre-proposal conference and site visit. The conference and site visit will be held as noted below.

OFFEROR PRE-PROPOSAL CONFERENCE: Each prospective offeror is encouraged to attend a pre-proposal conference at 9:00 AM on Wednesday 5 December, 2001 at the Grand Forks City Hall, Conference Room A101, 255 N. Fourth Street, Grand Forks, ND 58203

OFFEROR SITE VISIT: Each prospective offeror is encouraged to attend the site visit on Tuesday 4 December, 2001. Offerors should meet at Grand Forks City Hall at 9:00 AM to participate in the site visit.

Offerors that do not attend the site visit or the pre-proposal conference bear the risk that information not contained in the solicitation and useful to them in preparing their proposals will be made available at those meetings. The Government will NOT distribute minutes of the pre-proposal conference or the site visit. However in the event that questions are submitted that warrant a change to the solicitation, an amendment will be issued to all registered offerors.

Offerors desiring to attend the pre-proposal conference or site visit must register with the Project Manager by 5:00 PM on Friday 30 November, 2001. Registration may be made by fax (651-290-5258), telephone (651-290-5547), or e-mail (David.A.Himmerich@usace.army.mil) and should be addressed to David Himmerich, Project Manager. Requests must include the name of the offeror and the number of attendees. The Contracting Officer may limit the number of attendees by each offeror based on space or other logistical constraints.

7. The apparent successful offeror will be required to provide the following information as soon as possible after proposal opening:

a. A Financial Statement, to include a balance sheet and income statement, and

b. A Bank Certification of Financial Capability (line of credit).

This information will be treated as confidential to the extent allowed by law. The financial statements shall be not over 60 days old. If over 60 days old, a certification shall be attached stating that the financial condition of the firm is substantially the same as shown on the financial statement or, if not the same, the changes that have taken place.

8. All extensions of the unit prices shown will be subject to verification by the Government. In case of a discrepancy between the unit price and the extension, the unit price will govern.

9. The original proposal and any modifications must be complete as to all the items on the schedule. Award will be made to that offeror whose proposal is most advantageous to the Government, based on the factors in section M of the solicitation.

10. Unbalanced Offers. The government may reject as non-responsive any offer that is materially unbalanced between contract line item numbers or sub-items on the bidding schedule. An offer is materially unbalanced when it is based on prices which are significantly less than cost for some work and which are overstated, in relation to cost, for other work. A materially unbalanced offer may be rejected if the Contracting Officer has a reasonable doubt as to whether the offer will result in the best value to the Government.

11. Any prospective offeror desiring an explanation or interpretation of the solicitation, drawings, specifications, etc., must request it in writing in accordance with Section 00100, Contract Clause "Explanation To Prospective Bidders", not later than 10 days prior to proposal receipt. Questions can be faxed to (651) 290-5706, attention to F. Mitchell. Questions received after the deadline may not be answered prior to proposal submittal.

12. Funding for this contract is contingent upon the conditions stated in Section 00800, Clause No. 52.232-5001, Continuing Contracts.

13. The addresses, phone numbers, and Internet addresses (if available) for references cited in these specifications are listed in the Corps of Engineer Guide Specification (CEGS) 01090 SOURCES FOR REFERENCE PUBLICATIONS. CEGS 01090 is available on the TECHNIFO page of the Corps of Engineers Huntsville District Internet site at: http://www.hnd.usace.army.mil/.

14. Any forthcoming amendments will be available on this web site. The Government will use its best efforts to send e-mail notifications upon issuance of any amendments to all registered firms. Since e-mail message notifications may not be reliable due to system constraints, it is recommended that each registered firm check this web site periodically for updates. Paper copies of amendments will not be mailed unless specifically requested in writing.

15. For purposes of the clause entitled “52.219-4 -- Notice of Price Evaluation Preference for HUBZone Small Business Concerns (Jan 1999)”, the term “otherwise successful offer” means the offer, from a responsible offer, that provides the Government with the best value under the evaluation factors contained in this solicitation prior to the application of any evaluation preference required by this clause.

16. Each proposal will be considered on an “all or nothing basis.” Also, no alternatives will be considered. Each offeror should provide their best proposal as their initial proposal.

GRAND FORK, ND - EAST GRAND FORKS, MN
FLOOD REDUCTION PROJECT
PUMP CONTROL SYSTEM
SUPPLY AND FIELD ENGINEERING SERVICES

SCOPE OF WORK

I. OBJECTIVE. The purpose of this contract is to supply pump control equipment, integrated control systems, and associated engineering services in Grand Forks, ND and East Grand Forks, MN. The equipment will be used to operate the pumping systems associated with the Corps of Engineers flood control project. Each city has unique standards and operating systems. The Contractor will provide controllers for new interior drainage pump stations, and a new flood control master pump control systems. The completed project shall provide each city with a standardized automatic control and monitoring system that is compatible and interchangeable with their existing pumping system infrastructure. At the Government's option the Contractor may be required to re-configure existing pump station data-links and migrate the stations to the new master control station. Equipment shall be furnished as necessary to meet the requirements of this Scope of Work, and shall all include items required to provide a complete and functional system, even though individual components may not be specifically described.

II. BACKGROUND. The Government is procuring pump station mechanical-electrical equipment and related services under several separate supply contracts. Procured items will be provided as Government Furnished Equipment to several construction contractors, to be installed in pumping stations built under their construction contracts. The current flood control project includes 24 such pump stations, to be built during a proposed period of construction from 2001 through 2006, under 8-10 construction contracts. The mechanical-electrical supply contracts will be executed as follows:

1. Pumping equipment, including KSB manufactured electric submersible pumps and accessories, pump guide systems, electronic interface modules, pump access hatches, and related services are provided under contract by Quality Flow Systems, Inc., New Prague, Minnesota.
2. Standby Generators, including fuel storage tanks, automatic transfer switches, and related services is provided under contract with Onan Corporation, Minneapolis, Minnesota.
3. PUMP CONTROL SYSTEMS AND FIELD ENGINEERING SERVICES AS DESCRIBED IN THIS SCOPE OF WORK, WILL BE ACCOMPLISHED UNDER THIS CONTRACT.

III. DEFINITIONS.

A. Controls Contractor or Contractor: The Contractor selected to perform the work of this Contact.

B. Construction Contactor: The Contractor(s) responsible for the Construction Contracts awarded for each phase of this project, and/or their electrical sub-contractor, hired to install all electrical equipment including the equipment provided by the Controls Contractor, and specified in this contract.

IV. SCOPE OF SERVICES.

A. General. The Contractor shall supply complete control systems and installation integration services for each of the flood control pump stations. Note, the cities of Grand Forks, and East Grand Forks have separate standards and operating systems. A Construction Contractor will install the flood control pumping station systems under separate contract with the Government. The Controls Contractor selected for this Contract shall furnish and install Master Pump Control Systems at each city's central control facilities. The Contractor shall be responsible for ensuring that all components of the master control system are correctly installed, and operate properly. As part of the equipment supply, the Contractor shall provide, to the Construction Contractor, complete installation instructions for all system components to be installed in the pump stations, and phone support services as necessary to assure proper installation. Once installed by Construction Contractor, the Contractor shall inspect the installation of the control system and provide start-up services to assure proper function of the controls.

B. Existing System Compatibility. The Contractor shall be responsible for reviewing the documentation of the existing City pump station control systems found in ATTACHMENT D, EXISTING SYSTEM, and shall assure that equipment provided is compatible with, configured like, and able to interface with equipment that is already in use in the present systems. The equipment furnished shall be selected recognizing the different standards adopted by each City.

C. Products and Execution. The Contractor supplied items shall meet the specific requirements of this scope and the ATTACHMENT B, PRODUCTS AND EXECUTION.

D. Pump Station Equipment. The Contractor shall furnish the following items for each pump station identified in ATTACHMENT A, FLOOD CONTROL PUMPING SYSTEM,

1. Supply properly sized full-voltage combination motor starters for all sump pumps. Provide all storm water pumps with solid-state reduced voltage combination motor starters. All equipment shall include assembly and installation instructions, and drawings

showing all connections with other control components, the storm water pumps, and sump pumps.

2. Supply properly configured pump control and monitoring systems for each pump station. Depending on station configuration, duplex, triplex and quadraplex alternating pump controllers and alarm systems shall be supplied. The pump controllers shall control sump pumps at each pump station. The control systems shall monitor all data elements defined in Attachment B, PRODUCTS AND EXECUTION. The systems shall utilize programmable logic controllers (PLCs) and relays for control functions. Equipment shall include assembly, and installation instructions, and drawings showing all necessary inter-connections including field connections to other control components, storm water pumps, sump pumps, the emergency generator system, and the radio telemetry.

3. Supply liquid level control systems for storm water and sump pump control systems. The systems shall include submersible level transducers and liquid level floats arranged to provide redundant operation.

4. Supply each pump station with a complete, coordinated wireless data-link to the central control facility located in each city. The systems shall permit remote monitoring and control of each pump station. The Contractor shall perform radio path studies to determine antenna location and configurations, and include radio relay stations as required. Supply poles and anchor bolts for antenna mounting. Provide a new radio frequencies and licenses for the new equipment. The frequency shall be selected to permit the cities to interchange existing and new equipment without significant modification.

5. Supply all equipment with lightning and surge suppression devices similar to that in use at existing sewage lift stations in each city.

E. Master Control Stations. Provide a complete new flood control master pump control system at the central control facility in each city.

1. The central control facilities are located in the Grand Forks Water Treatment Plant and the East Grand Forks Public Works Maintenance Facility.

2. Additionally, the Contractor shall supply a complete remote operator’s workstation at the Grand Forks Wastewater/Storm water Office in the Public Works Building. This remote facility shall be connected to operate through the City’s “WAN” (wide area network) system.

3. The flood control master pump control systems shall include a radio data-link, programmable controller, surge suppressor, and uninterruptible power supply system in a NEMA 12 enclosure; and antenna, antenna mast, coaxial cable, control wire, power wire, and conduit.

4. The operator workstation shall include a personal computer with operating system and control software, printer, uninterruptible power supply system, coaxial cable, control wire, power wire, and conduit. Ifix, and Wonderware Industrial Sequel industrial control

software is used by the city of Grand Forks. Cimplicity industrial control software is used by the city of East Grand Forks.

5. The Contractor shall develop the pump station master control user interface using the prescribed industrial control software for each City. The Government will furnish the Contractor, upon request, a downloaded copy of the programmed interface from the existing Grand Forks and East Grand Forks master control systems. The Contractor may use the existing interface program as a starting point for development of the new master control interface. The Contractor shall be fully responsible for the proper documentation and operation of the delivered product, including any existing programming that is utilized.

6. The Contractor shall develop custom report printouts for the new master control stations equivalent to those presently in use on the Cities' existing master control system.

7. The master control station for each city shall be installed and on-line within 90 days of start-up of the first pump station in each Phase I construction contract. Estimated completion dates for the first pump stations are March 1, 2002 for both cities. Additional completed pump stations shall be incorporated into the master control station within 30 days of successful start-up.

8. Optional Re-configuration of Existing Sewage-Lift Pump Stations. If the options are exercised, the Contractor shall reconfigure the data-links, and control program for existing city Sewage-Lift Pump Stations defined in APPENDIX A, FLOOD CONTROL PUMPING SYSTEM, and integrate their operation and monitoring into the new master control station. The Contractor shall provide additional hardware as necessary to assure signal, logic, and connection compatibility with the new master control station. Existing pump stations are operating facilities, and the Contractor shall schedule all work on the stations with each respective City, in order to avoid interruptions in service.

F. System Integration Services. The Contractor shall provide all services necessary to configure each new pump station control system, and integrate it into the new flood control master pump control system. Pump stations will be added to master system as they are completed. The work shall include:

1. Installation of the new flood control master pump control systems at the central control facilities in each city.

2. Programming, and engineering services as necessary for each city, after completing the installation of the flood control pump stations, to ensure that all parts of the overall master control system function as a single integrated unit.

3. If the existing system re-configuration options are exercised, the Contractor shall provide all programming and engineering services as necessary to ensure that all parts of the overall master control system function as a single integrated unit, with the re-configured pump stations in place.

4. The Contractor shall perform a complete point-by-point verification of all reported data.

5. Provide all component assembly drawings, program listings, and documentation required to define the complete automated control and monitoring systems for each city.

6. Provide two operation and maintenance manuals, for each pump station, and the flood control master pump control system.

G. Shop Drawings and Submittals. The Contractor will provide shop drawings and submittals for Government review and/or approve according to the procedures established in ATTACHMENT C, SUBMITTALS.

H. Support Engineering Services. During each construction contract that includes pump station construction, the Contractor shall be available to support the Government's Resident Engineer and the Construction Contractor, with information and assistance to ensure that the pump station controls are correctly installed in each pump station.

1. Provide one on-site meeting at the start of each construction contract, assume eight, with the Construction Contractor's electrical sub and the Contracting Officer, to review and clarify controller installation procedures and instructions.

2. Support the Resident Engineer to ensure the supplied equipment is installed as intended. This may involve telephone support, clarification of drawings and instructions, and finding solutions to problems that may arise during the control installation.

3. Perform on-site reviews and inspections as requested. The Contractor shall provide at least one site visit to inspect the full installation of the control system before the system is energized, in addition to the on-site startup services described below.

4. Provide telephone support to the Construction Contractor for interpretations of the engineering intent.

5. Respond to inquiries posed by the Resident Engineer, or the Construction Contractor.

6. Provide start-up services to configure the equipment and software installed at each pump station and the central control facilities in each city. Add new pump stations to each city’s new automated control and monitoring system as construction is completed.

   (a) For each flood control pump station allow a minimum total of 2 workdays for on-site services to prepare for, activate, and test the operation of the pump station control system.

   (b) Before or during the start up procedure, the Contractor shall properly configure each pump station control system, and adjust the liquid level on-off settings as directed.

   (c) At the time of start up for each pump station, the Contractor shall make whatever modifications are necessary at the central control facility to bring the new station "on line".

(d) The Contactor shall perform a complete point-by-point verification of all reported data at each pump station and the master control stations.

(e) In the event that the required startup for a required pump station fails to be acceptable to the Contracting Officer, the Contractor shall be responsible for furnishing, at no additional cost, to the Government, all additional field site services during re-startup until the Contracting Officer has determined such re-startup work has been acceptably completed.

I. Training. The Contractor shall provide complete training for the operation and maintenance of all portions of the pump station control systems, for representatives of each city who will be responsible for system operation.

1. Systematic operator training shall be provided on the function, operation, and maintenance of each component within the control system, by trainers who have complete understanding of the system provided, and are certified to teach the required materials.
2. Provide manufacturer’s formal classroom maintenance training for PLCs, radio, and software systems that are different from the current in-place system. Training allowance shall cover tuition and manuals for a minimum of four maintenance persons from each city to attend.
3. Training shall make use of the supplied documentation for the systems, and shall familiarize the operators with the operations manual, system component assembly drawings, and other documents provided.
4. The Contractor shall provide training and familiarization sessions with representatives of each city for each pump station configuration as it is completed and brought ‘on-line’. Similarities and differences between the new pump station configuration, and others already in operation will be highlighted.
5. The Contractor shall videotape all onsite training sessions.

V. COORDINATION.

A. General. The Contractor shall be responsible for coordinating their control system design, fabrication, delivery, and support efforts with others as necessary to ensure that the final control system fulfills the requirements of this contract. The Contractor shall schedule work to minimize impact to ongoing city operations. All work shall be coordinated and scheduled in advance with the Contracting Officer and City representatives. Provide 72 hour advanced notification for any work which could impact the Construction Contractor or City operations.

B. Contracting Officer. Only the Government's Contracting Officer (CO) has change authority and the Government is not bound by the representations of

any other Government employee, local official, or contractor to the Government. Thus, all official contract matters shall be conducted through the Contracting Officer's Authorized Representative (COR) and the Government's CO, and the COR shall be informed of all coordination involving the cities, and supply or construction contractors.

C. City of Grand Forks and East Grand Forks Utility Departments. The Contractor is responsible for ensuring that the control systems designed, delivered and installed are completely compatible with, standardized to, and configured like the system already in use.

D. Pump and Generator Suppliers. The Contractor shall be responsible for coordinating with the Government’s pump and generator suppliers to ensure that the control system design fully accommodates the available control and monitoring circuits on the equipment to be installed in the pump stations. The Government has the following points-of-contact:

1. Pumps: Kevin Huson, Quality Flow, Inc.; (952)758-9445
2. Generators: Ken Lebens, Onan Corporation; (763)574-5912

E. Construction Contractors. The Contractor shall be responsible for coordinating with, and providing timely feedback to construction contractors, in order to ensure that motor starters, control and monitoring systems, and datalink equipment installation procedures are properly understood and followed.

VI. SHIPMENT AND DELIVERY.

A. General. The Contractor shall deliver the required contract supply items to each designated delivery location, as directed in the field by the Contracting Officer, within the Grand Forks, ND and/or East Grand Forks, MN metropolitan areas. At each such delivery location the Contractor shall perform unloading operations, and placement of the required supply items within each individual delivery location as directed in the field by the Contracting Officer.

B. Delivery and Storage. The Contractor will coordinate the actual delivery address and schedule on supply items for each pump station with the Contracting Officer and the Construction Contractor. The Contractor shall ensure that any interim storage facility utilized by the construction contractor, before actual installation, provides acceptable protection for the controllers until they are installed in the pump station. All specific delivery locations will be within the Grand Forks, ND/East Grand Forks, MN metropolitan area.

C. Installation of Flood Control Master Pump Control Systems. The master control station for each city shall be installed and on-line within 90

days of start-up of the first pump station in each Phase I general construction contract. Estimated completion dates for the first pump stations are March 1, 2002 for both cities. Additional completed pump stations shall be incorporated into the master control station within 30 days of successful start-up. Completion of the programming required to add pumping stations from later stages shall be scheduled to coincide with pump station construction contract completion schedules.

D. Acceptance. Payment for each pump station control system supply item shall be made upon acceptance at the designated point of delivery. Within five calendar days after delivery to the designated delivery location, the Contracting Officer will inspect each delivered item. The inspection shall include an accounting of the items delivered and a visual inspection of each item in order to determine any visible damage prior to delivery. If this inspection reveals any defects or deviations from contract requirements that could render the item unsuitable (as determined by the Contracting Officer) for the use intended, the Contractor shall either completely replace such identified item with a new acceptable item or, if approved by the Contracting Officer, perform repairs to remedy all identified deficiencies on the non-acceptable item. In the event deficiencies cannot be acceptably corrected, such supply items will be rejected.

VII. WARRANTY.

A. Commercial Warranties. In addition to any other warranties required by this contract, the Contractor shall provide the Government with any commercial warranties that would be given to its customers in normal commercial practice. The Contractor shall also pass through to the Government any warranties provided to it by any subcontractor or supplier under this contract and take such actions as are necessary to make those warranties enforceable by the Government.

B. Warranty Assignments. Any warranties provided to the Government under this contract may be assigned, in whole or in part, to the City of Grand Forks, ND and/or the City of East Grand Forks, MN. The Government may assign those warranties by written notice to the Contactor and the assignee. The assignee may enforce the provisions of the warranties directly, or request that the Government enforce them under the terms of this contract, or both.

C. Continuity of Service. In addition to the warranties of supplies, materials and workmanship required elsewhere in this contract, the Contractor shall insure that the flood control master pump control systems are at all times operable and compatible with the pump stations as they are added to the system (see list of new pump stations in Table B, ATTACHMENT A, FLOOD CONTROL PUMPING SYSTEM). The term “pump stations” includes the controls, level sensor, and telemetry systems provided by the Contractor as well as the pumps, generators, motors and equipment provided

by others at each individual pumping site. The "master control system" is the centrally located telemetry and computer system in each city, which provides for monitoring and control of all pump stations. The new pump stations will be added to the flood control master pump control systems (individually or in combination) under several different construction contracts over a 5-year period. The Contractor is responsible for insuring that the master pump control system operates as designed continuously from the time that the first new pump station is added to the system until two years after the last pump station is accepted by the Government.

VIII. GOVERNMENT FURNISHED INFORMATION. In addition to the detailed information supplied in Attachments A through D the following Government furnished information is Available Upon Request, and can be provided to the Contractor, to be used in the development of the contractor's proposal and/or the actual controller designs.

A. Copies of ongoing construction contract documents for East Grand Forks Phase 1 Levees, and Grand Forks Phase 1 Levees, including typical pump station layout, structural, and mechanical/electrical drawings for pump station(s).

B. Copy of the pump supply contract, awarded to Quality Flow, Inc. for KBM pumps to be furnished.

C. Copy of the Generator supply contract, awarded to Onan Corporation for the generator models to be furnished.

D. Copies of construction contract documents for subsequent phases of East Grand Forks and Grand Forks Levees, to be constructed in years 2002-2006, may be provided as they become available.

IX. PREPARATION AND EVALUATION OF PROPOSAL.

A. General. In accordance with the schedule identified in this solicitation, the Contractor shall provide a detailed proposal for the equipment and services listed in paragraphs III. Through VIII. Proposals for services under this contract shall be prepared to conform to the requirements of Section 52.215-4005 of the solicitation. Proposals will be evaluated according to the defined criteria, and selection and award will be made according to the process defined in 52.215-4005, paragraph 5, PROPOSAL EVALUATION.

B. Site Inspection of Existing Pump Station Control System. On Tuesday 4 December, 2001 prospective Offerors may schedule an inspection of a

typical pump station control installation with the Cities of Grand Forks and/or East Grand Forks. The first half-day is reserved for the site inspections in Grand Forks, and the second half of the day is reserved for site inspections in East Grand Forks. Inspections will not be given outside of scheduled hours.

C. Offeror Pre-Proposal Meeting. Each prospective offeror shall attend a pre-proposal meeting on Wednesday 5 December, 2001 at the Grand Forks City Hall, Conference Room A101, 255 N. Fourth Street, Grand Forks, ND 58203

X. SCHEDULE.

A. Contract Schedule. The contractor shall deliver items in this contract in accordance with 52.211-8, TIME OF DELIVERY, REQUIRED DELIVERY SCHEDULE.

ATTACHMENT A

FLOOD CONTROL PUMPING SYSTEM

I. The Contractor shall supply complete control systems and installation integration services for each of the flood control pump stations listed in Table A (Grand Forks, ND) and Table B (East Grand Forks, MN).

Table A: Grand Forks Flood Control Pumping Stations

Grand Forks Stations											
Station No.	Pumps	Pump 1	Pump 2	Pump 3	Pump 4	Sump Pump	Sump Pump $	Control Panel	Tele Sys.	Xducers & Floats	Total
A1	2-32hp	$ -	$ -	N/A	N/A	1-10hp	$ -	$ -	$ -	$ -	$ -
A3	2-32hp	$ -	$ -	N/A	N/A	1-10hp	$ -	$ -	$ -	$ -	$ -
C1	3-150hp	$ -	$ -	$ -	N/A	1-15hp	$ -	$ -	$ -	$ -	$ -
C3	3-75hp	$ -	$ -	$ -	N/A	1-15hp	$ -	$ -	$ -	$ -	$ -
C4	2-32hp	$ -	$ -	N/A	N/A	1-10hp	$ -	$ -	$ -	$ -	$ -
D1	3-75hp	$ -	$ -	$ -	N/A	1-15hp	$ -	$ -	$ -	$ -	$ -
D2	3-32hp	$ -	$ -	$ -	N/A	1-15hp	$ -	$ -	$ -	$ -	$ -
D3	2-32hp	$ -	$ -	N/A	N/A	1-10hp	$ -	$ -	$ -	$ -	$ -
D4	4-150hp	$ -	$ -	$ -	$ -	1-15hp	$ -	$ -	$ -	$ -	$ -
E1	3-75hp	$ -	$ -	$ -	N/A	1-15hp	$ -	$ -	$ -	$ -	$ -
E2	2-32hp	$ -	$ -	N/A	N/A	1-10hp	$ -	$ -	$ -	$ -	$ -
G1	4-250hp	$ -	$ -	$ -	$ -	1-15hp	$ -	$ -	$ -	$ -	$ -
H1	2-150hp	$ -	$ -	N/A	N/A	1-15hp	$ -	$ -	$ -	$ -	$ -
H4	2-32hp	$ -	$ -	N/A	N/A	1-10hp	$ -	$ -	$ -	$ -	$ -
J1	3-75hp	$ -	$ -	$ -	N/A	1-15hp	$ -	$ -	$ -	$ -	$ -

Table B: East Grand Forks Flood Control Pumping Stations

East Grand Forks Stations											
Station No.	Pumps	Pump 1	Pump 2	Pump 3	Pump 4	Sump Pumps	Sump Pump 1	Control Panel	Tele Sys.	Xducers & Floats	Total
K1	2-32hp	$ -	$ -	N/A	N/A	1-10hp	$ -	$ -	$ -	$ -	$ -
K7	2-32hp	$ -	$ -	N/A	N/A	1-10hp	$ -	$ -	$ -	$ -	$ -
K9	14,800 GPM		CITY STATION		(Existing Station, Control System not required)						
K10	3-32hp	$ -	$ -	$ -	N/A	1-15hp	$ -	$ -	$ -	$ -	$ -
K12	3-75hp	$ -	$ -	$ -	N/A	1-15hp	$ -	$ -	$ -	$ -	$ -
K14	2-32hp	$ -	$ -	N/A	N/A	1-10hp	$ -	$ -	$ -	$ -	$ -
L1	2-75hp	$ -	$ -	N/A	N/A	1-15hp	$ -	$ -	$ -	$ -	$ -
L2	2-32hp	$ -	$ -	N/A	N/A	1-10hp	$ -	$ -	$ -	$ -	$ -
L6	2-32hp	$ -	$ -	N/A	N/A	1-10hp	$ -	$ -	$ -	$ -	$ -
L8	2-32hp	$ -	$ -	N/A	N/A	1-10hp	$ -	$ -	$ -	$ -	$ -

XI. Flood Control Pumping Stations will be equipped with Government furnished mechanical systems provided to the Government under separate supply contracts. The following is Government Furnished equipment under those contracts.

Table C: Government Furnished Mechanical Systems

D1	6,000	3	350	150	600	Jul 2001 / 2 yr	(1)

Flood Control Pumping Systems Equipment
(Supplied By Others)

Proposed Future Pump Station Locations and Nos.	Proposed Future Storm Water Pumps (Supply by Others)		Diesel Generator Sets	Load Banks	Automatic Transfer Switches	Expected Construction Start / Contract Duration	Notes
	Sizes (GPM)	Quantity (Each)	Size (kW)	Size (kW)	Size (Amps)	Date (mmm-yyyy)	
Grand Forks, ND							
C3	6,000	3	250	100	600	Jul 2001 / 2 yr	
D2	3,000	3	200	50	300	Jul 2001 / 2 yr	(1)
E2	3,000	2	100	50	225	Jul 2001 / 2 yr	
K12	6,000	3	250	175	600	Jul 2001 / 2 yr	(1)
East Grand Forks, MN							
L1	6,000	2	200	100	400	Jul 2001 / 2 yr	
L2	3,000	2	100	50	225	Jul 2001 / 2 yr	
K7	3,000	2	100	50	225	Jul 2001 / 2 yr	
East Grand Forks, MN							
K10	3,000	3	200	100	300	Jul 2001 / 2 yr	
Grand Forks, ND							
G1	25,000	4	500	250	2,000	Mar 2002 / 2 yr	
J1	6,000	3	250	125	600	Mar 2002 / 2 yr	
Grand Forks, ND							
C1	15,000	3	500	250	1,200	May 2002 / 2 yr	
D3	3,000	2	200	100	400	May 2002 / 2 yr	
D4	15,000	4	500	250	1,200	May 2002 / 2 yr	
E1	6,000	3	250	125	600	May 2002 / 2 yr	
H4	3,000	2	100	50	225	May 2002 / 2 yr	
East Grand Forks, ND							
K14	3,000	2	100	50	225	June 2002 / 2 yr	
Grand Forks, ND							
A1	3,000	2	100	50	225	May 2003 / 2 yr	
A3	3,000	2	200	100	400	May 2003 / 2 yr	
C4	3,000	2	100	50	225	May 2003 / 2 yr	
H1	15,000	2	350	175	800	May 2003 / 2 yr	
East Grand Forks, MN							
K1	3,000	2	100	50	225	May 2003 / 2 yr	
L6	3,000	2	100	50	225	May 2003 / 2 yr	
L8	3,000	2	100	50	225	May 2003 / 2 yr	

Notes:

(1) The order for control systems for these pump stations will be placed immediately upon award of contract.

XII. Pumps supplied as Government furnished equipment are electrical submersible pumps manufactured by KSB, Inc. The motor characteristics on the pumps provided for the pumping stations are listed in Table D, below.

TABLE D: Pump Motor Characteristics for pumps furnished on Grand Forks/East Grand Forks Flood Reduction Project.

MOTOR DATA								Electric Cable for Power Dedicated Control (+) if Necessary			Motor Data Function of Motor Rating P2 (data for 1/4 to 4/4 - load)				
Pump Capacity gpm	Motor Type	Motor rating Hp	Max. temp of pump media Deg. F	Speed nom.	FLA Amps	LRA for DOL start	NEMA Code Letter	Qty.	Type	Diameter Inches	Load	Motor Input kW	Current Amps	Eff. %	Power Factor
500	96UG	10	104	1165	16.2	114	L	1	AWG13-12	0.89 - 0.97	4/4	8.9	16.3	83.8%	0.7
											3/4	6.8	14.2	82.2%	0.6
											2/4	4.8	12.7	78.1%	0.5
											1/4	2.8	11.7	66.5%	0.3
1,000	126UG	15	104	1160	22	150	J	1	AWG13-12	0.89 - 0.97	4/4	13.0	22.0	86.1%	0.7
											3/4	9.9	18.5	85.1%	0.7
											2/4	6.8	16.1	82.0%	0.5
											1/4	3.9	14.6	74.4%	0.3
3,000	266UG	32	104	1165	39	196	E	1	AWG7-7_15-5	1.16 - 1.30	4/4	26.7	39.0	89.5%	0.9
											3/4	19.9	30.0	90.0%	0.8
											2/4	13.4	22.5	89.1%	0.8
											1/4	7.1	16.9	84.4%	0.5
6,000	678XG	75	104	890	110	650	H	2	AWG3/4	1-1/2	4/4	62.6	110.0	89.5%	0.7
								+1	AWG15/8	3/4	3/4	47.9	95.0	87.8%	0.6
											2/4	33.2	82.0	84.5%	0.5
											1/4	18.5	71.0	75.8%	0.3
15,000	10710UG	150	104	700	240	902	C	2	AWG1/0-4	1.69 - 1.81	4/4	124.0	240.0	90.8%	0.8
								+1	AWG15-8	0.79 - 0.81	3/4	92.0	187.0	91.0%	0.8
											2/4	62.0	143.0	90.3%	0.7
											1/4	33.0	113.0	86.0%	0.4

XIII. Optional Bid Items. If optional bid items #0019 and/or #0032 are exercised, the Contractor shall reconfigure the datalinks for the following existing City pump stations and incorporate their operation and monitoring into the new master control stations.

TABLE E: Opt. Item #019 –Existing Grand Forks pump stations to be integrated into new master control stat'n

Station Monitor Points	Grand Forks Pump Station Identification Numbers																												
	1	4	5	6	7	7.1	8	9	11	12	13	14	15	16	17	17.1	19	20	21	22	23	24	25	26	27	28	29	30
Discharge Press. (Gauge Feet)	x	x	x	x			x	x		2	2	x	x	x	2	x	x	x	x	x			x	x	x	x		
Current Flow Meter (GPM)	x	x	x	x							x	x	x	x	x		x	x	x	x			x	x	x			
Flow Meter Total (Gallons)	x	x	x	x			x	x		x	x	x	x	x		x	x	x	x	x			x	x	x	x		
Pump Run Time (Hours)	3	2	3	2	2	2	2	2	2	2	2	2	3	3	2	2	3	3	3	3	2	2	3	3	3	2	2	2
Current Pump Speed (Rpm)	3	2	3	2			2	2		2	2	2	3	3	4	2	3	3	3				3	3	3	2		
Current Wet Well Level In Inches	x	x	x	x	x		x	x	x	x	x	x	x	x	x	x	x	x	x	x		x	x	x	x		x	
Current Alarms	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Anticavitation Mode Status	x	x	x	x			x	x		x	x	x	x	x	x	x	x	x	x				x	x	x	x		
Control Power Fail Alarm	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Phase Fail Alarm	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Intrusion Alarm	x	x	x	x		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Valve Pit/ Dry Well Flooded Alarm	x	x	x	x			x	x		x	x	x	x	x	x		x	x	x	x	x		x	x	x	x	x	
Telemetry Fail Alarm	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Cabinet Ventilation Fail Alarm	x	x	x	x			x	x	x	x	x	x	x	x	x	x	x	x	x	x			x	x	x			
Pump Local Selector	3	2	3	2	2	2	2	2	2	2	2	2	3	3	4	2	3	3	3	3	2	2	3	3	3	2	2	2
Pump Over Temp Alarm	3	2	3	2	2	2	2	2	2	2	2	2	3	3	4	2	3	3	3	3	2	2	3	3	3	2	2	2
Pump VFD/SSRV Fault Alarm	3	2	3	2	2	2	2	2	2	2	2	2	3	3	4	2	3	3	3	3	2	2	3	3	3	2	2	2
Pump In Standby	3	2	3	2	2	2	2	2	2	2	2	2	3	3	4	2	3	3	3	3	2	2	3	3	3	2	2	2
High Level Alarm	x	x	x	x	x	x	x	x	x	x	x	x	x	x		x	x	x	x	x	x	x	x	x	x	x	x	x
Low Level Alarm	x	x	x	x	x	x	x	x	x	x	x	x	x	x		x	x	x	x	x	x	x	x	x	x	x	x	x
Pump Check Valve Fail Alarm	3	2	3	2	2	2	2	2	2	2	2	2	3	3	4	2	3	3	3	3	2	2	3	3	3	2	2	2
Pump Run Light	3	2	3	2	2	2	2	2	2	2	2	2	3	3	4	2	3	3	3	3	2	2	3	3	3	2	2	2
Pump Fail Light	3	2	3	2	2	2	2	2	2	2	2	2	3	3	4	2	3	3	3	3	2	2	3	3	3	2	2	2
Pump HOA Switch Pos. Indicator	3	2	3	2	2	2	2	2	2	2	2	2	3	3	4	2	3	3	3	3	2	2	3	3	3	2	2	2
Pump VFD Speed %	3	2	3	2	2	2	2	2	2	2	2	2	3	3	4	2	3	3	3	3	2	2	3	3	3	2	2	2
Lead Pump Start Set Point	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Lead Pump Stop Set Point	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Lag Pump Start Set Point	2	x	2	x	x	x	x	x		x	x	x	2	2	2	x	2	2	2	2	x	x	2	2	2	x	x	x
Lag Pump Stop Set Point	2	x	2	x	x	x	x	x		x	x	x	2	2	2	x	2	2	2	2	x	x	2	2	2	x	x	x

Note: Numbers in table indicate number of multiple monitor points for each pump in station.

TABLE F: Option Item #0032 –Existing East Grand Forks pump stations to be integrated into new master control station

East Grand Forks Pump Station Identification	Pumps No./Size	Station Monitor Points																		
		Wet Well Analog Level	High Level Alarm	Low Level Alarm	Telemetry Fail Alarm	PLC Power Failure	Phase Fail Alarm	Stator Over Temp Alarm	Bearing Over Temp Alarm	Seal Failure Alarm	Phase-to-Phase Voltage	Phase Current	KW	KW-Hours	Pump Run Time (Hours)	Power Factor	% Thermal Cap Utilized	Power Loss per Phase	Phase Reversal	Under Voltage
San. Master Lift – River Rd.	4 - 60hp	X	X	X	X	X		X	X	X					X	X				
San. Lift 2 – Second St NW	2 – 35hp	X	X	X	X	X									X					
San. Lift 3 – Central Ave NW	2 – 15hp	X	X	X	X	X		X	X						X	X				
San. Lift 4 – Third Ave SE	2 – 29hp	X	X	X	X	X		X	X						X	X				
San. Lift 5 – Tenth Street NE	3 – 25 hp	X	X	X	X	X									X	X				
San. Lift 6 – First Ave NE	2 – 5hp	X	X	X	X	X									X					
San. Lift 7 – 19th St NW	2 – 5hp	X	X	X	X	X									X					
San. Lift 8 – Tenth St SE	2 – 5hp	X	X	X	X	X									X					
San. Lift 10 – City Shop	2 – 5hp	X	X	X	X	X		X							X					
San. Lift 13 – Third Ave NW	2 – 3hp	X	X	X	X	X									X					
St. Lift 9 – AVTI / 23rd	1 – 35hp/1	X	X	X	X	X									X					
St. Lift 11 – Fifth Ave NW	2 – 14hp	X	X	X	X	X									X					
St. Lift 12 – E. Highway #2	2 – 35hp/	X	X	X	X	X									X					

Note: Numbers in table indicate number of multiple monitor points for each pump in station.

ATTACHMENT B
PRODUCTS AND EXECUTION

II. GENERAL

A. REFERENCES. The publications listed below form a part of this specification to the extent referenced and are referred to in the text by the basic designation only.

B. AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

ANSI C12.1 (1995)	Code for Electricity Metering
ANSI X3.64 (1979; R 1990)	Additional Controls for Use with the American National Standard Code for Information Interchange
ANSI X3.154 (1988; R 1994)	Office Machines and Supplies - Alphanumeric Machines-Keyboard Arrangement

C. AMERICAN SOCIETY OF HEATING, REFRIGERATING AND AIR-CONDITIONING ENGINEERS (ASHRAE)

ASHRAE Hdbk-IP (1997)	Handbook, Fundamentals I-P Edition

D. U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

47 CFR 15	Radio Frequency Devices
47 CFR 68	Connection of Terminal Equipment to the Telephone Network

E. ELECTRONIC INDUSTRIES ALLIANCE (EIA)

EIA ANSI/EIA/TIA-232-F (1997)	Interface Between Data Terminal Equipment and Data Circuit-Terminating Equipment Employing Serial Binary Data Interchange

F. INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE)

IEEE C37.90 (1989; R 1994)	Relays and Relay Systems Associated with Electric Power Apparatus
IEEE C37.90.1 (1989; R 1994)	IEEE Standard Surge Withstand Capability (SWC) Tests for Protective Relays and Relay Systems
IEEE C62.41 (1991; R 1995)	Surge Voltages in Low-Voltage AC Power Circuits
IEEE Std 100 (1997)	IEEE Standard Dictionary of Electrical and Electronic Terms
IEEE Std 142 (1991)	IEEE Recommended Practice for Grounding of Industrial and Commercial Power Systems
IEEE Std 8802-3 (2000)	Information Technology - Telecommunications and Information Exchange Between Systems – Specific Requirements - Amendment to Local and

	Metropolitan Area Networks - Carrier Sense Multiple Access with Collision Detection (CSMA/CD) Access Method and Physical Layer Specifications
	Aggregation of Multiple Link
IEEE Std 8802-4 (1990)	Information Processing Systems - Local Area Networks - Part 4: Token-Passing Bus Access Method and Physical Layer Specifications

G. INTERNATIONAL ELECTROTECHNICAL COMMISSION (IEC)

IEC 61131-3 (1993)	Programmable Controllers - Part 3: Programming Languages

H. INTERNATIONAL TELECOMMUNICATION UNION (ITU)

ITU V.34 (1994)	Data Communication Over the Telephone Network - A Modem Operating at Data Signaling Rates of up to 28,800 bits for use on the General Switched Telephone Network and on leased Point-to-Point Two-Wire Telephone Type Circuits.
ITU V.42 bis (1990)	Data Compression Procedures for Data Circuit Terminating Equipment (DCE) Using Error Correction Procedures

I. NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA)

NEMA ICS 1 (1993)	Industrial Control and Systems
NEMA ICS 2 (1993)	Industrial Control and Systems Controllers, Contactors, and Overload Relays Rated Not More Than 2,000 Volts AC or 750 Volts DC
NEMA ICS 3 (1993)	Industrial Control and Systems Factory Built Assemblies
NEMA ICS 4 (1997)	Industrial Control and Systems Terminal Blocks
NEMA 250 (1997)	Enclosures for Electrical Equipment (100 Volts Maximum)

J. NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 70 (1999) National Electrical Code

K. NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY (NIST)

NIST SP 250 (1995) Calibration Service Users Guide

L. UNDERWRITERS LABORATORIES (UL)

UL 94 (1996; Rev thru Jul 1998)	Tests for Flammability of Plastic Materials for Parts in Devices and Appliances
UL 508 (1999)	Industrial Control Equipment

UL 1059 (1993; 3rd Edition) Terminal Blocks

M. CONTROL SYSTEM DESCRIPTION.

1. MASTER PUMP CONTROL SYSTEM: The Master pump control system shall include the following:

(a) Control panel with:

1) Transient Protection.
2) Uninterruptible Power Supply.
3) Component power supply(s) as required.
4) Radio/Modem transceiver.
5) Programmable Logic Controller (PLC) with input and output modules as required.
6) Power switch with pilot light in control panel door.

(b) Operator Workstation:

1) Personal computer.
2) Monitor.
3) Uninterruptible Power Supply for Workstation.
4) Alarm printer.
5) Automatic phone dialer alarm system.

2. SUPERVISORY CONTROL PANEL (Located at each pump station): Items (g) thru (n) shall be door mounted and labeled. The supervisory control panel shall contain the following:

(a) Transient Protection.

(b) Uninterrupted Power Supply.

(c) Power supply(s) as required.

(d) Radio/Modem transceiver.

(e) Programmable Logic Controller (PLC) with input and output modules as required.

(f) Power switch with pilot light.

(g) Flat-panel Operator interface module.

(h) Lamp test.

(i) Alarm reset switch.

(j) Alarm lights.

(k) Hand off automatic switches for storm water pumps.

(l) Run time meter for each pump.

(m) Run indicator light for each pump.

(n) Pump failure indicator light for each pump.

3. CONTROL DESCRIPTION (PUMPING STATIONS).

(a) Provide new combination motor starters and supervisory controls for all stormwater pumps, and sump pumps. The equipment shall be wall mounted inside the station buildings. The

Control System shall sense the fluid level in the wet well and call for the appropriate pump(s) to run based on operator input set points and time delays. Controls shall also utilize a rate of level change calculation to assist in deciding when to start and stop pumps.

1) All fluid level sensing and operator set-point inputs shall be directly entered and manipulated in inches of water depth.
2) Provide a complete pump control system to control all pumps planned for each Station. See pump station listing for pumping requirements. Sump pump operation shall be included in the control scheme. Provide PLC controllers expandable to 4 stormwater pumps, and 1 sump pump. Organize the front panel space for an Operator Interface Panel module, HOA's, alarm lights, etc. Provide all control panels installed in duplex pump stations with extra panel space for one future stormwater pump.
3) Provide automatic alternation of lead-lag pumps for duplex stations, lead-lag-lag pumps for triplex stations, and lead-lag-lag-lag pumps for quadra-plex stations. Sump pumps shall be not be included in the alternation scheme. Configure sump pumps to pump low-level seepage flows during flood events. Sump pumps shall not run when the stormwater pumps are operating. Sump pumps shall maintain a “dry” wet well between flood events.
4) Utilize a high level float to start any non-operating pumps and initiate alarm via telemetry. This shall be by a separate discrete relay system.
5) The control system shall shut off all operating pumps until level is restored, anytime the lowest float level is reached.
6) When pumps are running activate running time meters and run lights.
7) Should a motor starter open during operation, start the next pump(s) in the sequence, stop the failed pump, and initiate the appropriate alarm.
8) Should a pump monitoring system indicate problems during operations, shut off the problem motor, start the next pump(s) in the sequence, and initiate the appropriate alarm. The control system shall be designed to continue pump alternation, skipping the failed pump(s).

(b) Provide each pump with hand-off-automatic switches to control operation.

(c) Monitor the status and condition of the emergency generator set, fuel tank and automatic transfer switch. Provide menu driven paged status display on the operator interface panel. Report all monitored conditions to the flood control master pump control system.

(d) Emergency Generator Operations During Pumping: Automatically reconfigure the control scheme to limit the maximum number of pumps that can be started at power limited stations. Allow full alternation among all pumps. The control scheme shall include time delays to prevent simultaneous pump starts, and “ON-DELAY” “BACKSPIN” timers to prevent pump starts while the discharge pipes empty. Initiate alarm at

the Master Control System to indicate emergency power operation.

(e) Provide an intrusion detector on the door of the building and report each door opening via the PLC, and telemetry system. The system shall alarm the Master Control System after an initial time delay, initial setting set at 45 second. Provide key switch to enable and disable system located on the Supervisory Control Panel.

(f) Utilize high and low temperature thermostats to report high or low building temperature via telemetry.

(g) Install panel front mounted items and PLC capacity for up to 4 stormwater pumps, and 1 sump pump. See pump station listing for requirements.

N. ALARM & TELEMETRY SYSTEM: Provide a new Telemetry System to report pump station alarms and status via FM radio to the central wastewater telemetry monitoring facility in the Grand Forks Water Treatment Plant, and the monitoring facility in the East Grand Forks Maintenance Department.

O. Reported Conditions:

Alarmed Conditions

Condition	Alarm Level
1. Pump Station	
a. Intrusion	A
b. High Temperature (Control Room)	B, C @ T = 36 hrs
c. Low Temperature (Control Room)	B, C @ T = 36 hrs
2. Emergency Generator Set (NFPA 110 Level 2)	
a. High Battery Voltage (Over Charging)	A
b. Low Battery Voltage (Charger Failure)	C
c. Normal Battery Voltage	A
d. Generator Running (Has Output Voltage)	A
e. Normal Utility Supply (Utility Co Supplying Load)	A, C @ T = 1 min
f. EPS Supplying Load (Has Output Voltage)	A, C @ T = 2 min
g. Pre-Low Oil Pressure	B
h. Low Oil Pressure (Gen Set Shutdown)	C
i. High Coolant Temp (Gen Set Shutdown)	C
j. Low Engine Temp (Engine Heater Malfunction)	C
h. Over speed (Engine Shutdown)	C
i. Over crank (Engine Failed to Start)	C
j. Not in Auto (Engine Control Switch Position)	A, C
k. Battery Charger Malfunction (Charger Signaling Failure)	B, C @ T=48 hrs
l. High Fuel (95% Fuel remaining Switch)	A
m. Low Fuel (50% Fuel remaining Switch)	B, C @ T = 24 hrs
n. Low Coolant Level	B
o. Fuel Tank Leak (Detection Switch)	A, B
3. Wet Well	
a. Analog Level in ft. & in.	A, B

b.	High Level	B, C @ T = 15 min
c.	Low Level	B, C @ T = 15 min

4. Control

a.	Telemetry Failure	B, C @ T = 1 min
b.	Programmable Controller(PLC) Power Fail	B, C @ T = 1 min
c.	Phase Failure (Electric Service)	A, C @ T = 5 min

5. Pumps (per pump, incl. Sump Pumps)

a.	Stator Over Temp	B
b.	Bearing Over Temp	B
c.	Seal Failure	B
d.	Moisture in Pump	B

6. Pump Motor Controllers

a.	Phase to Phase Voltage	D
b.	Phase Current	D
c.	KW	D
d.	KWH	D
e.	Pump Run Hours (Elapsed Time)	A
f.	Power Factor	D
g.	% Thermal Capacity Utilized	D
h.	Power Loss (per phase)	A
i.	Phase Reversal,	A
j.	Under Voltage	A
k.	Over Voltage	A
l.	Stall	A
m.	Jam	A
n.	Excess Starts per Hour	A
o.	Overload	A
p.	High Controller Temperature	A
q.	Underload	A
r.	Voltage Unbalance	A
s.	Start Fault	A
t.	Line Fault	A

P. Alarm levels are shown for information only.

Level A	Display, Print & Store.
Level B	Display, Print, Store & Note for next day service.
Level C	Display, Print, Store & Alarm for immediate or emergency service. T = Time Delay. All time delays shall be adjustable through control program.
Level D	Display.

Q. Control System Points: Inputs to and outputs from the control system shall be in accordance with the Input/Output (I/O) Summary Table shown on the drawings. Each connected analog output (AO), analog input (AI), digital output (DO), digital input (DI), pulse accumulator (PA) input and other input or output device connected to the control system shall represent a "point" where referred to in this specification.

R. Symbols, Definitions, and Abbreviations Symbols, definitions, and engineering unit abbreviations shall conform to IEEE Std 100, as applicable

S. ENVIRONMENTAL CONDITIONS. Capacity and design of the equipment and accessories shall be suitable for 24-hour full load service and shall meet the following criteria.

1. Location:

   (a) Latitude: 47.925ºN.

   (b) Longitude: 97.033ºW.

   (c) Altitude (above MSL): 834 ft.

2. Heating Degree Days: 9254.

3. Winter Design Temperatures

   (a) Inside Air Temperature 2 degrees F.

4. Summer Design Temperatures

   (a) Inside Air Temperature 95 degrees F.

5. Contaminants dust, dirt, hazardous environment (Wet Well.)

T. SUBMITTALS. See APPENDIX C - SUBMITTALS for requirements.

U. EQUIPMENT REQUIREMENTS.

1. Materials and Equipment: Materials and equipment shall be standard unmodified products of a manufacturer regularly engaged in the manufacturing of such products. Units of the same type of equipment shall be products of a single manufacturer. Items of the same type and purpose shall be identical and supplied by the same manufacturer, unless replaced by a new version approved by the Government.

2. Nameplates: Each major component of equipment shall have the manufacturer's name and address, and the model and serial number in a conspicuous place. Laminated plastic nameplates shall be provided for equipment devices and panels furnished. Each nameplate shall identify the device, such as pump "P-1". Labels shall be coordinate with the schedules and the drawings. Laminated plastic shall be 1/8 inch thick, white with black center core. Nameplates shall be a minimum of 1 by 3 inches with minimum 1/4 inch high engraved block lettering. Nameplates for devices smaller than 1 by 3 inches shall be attached by a nonferrous metal chain. All other nameplates shall be attached to the device.

XIV. PRODUCTS

A. GENERAL REQUIREMENTS: Equipment located outdoors, not provided with climate controlled enclosure, shall be capable of operating in the ambient

temperature range indicated in paragraph ENVIRONMENTAL CONDITIONS, unless otherwise specified. Equipment and wiring must be in accordance with NFPA 70, with proper consideration given to environmental conditions such as moisture, dirt, corrosive agents, and hazardous area classification.

B. COMBINATION STARTERS.

1. Combination motor controller units shall contain molded-case circuit breakers, auxiliary and pilot devices and a magnetic contactor with thermal overload relays and reduced voltage starter when indicated. The ratings of air circuit breakers, contactors, motor controllers and other devices shall be sized for the motors shown in ATTACHEMENT A. All combination motor controller units shall have short circuit ratings equal to 25,000A or greater. Where control push-buttons, indicating lamps, and similar control devices are associated with a unit, they shall be mounted on the unit compartment door. Door-mounted components shall not interfere with access within the compartments.

   (a) Required Additional Features:

      1) Remote I/O: interface as required for specified control system.
      2) Provide advisory LED pilot lights:
         (i) Running.
         (ii) Control Voltage.

   (b) Full Voltage Non-Reversing (FVNR) shall monitor the following conditions:

      1) Temperature Fault
      2) Line Fault.

   (c) Provide auxiliary contacts 1 N.O. - 1 N.C. (Form C). Any fault condition will cause the auxiliary contacts to change state and the hold in circuit to release.

2. Magnetic Contactors. Magnetic contactors shall be of the NEMA sizes. IEC type contactors are unacceptable. The rating, performance and service characteristics shall conform to the requirements of NEMA ICS 2 for contactors with continuous current ratings for the duty indicated. Contactors for motor control shall be rated for full-voltage starting (Class A controllers). Contactors shall be suitable for at least 200,000 complete operations under rated load without more than routine maintenance. The interruption arc and flame shall be minimized by suitable arc chutes or other means so that no damage will be done to other portions of the device. The arc chutes, if provided, shall be easily removable without removing or dismantling other parts. The contacts shall be easily removable. All current-carrying contact surfaces shall be silver-surfaced or of other approved material to prevent the formation of high resistance oxides. The contactor shall operate without chatter or perceptible hum while energized. Coils shall be suitable for continuous operation 120-volt ac circuits. Alternating-current contactors shall be three-pole, except where otherwise noted, and shall be insulated for 600 volts ac and of the electrically-operated, magnetically-held type.

3. Solid-State Reduced Voltage Starters (SSRV). Provide Solid State soft-start starters for all motors rated 32 hp and, larger. Solid State soft-start starters shall be three phase SCR controlled for stepless reduced voltage starting of induction motors. Current transformers shall provide feedback signal to regulate torque during start up and to prevent overload conditions while motor is running. Starter shall have starting current of 300 percent of full load amps for thirty seconds, bypass/isolation contactor, and three phase thermal overload relay. Bypass/isolation contactors and running starters are. Provide circuit breaker equipped combination motor starters in NEMA 12 enclosures with extra capacity as required to house control components.

   (a) The following field selectable starting modes shall be standard within the unit:

      1) Soft State with Kickstart
      2) Current Limit Start
      3) Full Voltage Start.

   (b) Required Optional Features:

      1) Pump Control: Provide to control the speed from start to full speed and to control the speed from full speed to stop without feedback devices.
      2) Device Net or Remote I/O: interface as required for specified control system.

   (c) In addition to digital adjustments, provide advisory LEDS:

      1) Energy Saver Active
      2) Stopping Mode
      3) Starting Mode
      4) Running Mode
      5) Control Voltage Mode.

   (d) SSRV shall monitor both prestart and running modes. If the SSRV senses a fault, it shall shut down the motor and illuminate the appropriate fault indicator. The SSRV shall monitor the following conditions:

      1) Start Fault
      2) Stalled Motor
      3) Temperature Fault
      4) Line Fault.

   (e) Provide auxiliary contacts 1 N.O. - 1 N.C. (Form C), configured as either instantaneous contacts or up to speed contacts. Any fault condition will cause the auxiliary contacts to change state and the hold in circuit to release.

4. Auxiliary Contacts. Each controller shall be provided with a minimum of three auxiliary contacts that can be easily changed from normally open to normally closed. A fourth auxiliary contact and red and green indicating lights shall be provided.

5. Overload Relays. Except as otherwise indicated, each controller shall be provided three NEMA Class 10 thermal overload relays with external manual reset. It is Contractor’s responsibility to see that all motors have proper thermal overload protection installed on shipment.

6. Individual Control Transformers. Where 120 volt ac control of contactors is indicated or required, individual control transformer shall be provided on the line side of the unit disconnect. The control transformers shall be rated 480-120 volts and shall conform to the requirements for control transformers in NEMA ST 1. Control transformers shall have adequate volt-ampere capacity for the control functions indicated. Transformers shall be installed with primary fuses. Primary fuses shall be Class J. Each control transformer shall be provided with a fuse in one secondary lead and shall have the other secondary lead grounded.

7. Voltage Fault Protection. Where available, starters shall be provided with protection against voltage faults, phase unbalance, phase loss, phase reversal, under voltage and over voltage. Upon sensing one of these faults, the protector shall de-energize the starter. The protector shall use a combination of voltage and phase-angle sensing to detect phase loss even when regenerated voltages are present. The protector shall be connected to the load side of the motor circuit disconnect. The protector shall have an adjustable line voltage trip level, adjustable trip delay, automatic reset and manual reset by an external normally closed push-button, and Double Pull Double Throw (DPDT) output contacts. Protector operation shall have repeatability of +1 percent of set point, maximum, and a dead band of 2 percent maximum. Protector shall have green indicator to show normal status and red indicator to show tripped status. Indicators will be visible through the compartment door, when LED's are used protector shall be covered with a clear unbreakable cover, when lamps are used they shall have nameplates and be grouped with other indicating lights.

C. LEVEL SENSORS/INTRINSICALLY SAFE RELAYS

1. Float Switches.

(a) Provide direct acting float switches, quantity as required.

1) Switch: Single pole mercury switch encapsulated to form a completely watertight and impact resistant unit. Normally Open, N.O., Normally Closed, N.C. contacts as required.
2) Float housing: Polypropylene.
3) Cable Clamp: Stainless steel, or Polypropylene.
4) Cable: PVC type STO #18 conductors (41 strands) rated 600 volt. Length as required.
5) Suspension Cable and Float:
(i) 1/8″ stainless steel, nylon coated wire rope float suspension cable.
(ii) Minimum 13 lb. Anchor weight.

2. Submersible Analog Level Transmitters.

(a) Solid-state semiconductor sensors.

(b) 316L stainless steel housing, non-clogging protected sensor heads, vented to atmosphere through surface end of electrical leads.

(c) Designed for use in submersible applications where top down accessibility is preferred.

(d) Piezoresistive Silicon sensor with Oil Isolation.

(e) Ranges 3 to 300 PSIG (20 bar)

1) Vented Gage.
2) Overpressure 2X Full Scale.
3) Burst Pressure 3X Full Scale.
4) Accuracy +/-0.25% of range (BFSL) includes linearity, hysteresis and repeatability.
5) Input 12 - 40VDC.
6) Output, 4 - 20mADC, limited to 30mADC,
7) Compensated Temperature Range: -0 to 50°C, Thermal Effect +/-1% URL per 25°C between 0 to 50°C.
8) Stability +/-0.5% Span/6 Months.

(f) Process Connection:

1) Electrical Connection Polyurethane Cable. Minimum length 100-feet; longer length as required for connection to supervisory control panel. No splices permitted in any cable run.

(g) Wetted Materials:

1) 316L Stainless Steel:
   (i) Viton® Seal and Polyurethane Cable.

(h) Approvals CSA Intrinsically Safe.

3. Intrinsically Safe Repeater Barriers (analog): Repeater barriers protect all circuits with intrinsically safe 4-20mA transmitters.

(a) Input:

1) Signal Range: 4-20mA.
2) Power Supply to Transmitter: 15VDC stabilized.

(b) Output:

1) Signal Range: 4-20 mA.
2) Maximum Load: 1000 ohms.

(c) Transmission Characteristics:

1) Synchronization Accuracy: Less than or equal to 20 ìA.
2) Ramp-up Time: Less than or equal to 50ìA.

(d) Power Supply:

1) Supply voltage: 24VDC, +/-15%.

(e) Mounting: Modular snap-in construction for 35 mm DIN rail.

(f) Entity Parameters:

1) Class I, II, III, Div. 1, Groups A-G.
2) Voc: 23.30 V Ca: 069ìF.
3) Isc: 91.32mA La: 17.87mH.

4. Intrinsically Safe Relays (discrete):

(a) Four independent channels.

(b) LED indication of channel activation.

(c) Removable terminal blocks.

(d) Contact Ratings:

1) 10 amp (style C).

2) 5 amp (style A).

(e) Contact Design:

1) Standard Normally Open, N.O., Normally Closed, N.C.

(f) Primary Voltage:

1) 120, 240 VAC, +10%, -15%, 60Hz.

(g) Secondary Voltage:

1) 12 VAC @6ma RMS.

(h) Sensitivity:

1) 4,700-100,000 ohms max. Factory set specific resistance.

5. Listing:

(a) UL 913

1) Motor Control.
2) Intrinsically safe.

D. RADIO, ANTENNA, CABLE, AND ANTENNA POLE.

1. RADIO. Provide radio with Range/Scale 380 – 512 MHz; input - PLC interface; output, 0.1 to 5 watts programmable; 7ms data turnaround time; low power usage – Sleep Mode; Configurable as Master or remote radio; Remote diagnostics with Network Management software for maintenance and link monitoring:

(a) Operational Modes:

1) Async. - Simplex, half-duplex, (synchronous available (9600 bps only) in MDS 4710B, and MDS 9710B).

(b) Data Interface:

1) RS-232, DB-25 Female Connector Supports: TXD, RXD, RTS, CTS, DCD, RUS, AUX POWER, DSR, and GND.

(c) Transmitter:

1) Carrier Power: 0.1 to 5 Watts Programmable.
2) Duty Cycle: Continuous.
3) Output Impedance: 50 Ohms.
4) Frequency Stability: +/- 0.00015% 1.5 ppm.
5) Carrier Power Accuracy: Normal +/- 1.5 dB.

(d) Receiver:

1) Type: Double Conversion Superheterodyne.
2) Frequency Stability: +/- 0.00015% (1.5 ppm).
3) Adjacent Channel (EIA): 60 dB nominal.

(e) Power:

1) Sleep Mode: 15 mA nominal.
2) Primary Power: Voltage 13.8 Vdc nominal (10.5 to 16 Vdc operating range).
3) Tx Current: 2A Typical at 5 Watts.
4) Rx Current: <125 mA.

(f) Modem:

1) Modulation: Digital / CPFSK.
2) CTS Delay: 0-255 msec programmable in 1 msec increments.
3) PTT Delay: 0-255 msec programmable in 1 msec increments.

2. ANTENNA.

(a) Master Control Station: UHF omni-directional antenna; radiators enclosed in a radome made of fiberglass; 8 dBd gain:

1) Electrical Data:
(i) Frequency Range: 406-512 MHz.
(ii) Bandwidth: 450-482 Mhz.(or as req.)
(iii) Gain (maximum): 8 dBd.
(iv) Beamwidth “E” Plane (half power): 10°.
(v) Beamwidth “H” Plane (half power): Omni.
(vi) Maximum power input: 500 watts.
(vii) Input impedance: 50 ohms.
(viii) VSWR: 1:5 to 1.
(ix) Lightning protection: Direct ground.
(x) Termination: Type N-Female (fixed).

2) Mechanical Data:
(i) Lateral thrust at 100 mph: 108 lbf.
(ii) Maximum exposed area (flat plate equivalent): 2.70 ft.
(iii) Wind rating: 140 mph.
(iv) Tip deflection at 100 mph: 6.6°.
(v) Bending moment 1" below top of mast at 100 mph: 773 ft./lbs.
(vi) Radiators: Brass.
(vii) Support pipe: 6061-T6 Aluminum.
(viii) Clamps: galvanized steel.

(b) Pump Station: light duty, multi-element yagi, 8 dB, directional gain:

1) Electrical Data:
(i) Frequency Range: A = 450-470 MHz.
(ii) Bandwidth: 20 MHz.
(iii) VSWR: 1.5 to 1 or less.
(iv) Nominal impedance: 50 ohms.
(v) Forward gain (over half-wave dipole): 8 dBd.
(vi) Beamwidth “E”Plane (half power): 50°.
(vii) Beamwidth “H” Plane (half power): 70°.
(viii) Polarization: Vertical.
(ix) Maximum power input: 100 watts.
(x) Lightning protection: Direct ground.
(xi) Standard Termination: Captive Type N-Female.

2) Mechanical Data:
(i) Support boom: Aluminum.
(ii) Elements: Aluminum.
(iii) Maximum exposed area (flat plate equivalent): .3 sq. ft.
(iv) Lateral thrust at 100 mph: 12 lbf.
(v) Wind rating:
1. Survival without ice: 125 mph/hr.
2. Survival with .5'' radial ice: 90 mph.
(vi) Mounting brackets: Galvanized steel.

3. CABLE. Low loss, highly shielded cable capable of repeated bending and installation in extremely tight spaces. Stranded center conductors and thermoplastic elastomer jackets. RF shielding better than 90 dB:

(a) Conductor: Stranded BC 0.109".

(b) Dielectric: Polyethylene Foam 0.285".

(c) Outer Conductor: Bonded Alum Tape: 0.291".

(d) Outer Braid: Tin Plated Copper: 0.320".

(e) Jacket: Blk Thermoplastic Elastomer: 0.405".

(f) Bend Radius: 1".

(g) Weight: Minimum 0.09 lbs/ft.

(h) Temperature Range: -40 F to 185 F.

(i) Impedance: 50 Ohms.

(j) Velocity: 85%.

(k) Capacitance: 23.9 pF/ft.

(l) DC Resistance:

1) Center Conductor: 1.67 ohms/1000 ft.
2) Shield: 1.65 ohms/1000 ft.

(m) Shielding: >90 dB.

(n) Phase Stability: +/-10 ppm/degC.

4. ANTENNA POLES:

(a) Metal and concrete poles shall be the pole manufacturer's standard design for supporting the antennas indicated. The Contractor shall determine the length of antenna poles based on radio path studies. In no case shall a pole be less than 15 ft in length. Poles shall be designed for a wind velocity of 100 mph at the base of the pole, for a wind gust factor of 1.3, and for the height and drag factors recommended by AASHTO LTS-3. The effective projected area of antennas and other pole-mounted devices shall be taken into account in pole design. Poles shall have grounding provisions. The type of pole shaft material provided shall not be mixed on any project. Grounding connection shall be provided near the bottom of each metal pole and at each concrete pole anchor base. Scratched, stained, chipped, or dented poles shall not be installed.

(b) Steel poles shall be hot-dip galvanized in accordance with ASTM A 123 and shall not be painted. Poles shall have tapered tubular members, either round in cross-section or polygonal. Pole shafts shall be one piece. Poles shall be welded construction with no bolts, rivets, or other means of fastening except as specifically approved. Pole markings shall be approximately 3 to 4 feet above grade and shall include manufacturer, year of manufacture, top and bottom diameters, length, and a loading tree. Attachment requirements shall be provided as required, including grounding provisions. Climbing facilities are not required. Bases shall be of the anchor bolt-mounted type.

(c) Concrete Poles. Concrete poles shall be designed to withstand the loads specified in IEEE C2 multiplied by the appropriate overload capacity factors. Poles shall be

prestressed and spun. Spun poles shall be manufactured by a centrifugal spinning process with concrete pumped into a polished round tapered metal mold. An air entrainment admixture shall be used to produce a 6% +/- air content to the concrete mix. Concrete for spun poles shall have a compressive strength of at least 8,000 psi at 28 days; steel wire shall have an ultimate tensile strength of at least 120,000 psi; and reinforcing bars shall have an ultimate tensile strength of at least 40,000 psi. Pre-stressing steel reinforcement shall be stressed to a maximum of 70% of their ultimate capacity, and shall not be released until a minimum compressive strength of 3,500 psi has been achieved. Helical reinforcing shall conform to ASTM A 82 with hot dip galvanized coating in accordance with ASTM A 641, Class 3. After the high speed spinning action is completed, a spun pole shall be cured by a suitable wet steam process. Spun poles shall have a water absorption of not greater than 3 percent to eliminate cracking and to prevent erosion. Concrete poles shall have hollow shafts. Poles shall have a hard, smooth, nonporous surface that is resistant to soil acids, road salts, and attacks of water and frost. The pole shaft shall be coated with a waterproof breathing membrane of methyl methacrylate and once with an anti-graffiti coating. Poles shall not be installed for at least 15 days after manufacture. Fittings and brackets that conform to the concrete pole design shall be provided. Poles shall conform to strength calculations performed by a registered professional engineer and submitted.

(d) Anchor Bolts: Anchor bolts shall be the pole manufacturer's standard, but not less than necessary to meet the pole wind and ice loading, herein and other specified design requirements.

E. INTRUSION DETECTION MAGNETIC CONTACTS.

1. The contact shall be a hermetically sealed reed switch nominally 3" L x 1" H x 0.50" D with matching actuating magnet. Mounting holes shall be on 2" centers. Contact shall be sealed in polyurethane potting compound. Suitable mounting brackets shall be furnished with contact:

(a) Each contact shall connect three feet of flex stainless steel conduit.

(b) Voltage: 30 V AC/DC max.

(c) Current: 0.25 A max.

(d) Power: 3.0 W max.

1) 1-SPDT Contact.

F. PROGRAMMABLE LOGIC CONTROLLER (PLC)

1. PLC General Requirements: PLCs shall be micro-processor based, capable of receiving discrete and analog inputs and, through programming, shall be able to control discrete and analog output functions, perform data handling operations and communicate with external devices. PLCs shall meet the requirements of Class A computing devices, and shall be labeled as set forth in 47 CFR 15 and shall be able to withstand conducted susceptibility test as outlined in NEMA ICS 1, NEMA ICS 2, NEMA ICS 3, and IEEE C37.90.1. PLCs shall function properly at temperatures between 0 and 50 degrees C 32 and 122 degrees F at 5 to 95 percent relative humidity non-condensing and shall tolerate storage temperatures between minus 40 and plus 60 degrees C 40 and plus 140 degrees F at 5 to 95 percent relative humidity non-condensing.

2. Modular PLC: PLCs shall be based on a modular, field expandable design allowing the system to be tailored to the process control application. The system shall be expandable through the use of additional hardware and/or user software. As a minimum, the PLC shall include a mounting back plane, power supply module, central processing unit (CPU) module, communications module, and input/output (I/O) modules. The modules shall be grouped together in a mounting rack or cabinet. The mounting rack back plane shall provide the communications mechanism to fully integrate the individual modules located within the rack. Modules shall plug directly into the back plane. The use of wire connectors between modules will not be allowed. The rack size shall be as needed to hold the equipment necessary while performing the required control functions. The system configuration shall allow for the removal and/or installation of modules under power.

(a) Central Processing Unit (CPU) Module: The CPU module shall be a self contained, microprocessor based unit that provides time of day, scanning, application (ladder rung logic) program execution, storage of application programs, storage of numerical values related to the application process and logic, I/O bus traffic control, peripheral and external device communications and self diagnostics.

(b) Communications Module: The communications module shall allow peer-to-peer communication with other PLCs and shall allow the PLC to communicate with the Master Control Station, or workstation. The communication module shall utilize the manufacturer's standard communication architecture and protocol, ethernet architecture and protocol or a combination of these. The communication module shall allow programming of the PLC to be done locally through the use of a laptop computer or from the Master Control Station or remote workstation.

(c) Power Supply Module: One or more power supply modules shall be provided as necessary to power other modules installed in the same cabinet. Power supply modules shall plug directly into the back plane. Auxiliary power supplies may be used to supply power to remote cabinets or modules.

1) Power supply modules shall use AC power with a nominal voltage of 120 vAc plus or minus 5 percent. The power supply module shall monitor the incoming line voltage level and shall

provide over current and over voltage protection. If the voltage level is detected as being out of range the power supply module shall continue to provide power for an adequate amount of time to allow for a safe and orderly shutdown. Power supply modules shall be capable of withstanding a power loss for a minimum of 20 milliseconds while still remaining in operation and providing adequate power to all connected modules.

2) Each power supply module shall be provided with an on-off switch integral to the module. If the manufacturer's standard power supply module is not provided with an on-off switch, a miniature toggle type switch shall be installed near the PLC and shall be clearly labeled as to its function.

3) Power supply modules shall be provided with an indicating light that shall be lit when the module is operating properly.

(d) Input/Output (I/O) Modules: Modules shall be self contained, microprocessor based units that provide an interface to field devices. The module shall be located in the same mounting rack as the other PLC components. The unit shall plug directly into the back plane of the mounting rack. Each module shall contain visual indication to display the on-off status of individual inputs or outputs.

3. Program Storage/Memory Requirements: The CPU shall utilize the manufacturer's standard non-volatile memory for the operating system. The controller shall have electronically erasable, programmable, read only memory (EEPROM) for storage of user programs and battery backed RAM for application memory. The EEPROM shall be loaded through the controller keypad, Master Control Station or through the use of a laptop computer. The CPU memory capacity shall be based on the system's control requirements. The memory capacity shall be sized such that, when the system is completely programmed and functional, no more than 50 percent of the memory allocated for these purposes is used.

4. Input/Output Characteristics: Each controller shall allow for analog input, analog output, discrete input and discrete output. The number and type of inputs and outputs for the system shall be as required and shall comply with the sequence of control. The system capacity shall include a minimum of 20 percent spare input and output points (no less than two points) for each point type provided. During normal operation, a malfunction in any input/output channel shall affect the operation of that channel only and shall not affect the operation of the CPU or any other channel. Analog input circuits shall be available in +/-10V, +/-5V, 0-10V, 0-5V, or 4-20 mA. Discrete input circuits shall be available in 5 volt TTL, 10-30 vDc, 18-26 vDc, or 79-132 vAc. All input circuits shall have a minimum optical isolation of 1500 VRMS and shall be filtered to guard against high voltage transients from the externally connected devices. Analog output circuits shall be available in +/-10V, or 4-20 mA. Discrete output circuits shall be available in 5 volt TTL, 10-30 vDc, 18-26 vDc, 79-132 vAc. All output circuits shall have a minimum optical isolation of 1500 VRMS and shall be filtered to guard against high voltage transients from the externally connected devices.

5. Wiring Connections: Wiring connections shall be heavy duty, self lifting, pressure type screw terminals to provide easy wire

insertion and secure connections. The terminals shall accept two #14 AWG wires. A hinged protective cover shall be provided over the wiring connections. The cover shall have write-on areas for identification of the external circuits.

6. On-Off Switch: Each controller shall be provided with an integral on-off power switch. If the controller is not provided with a manufacturer's standard on-off switch, a miniature toggle type switch shall be installed in the control panel near the controller and shall be clearly labeled as to its function.

7. Diagnostics: Each PLC shall have diagnostic routines implemented in firmware. The CPU shall continuously perform self-diagnostic routines that will provide information on the configuration and status of the CPU, memory, communications and input/output. The diagnostic routines shall be regularly performed during normal system operation. A portion of the scan time of the controller shall be dedicated to performing these housekeeping functions. In addition, a more extensive diagnostic routine shall be performed at power up and during normal system shutdown. The CPU shall log input/output and system faults in fault tables that shall be accessible for display. When a fault affects input/output or communications modules the CPU shall shut down only the hardware affected and continue operation by utilizing the healthy system components. All faults shall be annunciated at the PLC and the Master Control Station. Diagnostic software shall be useable in conjunction with the portable tester.

8. Accuracy: Controllers shall have an accuracy of plus or minus 0.25 percent of input span.

G. PLC SOFTWARE: All PLC software described in this specification shall be furnished as part of the complete control system.

1. Operating System: Each PLC shall be provided with the manufacturer's standard operating system software package. The PLC shall maintain a point database in its memory that includes all parameters, constraints and the latest value or status of all points connected to the PLC. Execution of the PLC application programs shall use the data in memory resident files. The operating system shall support a full compliment of process control functions. It shall be possible to define these functions using a mix of function blocks, ladder logic diagrams, sequential function charts and text programming. Programming methods and interactions shall be based on IEC 61131-3. A combination of the programming methods shall be possible within a single controller. The operating system shall allow loading of software locally or from the Master Control Station and data files from the portable tester. It shall also support data entry and diagnostics using an operator interface panel attached directly to the PLC. Each PLC shall be capable of operating in stand alone mode.

   (a) Startup: The PLC shall have startup software that causes automatic commencement of operation without human intervention, including startup of all connected I/O functions. A PLC restart program based on detection of power failure at the PLC shall be included in the PLC software. The restart program shall include start time

delays between successive commands to prevent demand surges or overload trips.

(b) Failure Mode: Upon failure for any reason, each PLC shall perform an orderly shutdown and force all PLC outputs to a predetermined (failure mode) state, consistent with the failure modes shown and the associated control device.

2. Functions: The controller operating system shall be able to scan inputs, control outputs, and read and write to its internal memory in order to perform the required control as indicated in the sequence of control on the drawings. The controller shall periodically perform self diagnostics to verify that it is functioning properly.

(a) Analog Monitoring: The system shall measure and transmit all analog values including calculated analog points.

(b) Logic (Virtual): Logic (virtual) points shall be software points entered in the point database which are not directly associated with a physical I/O function. Logic (virtual) points shall be analog or digital points created by calculation from any combination of digital and analog points, or other data having all the properties of real points, including alarms, without the associated hardware. Logic (virtual) points shall be defined or calculated and entered into the database by the Contractor. The calculated analog point shall have point identification in the same format as any other analog point.

(c) State Variables: If an analog point represents more than two (up to 8) specific states, each state shall be nameable. For example, a level sensor shall be displayed at its measured engineering units plus a state variable with named states usable in programs or for display such as low alarm/low/normal/high/high alarm.

(d) Analog Totalization: Any analog point shall be operator assignable to the totalization program. Up to eight analog values shall be totalized within a selectable time period.

3. Alarm Processing: If required for compatibility with the cities existing system each PLC shall have alarm processing software for AI, DI, and PA alarms for all real and virtual points connected to that PLC.

(a) Digital Alarms: Digital alarms are those abnormal conditions indicated by DIs as specified and shown. The system shall automatically suppress analog alarm reporting associated with a digital point when that point is turned off.

(b) Analog Alarms: Analog alarms are those conditions higher or lower than a defined value, as measured by an AI. Analog readings shall be compared to predefined high and low limits, and alarmed each time a value enters or returns from a limit condition. Unique high and low limits shall be assigned to each analog point in the system. In control point adjustment (CPA) applications, key the limit to a finite deviation traveling with the set point. The system

shall automatically suppress analog alarm reporting associated with an analog point when that analog point is turned off.

(c) Pulse Accumulator (PA) Alarms: Pulse accumulator alarms are those conditions calculated from totalized values of accumulator inputs or PA input rates that are outside defined limits as specified and shown. PA totalized values shall be compared to predefined limits and alarmed each time a value enters a limit condition. Unique limits shall be assigned to each PA point in the system.

4. Constraints:

(a) Equipment Constraints Definitions: Each control point in the database shall have PLC resident constraints defined and entered by the Contractor, including as applicable: maximum starts (cycles) per hour; minimum off time; minimum on time; high limit (value in engineering units); and low limit (value in engineering units).

(b) Constraints Checks: All control devices connected to the system shall have the PLC constraints checked and passed before each command is issued. Each command point shall have unique constraints assigned. High and low "reasonableness" values or one differential "rate-of-change" value shall be assigned to each AI. Each individual point shall be capable of being selectively disabled by the operator from the Master Control Station.

5. Command Priorities: A scheme of priority levels shall be provided to prevent interaction of a command of low priority with a command of higher priority. Override commands entered by the operator shall have higher priority than those emanating from applications programs.

6. Resident Application Software: The Contractor shall provide resident applications programs developed in accordance with paragraph Graphical Object Oriented Programming to achieve the sequences of operation, parameters, constraints, and interlocks necessary to provide control of the equipment connected to the control system. All application programs shall be resident in the PLC and shall execute in the PLC, and shall coordinate with each other, to insure that no conflicts or contentions remain unresolved.

(a) Program Inputs and Outputs: The Contractor shall use program inputs listed for each application program to calculate the required program outputs. Where specific program inputs are not available, a "default" value or virtual point appropriate for the equipment being controlled and the proposed sequence of operation shall be provided to replace the missing input, thus allowing the application program to operate.

(b) Failure Mode: In the event of a PLC failure, the controlled equipment shall continue to function in the failure mode shown on the drawings submitted by the Contractor.

H. CONTROL PANELS (Master and Supervisory as applicable):

1. Components.

(a) Enclosures: The enclosure for each control panel shall conform to the requirements of NEMA 250 for the types specified. Finish color shall be the manufacturer's standard, unless otherwise indicated. Damaged surfaces shall be repaired and refinished using original type finish. Enclosures for installation in mechanical equipment rooms shall be Type 12. Enclosures shall be provided with a single, continuously hinged exterior door with print pocket, 3-point latching mechanism and key lock and a single, continuously hinged interior door.

(b) Controllers: Controllers shall be in accordance with paragraph Programmable Logic Controller (PLC).

(c) Flat Panel Operator Interface Module: Provide menu driven paged status display on the operator interface panel. Minimum interface module as follows:

1) Display: 10.4 inch (26.4 cm) diagonal, color, 640 x 480 pixel, TFT Active Matrix Display with screen saver function. Adjustable and replaceable backlight.
2) Touch Screen: Analog resistive touch screen with clear, hard-coated, scratch resistant polyester membrane over chemically strengthened glass. Up to 192 touch cell areas definable as small as 40 x 40 pixels.
3) Actuation Rating: 1,000,000 presses.
4) User Memory: 2.25 MB on-board flash. PC memory card option up to 16MB.
5) Time Clock: Battery backed, AM/PM or 24 hour display
6) Operating Temperature: 0 to 50 C (32 to 122 F.)

(d) Uninterruptible Power Supply (UPS): Controllers shall be in accordance with paragraph Master Control Station AND OPERATORS WORKSTATION EQUIPMENT - Uninterruptible Power Supply (UPS), and sized to provide 10 minutes of operation.

(e) Standard Indicator Light: Indicator lights shall comply with NEMA ICS 1, NEMA ICS 2 and UL 508. Lights shall be heavy duty, round and shall mount in a 22.5 mm 0.875 inch mounting hole. Indicator lights shall be LED type and shall operate at 120 vAc or 24 vDc. Long life bulbs shall be used. Indicator light shall be provided with a legend plate labeled as shown on approved Contractor drawings. Lens color shall be as indicated on the drawings. Lights shall be push to test (lamp) type.

(f) Selector Switches: Selector switches shall comply with NEMA ICS 1, NEMA ICS 2 and UL 508. Selector switches shall be heavy duty, round and shall mount in a 22.5 mm 0.875 inch mounting hole. The number of positions shall be as required. Switches shall be non-illuminated. Switches shall be rated for 600 volts, 10 amperes continuous. Selector switches shall be provided with a legend plate labeled as shown on the approved Contactor drawings. Where indicated or required, dual auxiliary contacts shall be provided for

the automatic position to provide position sensing at the Master Control Station or workstation. Auxiliary contacts shall be rated for 120 vAc, 1A as a minimum.

(g) Push Buttons: Push buttons shall comply with NEMA ICS 1, NEMA ICS 2 and UL 508. Push buttons shall be heavy duty, round and shall mount in a 22.5 mm 0.875 inch mounting hole. The number and type of contacts shall be as indicated on the drawings or required by the Sequence of Control. Push buttons shall be rated for 600 volts, 10 amperes continuous. Push buttons shall be provided with a legend plate labeled as shown on the approved Contactor drawings.

(h) Relays: Relays shall comply with IEEE C37.90. Relays shall include three, single-pole, double-throw (SPDT) contacts as required by the Sequence of Control. Relay coil shall be 120 vAc or 24 vDc and required and shall be provided with matching mounting socket. Power consumption shall not be greater than 3 watts.

(i) Terminal Blocks: Terminal blocks shall comply with NEMA ICS 4 and UL 1059. Terminal blocks for conductors exiting control panels shall be two-way type with double terminals, one for internal wiring connections and the other for external wiring connections. Terminal blocks shall be made of bakelite or other suitable insulating material with full deep barriers between each pair of terminals. A terminal identification strip shall form part of the terminal block and each terminal shall be identified by a number in accordance with the numbering scheme on the approved wiring diagrams.

(j) Auto dialer: Auto dialer shall be a self contained, programmable device capable of automatic operation. The unit shall automatically dial preprogrammed number(s) to report alarm(s) or other specified conditions. The auto dialer shall automatically redial upon receipt of a busy signal. The number of redials shall be an operator definable parameter. The unit shall be capable of dialing a minimum of three phone numbers. The unit shall communicate over voice grade phone lines.

(k) Power Supplies: World-wide AC input ranges and safety standards; Industry standard packages; UL/CSA TUV/IEC approved; models to UL1950; CSA C22.2 No. 234 L3; TUV certified to IEC950; Burn-in with cycling; 3-year warranty; MTBF 200,000+ hours per Mil Handbook 217D; All electrolytic caps rated 105ºC; Transformer insulation meets Class F (155ºC); Exceeds FCC and CISPR22 Class B conducted emissions. Condor D.C. Power Supplies HB24-1.2-A+, and HN12-5.1A+, or equal, as follows:

1) AC Input:
   (i) 100, 120 and 240Vac: +10%, -13%; 215Vac: +12%, -11 %; 47 to 63Hz.
   (ii) Tolerance for 230Vac operation is +15%,
   (iii) -10%. Derate output current 10% for 50Hz operation.
2) DC Output: See voltage rating chart. Adjustment range ±5% minimum except HA series.

3) Line Regulation: ±0.05% for a 10% change.
4) Load Regulation: ± 0.05% for a 50% load change.
5) Output Ripple: 3mV +0.05% of output voltage, peak to peak maximum. All “3-terminal regulator” outputs: 3mV +0.2% peak to peak maximum.
6) Transient Response: <50 microseconds for 50% load change.
7) Short Circuit Protection: Automatic current limit/fold back.
8) Over voltage Protection: Built-in on all 5V models, set at 6.2V ±0.4V. Other models use optional over voltage protection.
9) Remote Sensing: Provided on all models; open sense lead protection built-in (except HA series).
10) Stability: ±0.05% for 24 hours after warm-up.
11) Temperature Rating: 0 to 50°C full rated, derated linearly to 40% at 70°C.
12) Temperature Coefficient: ±0.01%/°C maximum.
13) Efficiency: 5V units: 45%; 12 and 15V units: 55%; 20 and 24V units: 60%.

(l) Transient Protection: Transient protection shall be integrally provided with all equipment to protect all instrumentation and telemetry devices either receiving or sending signals.

1) Radio Surge Arrestor: For general radio use; surface mountable; Multi-strike Capability; Low strike throughput energy:
   (i) Freq. Range: 125-1000MHz.
   (ii) Mounting: Flange.
   (iii) Protected Side Connector: N Female 50Ù.
   (iv) Surge Side Connector: N Female 50Ù.
   (v) Unit Impedance: 50Ù.
   (vi) Insertion Loss: 0.1dB.
   (vii) Protected Side Isolation: No.
   (viii) Sampling Port: No.
   (ix) Throughput Energy: 220ìJ for 3kA @ 8/20ìs Waveform.
   (x) Throughput Voltage: 144 Vpk.
   (xi) Turn-On Voltage: +/-600 Volts.
   (xii) Voltage Standing Wave Ratio: 1.1:1.
2) Signal and Dataline Protector:
   (i) Surge Life:
      1. >100 operations with 200 Amps: 10 x 1000 µsec.
      2. >10 operations with 10,000 Amps: 8 x 20 µsec.
   (ii) DC Leakage Current at Rated L/G Voltage: >10 µAmps.
   (iii) Signal/Data Attenuation at Maximum Data Rate: 3db with 6000 termination.
   (iv) Response Time: 50 pico-seconds.
   (v) Wire Size: 22-14 AWG.
3) Transient Protection. Secondary surge arrester, designed for use on 120/240 Vac, 50/60 Hz electrical services:
   (i) Features:
      1. UL Listed and CSA Certified secondary surge arresters
      2. Meet ANSI/IEEE C62.11-1987
      3. Suitable for use in Category B and C locations
      4. Metal oxide varistor (MOV) design
   (ii) Electrical:
      1. Intrinsic varistor response time Less than 1 nanosecond.
      2. Minimum life 2500 operations (for 1.5 kA 8/20µs wave for each line-to-ground).

3. Varistor surge current rating per phase 36,000 A peak (8/20µs wave).
4. Power consumption per phase: Less than 60 milliwatts.
5. Surge energy capability per phase: 560 Joules (8/20µs wave)

(iii) Fuse Link: A non-replaceable internal fuse link opens in the event of a varistor-damaging overload.

2. Panel Assembly: Control panels shall be factory assembled and shipped to the jobsite as a single unit. Panels shall be fabricated as indicated and devices shall be mounted as shown or required. Each panel shall be fabricated as a bottom-entry connection point for control system electrical power, control system wiring, communications system wiring to operators workstation.

3. Electrical Requirements: Each panel will be powered by a dedicated 120 volts ac circuit, with a fuse, sized as recommended by the equipment manufacturer, and a disconnect switch located inside the panel. Wiring shall terminate inside the panel on terminal blocks.

4. Grounding: Control panel enclosures shall be equipped with a solid copper ground bus or equivalent. The ground bus shall be securely anchored to the enclosure so as to effectively ground the entire structure. Clamp-type terminals sized large enough to carry the maximum expected current shall be provided on the ground bus for grounding cables. Where a definite circuit ground is required, a single wire not less than #10 AWG shall run independently to the panel ground bus and shall be fastened to the ground bus with a bolted terminal lug. Cases of instruments, relays and other devices shall be effectively grounded through the enclosures steel structure unless otherwise indicated. Insulated wiring having a continuous rated current of not less than the circuit fuse rating shall be used for grounding. Grounding terminals of power receptacles shall be solidly grounded to the panel enclosure.

5. Convenience Outlet: A 120 volt ac, 20 amp, ground fault interruption (GFI) type duplex convenience outlet shall be provided inside the panel. The outlet circuit shall be separate from the panel power circuit.

6. Panel Interior Light: Each control panel shall be provided with a 40 watt fluorescent light. The light shall be operated by a manual on-off switch mounted on the interior door of the enclosure. The light shall be powered by the same circuit as the convenience outlet.

7. Ventilation System: Each control panel shall be provided with two single phase, 120 volt ac ventilation fans. Each fan shall supply a minimum of 50 L/s 100 cfm of ventilation air through the enclosure. Each fan shall be provided with a line voltage thermostat. Thermostat set points shall be adjustable in a range of 70 to 140 degrees F as a minimum. Each supply and exhaust grille shall contain a filter that is easily removed for cleaning or replacement.

8. Heating System: Each control panel shall be provided with a thermostatically controlled electric heater capable of maintaining an enclosure temperature of 35 degrees F when continuously exposed to an ambient temperature of 2 degrees F.

I. MASTER CONTROL STATION AND OPERATORS WORKSTATION EQUIPMENT

1. Master Control Station and Operators Workstation Computer: Computer shall be a standard desk top or tower configuration, unmodified digital computer of modular design. Computing devices, as defined in 47 CFR 15, supplied as part of the control system shall be certified to comply with the requirements of Class B computing devices and shall be labeled as set forth in 47 CFR 15.

(a) Minimum Processor Operating Speed: Minimum processor operating speed shall be 1 GHz.

(b) RAM Memory: Ram memory shall be 128 MB, expandable to a minimum of 512] MB.

(c) Minimum Power Supply: Minimum power supply shall have a capacity of 250 watts.

(d) Real Time Clock: (RTC) Real time clock accurate to within plus or minus one minute per month. Battery backed for a minimum of 3 months.

(e) Serial Ports: Two EIA ANSI/EIA/TIA-232-F ports. Data transmission rate shall be software adjustable between 9600 and 57,600 bps.

(f) Parallel Port: One enhanced parallel port.

(g) SVGA Color Monitor: SVGA color monitor shall be no less than 21 inches, with a minimum resolution of 2048 by 1546 pixels/75 Hz Multi-scan, non-interlaced, and a maximum dot pitch of 0.23 millimeters. The video output card shall support at least 32 bit colors at a resolution of 2048 by 1536 at a minimum refresh rate of 75 Hz.

(h) Keyboard: A 101 key, 64 character standard ASCII character set based on ANSI X3.64 and ANSI X3.154.

(i) Hard Disk: Hard disk with a minimum of 100 gigabytes of formatted storage.

(j) Floppy Disk Drives: One high density floppy disk drive and controller in 90 mm 3-1/2 inch diameter size shall be provided.

(k) Zip Drive: One zip drive and controller with 100 megabyte of formatted storage shall be provided.

(l) Modem: Modem shall operate on analog telephone lines56K kbps, full duplex using asynchronous communications. It shall have an error detection, auto answer/autodial, and call progress detection. The modem shall meet the requirements of MNP-4, ITU V.42, MNP-2, MNP-3 for error correction and MNP-5, ITU V.42bis for data compression standards, and - ITU V.21, ITU V.22, ITU V.22bis, ITU V.29, ITU V.32, ITU V.32bis, ITU V.34, ITU V.90, ITU Group 3 Fax, ITU V.17, ITU V.23, ITU V.27ter, k56Flex for Analog Modulation Protocol. Model shall be suitable for operating on unconditioned voice grade telephone lines in conformance with 47 CFR 68.

(m) Mouse: Wheel Mouse with minimum resolution of 16 dots per mm. 400 dots per inch.

(n) CD Drive: CD drive: read/write with storage capacity of 650 megabytes of formatted storage, 24X speed.

(o) Network Interface Card: Network interface card shall be provided for LAN equipment functions. The network interface card shall use a 16 bit interface to the data bus; it shall be supplied with an on-board RJ45 connector and transceiver for direct connection to the LAN. It shall also have an auxiliary unit input port for performing diagnostics. On-board buffer of at least 16K bytes shall be included to prevent the loss of data packages.

2. Operator's Workstation Computer: The operator's remote workstation computer located in the Grand Forks Wastewater/Stormwater Office in the Public Works Building shall be the same as the Master Control Station computer.

3. Printer: A laser printer shall installed at each of the following connections the Master Control Station computer and the operator workstation. The printer shall meet the following requirements: The input interface shall be a parallel port connection. Resolution shall be a minimum of 23 by 23 dots per mm 600 by 600 dots per inch. Printing speed shall be a minimum of 4 pages per minute. The data buffer size shall be a minimum of 10 megabytes. The size for paper and other media shall be 8.5 X 11 inches. The paper cassette shall have a 250 sheet minimum capacity.

4. LAN System: The local area network (LAN) shall be used to allow communication between the Master Control Station computer and the operator's workstation computer and the printer.

5. Uninterruptible Power Supply (UPS): A self contained UPS suitable for installation and operation at the Master Control Station and operator's workstation shall be provided. The units shall be sized to provide a minimum of 240 minutes of operation of the Master Control Station and operator's workstation computer. The UPS shall incorporate surge suppression, noise filtering (normal and common mode) short circuit protection and voltage regulation (brownout and over voltage protection). UPS shall be complete with all necessary power supplies, transformers, batteries, and accessories and shall include visual indication of normal power operation, UPS operation, abnormal operation and visual and audible indication of low battery power. The UPS shall comply with the Federal Communications Commission Standard 15J part A for radio noise emissions.

6. Communication and Programming Device: A hand-held communication and programming device shall be provided. The communication and programming device shall connect to the PLC directly for readout of variables, override, control, servicing, troubleshooting and adjustment of control parameters. The device shall be provided with all necessary cables, connectors and adapters to allow connection to the PLC. The device shall communicate in English language for inquiry, reporting and programming purposes.

J. MASTER CONTROL STATION SOFTWARE: The Master Control Station software shall provide the communication, programming and control capabilities necessary to support all specified points and functions, plus a minimum expansion of 100 percent of the current number of points, complete with their point database. The Master Control Station shall be online at all times and shall perform all required functions as specified. The Master Control Station software shall be one or more standard software modules. Where multiple modules are used the modules shall be capable of sharing data and operating together seamlessly. Software shall be windowing type using icons and pull down menus. The system shall support multiple user operation with multiple tasks for each user and shall support operation and management of all peripheral devices. The software shall be compatible and interoperable with that already in use in both Cities.

1. Graphical Operations:

(a) Graphical User Interface: The Master Control Station shall be provided with an object-oriented, mouse driven, graphical user interface. The graphical user interface shall include a set of desktop utilities including the following: file management; shell tool; calculator; text editor; and icon editor.

(b) Display Information: The Master Control Station shall display information necessary to support all requirements specified, including: operator commands; alarm notification; reports; system graphics as specified and as shown, incorporating dynamic data; and curve plotting.

(c) System Graphics Implementation: System graphics displays shall be hierarchical displays that integrate dynamic data into the display. System graphics shall reflect actual system configuration. Each system schematic shall be included as a separate display. Different colors, textures, and use of inverted video shall be used for various components and dynamic data. The displays shall include standard and/or custom symbols. A library of callable display symbols containing symbols for all necessary equipment and control devices shall be furnished. Symbols shall conform to ASHRAE Hdbk-IP where applicable. Data associated with a display shall be updated within 5 seconds of the digital status change or the analog change in excess of the analog change differential. Any dynamic data that is not current, due to PLC communications failure, PLC failure, or point out of service, shall be highlighted or flagged.

(d) Display Editor: The display editor shall enable the user to create, modify, save and delete displays and symbols. Within the display shall be dynamic fields. The function of linking the dynamic fields with the database shall be handled by a separate software module which shall be executed automatically as the last step of the database generation and modification procedure.

(e) Graphical Object Oriented Programming: The system shall include a graphical object oriented programming function that shall be used to create all control sequences utilized in the control panels. This function shall reside in the Master

Control Station to create, modify, and test software for control panel resident programs. The graphical object oriented programming function shall provide programming elements to be connected together to create a logic diagram. The diagram shall be compilable to produce executable code for the control panel. The graphical object oriented programming function shall include elements necessary to create logic diagrams that represent sequences of operation. Program elements shall be able to be combined into a custom template that can then be used as a standard function. Program checkout and debug facilities shall include display of dynamic and/or simulated system variables and points on the programming screens. The user shall be able to fix or force values of variables to enable program checkout during debugging. The programming shall allow for the use of the portable tester for loading files directly into the control panel, uploading of existing control panel programming and database information and downloading of control panel programming and database information.

(f) Charting: The user shall be able to display data in chart formats, and the system shall support the presentation of data: 1) with time on the X-axis (horizontal) and amplitude on the Y-axis (vertical) for trend charts; and 2) in bar chart form with a minimum of 360 15-minute divisions and 31 1-day divisions to be displayed on the X-axis.

(g) System Menus and Displays: The user shall be able to call up the following displays by dedicated function key, pull down menu or by icon and shall be able to page forward and backward on linked multiple page displays. The system menu and index displays shall also contain icons that can be used to call up subsequent displays.

1) System Menu (list of all graphics and menus).
2) Index (list of all PLCs).
3) Alarm Summary (list of all uncleared alarms).
4) Abnormal Summary (list of all devices not in normal state; keeps track of alarm conditions which have been cleared).
5) Data Communications Summary (listing of availability for each communication channel, by statistically processing the number of transmission errors, outages, and other abnormal conditions for each channel).
6) Hard-Copy Screen Request: The Master Control Station shall be able to obtain a hard copy of the monitor display being viewed. This shall be an exact "snapshot" of the data and device symbols shown on the selected monitor.

2. Command Software: The software shall provide for defining and selecting points, parameters, graphics, report generation, and all other functions associated with operation. The operator commands shall be usable from MASTER CONTROL STATION computer and workstation keyboards with individual operator passwords as specified.

(a) Command Input: Command menus shall utilize full words and acronyms selected to allow operators to use the system

without extensive training or data processing backgrounds. The system shall prompt the operator.

(b) Command Input Errors: The system shall supervise operator inputs to ensure they are correct for proper execution. Operator input assistance shall be provided whenever a command cannot be executed because of operator input errors.

(c) Special Functions: The system shall support the following special functions by using a mouse, in addition to all other commands specified:

1) Help shall produce a display of all commands available to the operator. The help command, followed by a specific command, shall produce context sensitive listing with a short explanation of the purpose, use, and system reaction to that command.
2) Start/Enable shall manually start equipment and enable monitoring and control of points.
3) Stop/Disable shall manually stop equipment and disable monitoring and control components.
4) Display Diagram shall display diagrams of specific utility systems or other systems.
5) Diagram Development shall facilitate development of diagrams of specific utility systems or other systems.
6) Auto/Override shall override automatic operation of a point or return a point to automatic operation.
7) Print Report shall allow the operator to print reports.
8) Confirm Action shall allow the operator to confirm that the desired command sequence has been correctly entered and is to be executed.
9) Cancel Action shall perform the opposite function of the confirm action, at any time prior to executing confirm action.
10) Memo Pad shall allow the operator to create, store and retrieve pop-up notes.

(d) Operator's Commands: The operator's commands shall provide the means for entry of control and monitoring commands, and for retrieval of information. The operator's commands shall perform such tasks as requesting a display of any digital, analog, or accumulator point, or any group of related points, startup and shutdown selected systems or devices, modifying, adjusting, enabling or defining a point or point parameters.

(e) Level of Addressing: Four levels of addressing for identification shall be provided as follows:

1) Point. The individual sensor or control device within a unit.
2) Unit. The unit that a point is associated with, such as a pump.
3) Sub-system. The sub-system that a point is located in or near.
4) System. The system that a sub-system is located in or near.

(f) System Access Control: A minimum of 100 passwords shall be usable with the control system software. The system shall maintain an ASCII disk file logging all operators logged onto the system, alarm acknowledgments, commands issued and all database modifications for each password. Each password

shall be definable as to the functions that the operator can perform.

3. Alarms: The software shall notify an operator of the occurrence of an alarm condition. The control system alarm history shall be stored in an ASCII file and shall be recallable by the operator using the report generator. Alarm messages shall take precedence over other functions. A minimum of the most recent 25 system alarms shall be directly available at the MASTER CONTROL STATION computer. Operator acknowledgment of one alarm shall not be considered as acknowledgment of any other alarm nor shall it inhibit reporting of subsequent alarms. Alarm data to be displayed and stored shall include: identification of the alarm; date and time to the nearest second of occurrence; device or sensor type; limit exceeded (if analog); engineering units; current value or status; alarm class; and alarm messages.

   (a) Digital Alarms: Digital alarms shall be subject to immediate reporting, within the alarm response time, at the MASTER CONTROL STATION.

   (b) Analog Alarms: These alarms shall be subject to immediate reporting, within the alarm response time, at the MASTER CONTROL STATION. The control panel analog readings shall be compared to predefined high and low limits, and alarmed to the MASTER CONTROL STATION each time a value enters or returns from a limit condition. The program shall automatically change the high or low limits, or both, of any analog point, based on time scheduled operations as specified, allowing for a time interval before the new alarm limit becomes effective. For those applications where set-point adjustments are made, the alarm limit shall be keyed to a finite deviation traveling with the set-point.

   (c) Alarm Messages: A unique message with a field of 60 characters shall be provided for each alarm. Assignment of messages to a point shall be an operator editable function. Secondary messages shall be assignable by the operator for printing to provide further information, such as telephone lists or maintenance functions, and shall be editable by the operator.

   (d) Alarm Classes: Classes of alarms, which will be identified for each item, include class 1 and class 2 alarm conditions. Class 1 (Critical) shall include display, print, and audible alarm at occurrence and at return-to-normal. Acknowledgment of class 1 alarms by the operator shall be required at occurrence and at return-to-normal. Class 2 (Informational) shall include display, print, and audible alarm at occurrence and at return-to-normal. No acknowledgment of class 2 alarms is required unless otherwise shown.

4. Pop-up Note Function: A pop-up note function shall be included with the MASTER CONTROL STATION, providing the operator a capability of noting any data that may be associated with alarms or with any other event. A note created by an operator shall be automatically called up when any other workstation calls up the associated

point, alarm, or alarm summary. The pop-up note function shall also support free form entry of data that can be used by any workstation operators as general reminders or instructions.

5. Real Time Clock Synchronization: The system shall synchronize each MASTER CONTROL STATION computer, real time clock, within one second and at least once per day automatically, without operator intervention and without requiring system shutdown. The MASTER CONTROL STATION computer shall automatically initiate a call once per day to the NIST clock to obtain the correct time and date and update the real time clock. The MASTER CONTROL STATION computer shall generate a report showing the time difference.

6. System Reaction: Under system normal heavy load, no more than 10 seconds shall lapse from the time a digital status alarm or analog alarm occurs at a PLC until the change is displayed at the MASTER CONTROL STATION and operator's workstation. The total system response time from initiation of a control action command to display of the resulting status change shall not exceed 20 seconds under system normal heavy load conditions, assuming a zero response time for operation of the PLC's control device. The alarm printer shall continue to print out all occurrences, including time of occurrence, to the nearest second. All system normal heavy load conditions shall be introduced to the system via AIs and DIs.

   (a) Occurrence: System normal heavy load conditions are defined as the occurrence throughout the system of a total of three status changes, three digital alarms, three analog high or low limit alarms, and three analog quantity changes within the high and low limits during a single 1-second interval. This number of similar occurrences shall repeat on a continuous basis during successive 1-second intervals for a period of 2 minutes.

   (b) Location: System normal heavy load conditions, as specified, shall have 50% of the changes and alarms, including no less than one of each type, occurring at a single PLC with the remaining changes and alarms distributed among the remaining PLCs.

7. Report Generation: Software shall be provided to generate and format standard and custom reports for displaying, printing, and storing on disk. Reports shall use database values and parameters, values calculated using the real time static database or historical data base; with the reports subsequently stored on hard disk or zip drive. Dynamic operation of the system shall not be interrupted to generate a report. The report shall contain the time and date when the sample was taken, and the time and date when the report was printed.

   (a) The Contractor shall develop and provide specific report forms for each city equivalent to each of the forms being generated on the current existing system. Programmed report forms shall include:

      1) Current Alarm Summary Report
      2) Alarm History Summary Report
      3) Flow Totals and Pump Run Time Report
      4) Set Points Report

(b) Periodic Automatic Report: The system shall allow for specifying, modifying, or inhibiting the report to be generated, the time the initial report is to be generated, the time interval between reports, end of period, and the output peripheral.

(c) Request Report Mode: The system shall allow for the operator to request, at any time, an immediate printout of any report.

8. Data Interchange: Software shall be provided to format and store on a removable diskette the data, trends, profiles, reports and logs as specified in a defined, standard format such as ASCII text or DIF for export and further processing by other software and/or computer systems.

9. Control Panel and Data Transmission System (DTS) Circuit Alarms: The system shall supervise each control panel, I/O function and DTS circuit for alarm reporting, including: control panel not responding; control panel responding (return to normal); control panel to MASTER CONTROL STATION DTS circuit high error rate; control panel to control panel DTS circuit high error rate; control panel/MASTER CONTROL STATION real time clock error more than 15 seconds (adjustable); control panel intrusion alarm; control panel offline; control panel online (return to normal); control panel failure (self-diagnostics); point not responding to command; and point change of state without command.

10. Master Control Station Database: The Master Control Station database shall be stored on disk and in memory. The static database shall be downloadable as required to control panels in the system.

(a) Database Definition Process: Software shall be provided to define and modify each point in the database using operator commands. The definition shall include all physical parameters and constraints associated with each point. Each database item shall be callable for display or printing, including EEPROM, ROM and RAM resident data. Each point shall be defined and entered into Master Control Station database by the Contractor.

(b) Dynamic Database: The dynamic database includes those variables that change with time or conditions including all DIs, AIs, PAs, and virtual (logic) points.

(c) Dynamic Database Update: The dynamic database shall be updated from the field, allowing the operator to select update times from 0.1 seconds to 2.0 seconds.

(d) Static Database: The static database includes those fixed parameters and constraints from all PLCs that define the characteristics of the system and I/O functions such as alarm limits, start/stop times, point names, PLC channel addresses, and sensor spans.

(e) Master Control Station Static Database Update: A copy of each control panels static database shall be updated automatically once per day, each time an authorized change

is submitted or upon demand from the Master Control Station database.

(f) Workstation Access to Dynamic Data: Any workstation with proper access password and connected to the Master Control Station via the DTS, or via a dial-up telephone circuit, shall have access to the Master Control Station's dynamic data. Display of data shall commence within 5 seconds.

11. Historical Data Storage and Retrieval: A historical data storage and retrieval function shall be provided at the Master Control Station to collect and store dynamic data. This function shall be in addition to other data storage requirements. The function shall have the capability to collect and store alarm status changes, point values, events and operator commands, and system responses. The storage function shall also have the capability to collect and store multiple sets of analog data at pre-specified sampling rates. This function shall have the capability to retain historical data on hard disk for pre-specified time periods, up to forty five days using last day roll over, for short-term analysis, and then output the data to the zip drive for long-term retention. The operator shall also be able to selectively recall short-term data stored on hard disk. Retrieval and printing of the contents of any selected historical data file shall be available using the data retrieval and report generation program. The output of the report generation program shall be capable of being viewed on the screen, printed in a report, or stored.

12. Trending: Any analog or calculated point shall be operator assignable to the trend program. Points shall be sampled at individually assigned intervals, selectable between one minute and 24 hours. The system shall automatically store the accumulated trend data to an ASCII disk file. The size of the trend data file shall be limited only by available disk space. The program shall print portions of the file as selected by the operator.

13. Analog Monitoring: The system shall measure, transmit, and display analog values, including calculated analog points. Differential measurements shall be displayed as positive or negative values with respect to their reference points shown. An analog change in value is defined as a change exceeding a preset differential value as specified. Each analog change in value shall be operator selectable and settable to provide for a minimum reporting change in value of one-half the specified end-to-end accuracy of the measured variable. Displays and reports shall express analog values in proper engineering units with sign. The Contractor shall provide 128 different sets of engineering unit conversions. Each engineering conversion unit shall include range, span, and conversion equation.

14. Analog Totalization: Any analog or calculated point shall be operator assignable to the totalization program. The analog totalization time period shall be defined uniquely for each point. At the end of the period, totals shall be stored on disk for future reference. Totalization shall then restart from zero for the next time period. The program shall keep track of the peak and total value measured during the current period and for the previous period. The operator shall be able to initiate a summary of totalization information on a point, unit, sub-system or

system. The operator shall be able to set or reset each totalized value individually. The operator shall be able to define, modify, or delete the time period online.

15. LAN Software: If required a network operating system shall be supplied as part of the LAN software. The network operating system shall support network device access to the Master Control Station. The system shall provide workstation access to the Master Control Station as a virtual terminal. The network shall provide network access to shared peripherals. The LAN software shall provide for transparent communication with any node on the system. The LAN software shall support the following:

    (a) Access Control: Access control to the Master Control Station computer and workstations. Operators shall be able to perform all specified functions, given the proper passwords, including database definition/modification, graphic creation/modification, and trending.

    (b) Multiple Sessions: Support operation in multiple sessions.

    (c) Other Functions and Configurations Other functions and configurations shown.

K. DATA COMMUNICATION REQUIREMENTS: Control system data communications shall support the specified functions and control system configuration consistent with the existing system.

1. Master Control Station/Workstation. Each workstation shall be able to communicate with the Master Control Station as a virtual terminal. The workstation shall be able to initiate uploads or downloads of programs and resident data, including parameters of connected systems PLCs and devices, constraints and programs in the Master Control Station.

2. Master Control Station/PLC: The Master Control Station shall be able to initiate an upload or download of PLC data programs.

3. Modem Communication: Communication with other computer systems shall be accomplished using a modem and dialup circuit. The Master Control Station or workstation shall be able to initiate upload or download of data files, however, answering incoming calls shall not be possible (for system security reasons).

4. Error Detection and Retransmission: Asynchronous transmission system shall use cyclic code error detection methods. The predicted undetected error rate shall not exceed 1 bit in 1 billion. A message shall be in error if one bit is received incorrectly. The system shall retransmit messages with detected errors. Where a LAN is not utilized for data transmission, a 2-digit decimal number shall be operator assignable to each communication link representing the number of retransmission attempts. When the number of consecutive retransmission attempts equals the assigned quantity, the Master Control Station shall close down transmission to that particular device, and print an alarm message. The operator shall manually reopen any communications line after automatic closedown, subject to the same error checking and automatic closedown procedures in effect before

the first automatic closedown. The system shall monitor the frequency of data transmission errors for display and logging.

L. CONSUMABLE SUPPLIES: The Contractor shall provide the following consumable supplies, after the endurance test, to the Government. These extraordinary supplies shall not be used during system installation or testing.

1. CONSUMABLE SUPPLIES.

(a) blank zip cartridges: 10 each.

(b) diskettes 3-1/2 inch: 2 boxes of 10 each.

(c) laser printer toner: cartridges 2 each.

(d) color printer ink cartridges: 2 per color.

(e) dot matrix printer ribbons: 2 each.

(f) color printer paper: 2 boxes.

(g) alarm printer fanfold paper: 1 box.

M. SPARE PARTS

1. Spare indicator lamps, fuses, control relays (modules), transient protection devices, thumbwheels, digital operator terminal and time delay relays (modules) shall be provided in a quantity of not less than 10 percent (round quantity up to next whole number) of the quantity used, but at least three spare lamps and two spare fuses each type and size shall be provided.

2. Provide the following spare parts for each City,

(a) Relays - 5% or a minimum of 5 each type;

(b) Plug-In Modules or Cards for PLC or telemetry, SCR modules and transistors - 5% or a minimum of 1 each type;

(c) Switches or rheostats - 5% or a minimum of 1 each type;

(d) Indicator Lights except LED - 10% or a minimum of 2 each type;

(e) Elapsed time Meter – one additional;

(f) Surge Arrester – one additional;

(g) Intrusion Detector – one additional;

(h) Provide additional items as recommended by the manufacturer.

N. FACTORY TEST: The control system shall be tested at the factory prior to shipment. Written notification of planned testing shall be given to the Government at least 21 days prior to testing, and in no case shall notice be given until after the Contractor has received written Government approval of the test procedures.

1. Factory Test Setup: The Contractor shall assemble and integrate the factory test setup as specified to prove that performance of the system satisfies all requirements of this project, including system communications requirements in accordance with the approved test procedures. The factory test shall take place during regular daytime working hours on weekdays. Equipment used shall be the same equipment that is to be delivered to the site. The factory test setup shall include the following:

Factory Test

Workstation	One of each type.
Test set	One of each type.
Portable tester	One of each type.
Communications circuits	One of each type and speed to be utilized in the proposed system including bridges, modems, encoder/decoders, transceivers and repeaters.
Surge protection equipment	For power, communications, I/O functions and networks.
I/O functions	Sufficient to demonstrate the I/O capability and system normal operation.
Software	Required for proper operation of the proposed system including application programs and sequences of operation.

2. Factory Test Procedure: Test procedures shall define the tests required to ensure that the system meets technical, operational, and performance requirements. The test procedures shall define location of tests, milestones for the tests, and identify simulation programs, equipment, personnel, facilities, and supplies required. The test procedures shall provide for testing all control system capabilities and functions specified and shown. The procedures shall cover actual equipment and sequences to be used by the Contractor for the specified project and shall consist of detailed instructions for test setup, execution, and evaluation of test results. The test reports shall document results of the tests. Reports shall be delivered to the Government within 7 days after completion of each test. Surge testing need not be conducted if the Contractor can provide acceptable documented proof that such testing has been satisfactorily demonstrated to the Government with identical surge protection applied. The procedures shall include the following:

Test Procedure

Equipment	Block diagram.
Hardware and software	Descriptions.
Commands	Operator commands.

I/O functions	Test database points with failure modes.
Passwords	Required for each operator access level.
Each type of digital and analog point in the test database	Description.
Test equipment	List.
Surge protection	Circuit diagrams.
Inputs required (I/O values and status) and corresponding expected results of each set of input values	Point for each application program.
Default values	For the application program inputs not implemented or provided for in the contract documents for the application programs to be tested.

3. Factory Test Report: Original copies of data produced during the factory test, including results of each demonstration procedure, shall be delivered to the Government at the conclusion of the test, prior to Government approval of the factory test. The report shall be arranged so that commands, responses, and data acquired are correlated to allow logical interpretation of the data.

XV. EXECUTION

A. EQUIPMENT INSTALLATION REQUIREMENTS

1. Installation: The Contractor shall assure that system components and appurtenances have been installed by each Construction Contractor in accordance with the installation instructions provided, and that necessary interconnections, services, and adjustments required for a complete and operable system are provided. The Contractor shall assure that instrumentation and communication equipment and cable grounding has been installed as necessary to preclude ground loops, noise, and surges from adversely affecting system operation. The Contractor shall adjust or replace devices not conforming to the required accuracies. Factory sealed devices shall be replaced (rather than adjusted).

B. INSTALLATION OF MASTER CONTROL STATION EQUIPMENT: The Contractor shall install equipment associated with the Master Control station, and Operator Workstation, as specified, as shown and as required in the manufacturer's instructions for a complete and fully operational control system.

1. Control Panels: Control panels shall be located as indicated on the drawings. Devices located in the control panels shall be as shown on the drawings or as needed to provide the indicated control sequences.

2. Penetrations of Buildings and Clearance from Equipment: Penetrations through and mounting holes in the building exteriors

shall be made watertight. Holes in concrete, brick, steel and wood walls shall be drilled or core drilled with proper equipment; conduits installed through openings shall be sealed with materials that are compatible with existing materials. Openings shall be sealed with materials that meet the requirements of NFPA 70. Installation shall provide clearance for control-system maintenance. Control system installation shall not interfere with the clearance requirements for mechanical and electrical system maintenance.

3. Device Mounting: Devices shall be installed in accordance with manufacturers' recommendations and as shown. Any deviations shall be documented by the Contractor and submitted to the Government for approval prior to mounting.

4. Enclosures: All enclosure penetrations shall be from the bottom of the enclosure.

5. Transformers: Transformers for control voltages below 120 vAc shall be fed from the nearest power panel, using circuits provided for the purpose. The Contractor shall provide a disconnect switch on the primary side and a fuse on the secondary side.

6. Wire, Cable And Connecting Hardware.

   (a) LAN Cables and Connecting Hardware: LAN cables and connecting hardware shall be installed and operation verified.

   (b) Power Line Surge Protection: Control panels shall be protected from power line surges. Protection shall meet the requirements of IEEE C62.41. Fuses shall not be used for surge protection.

7. Software Installation: The Contractor shall load software required for an operational control system, including databases (for points specified and shown), operational parameters, and system, command, and application programs. The Contractor shall adjust, tune, debug, and commission all software and parameters for controlled systems to assure proper operation in accordance with the sequences of operation and database tables.

C. FIELD TESTING AND ADJUSTING EQUIPMENT: The Contractor shall provide personnel, equipment, instrumentation, and supplies necessary to perform site testing. The Government will witness the PVT, and written permission shall be obtained from the Government before proceeding with the testing. Original copies of data produced, including results of each test procedure, during PVT shall be turned over to the Government at the conclusion of each phase of testing prior to Government approval of the test. The test procedures shall cover actual equipment and functions specified for the project.

1. Testing, Adjusting and Commissioning: Once the installation has been completed, the Contractor shall test, adjust, and commission each system, and shall verify proper operation of each item in the sequences of operation, including hardware and software. The Contractor shall calibrate field equipment, including control devices, adjust control parameters and logic (virtual) points, and verify data communications before the system is placed online. Ground rods installed by the Contractor shall be tested as

specified in IEEE Std 142. The Contractor shall calibrate each instrumentation device connected to the master control system control network by making a comparison between the reading at the device and the display at the workstation, using a standard at least twice as accurate as the device to be calibrated. The Contractor shall check each control point within the control system control network by making a comparison between the control command at the central station and field-controlled device. The Contractor shall verify operation of systems in the specified failure modes upon Control system network failure or loss of power, and verify that systems return to control system control automatically upon a resumption of control system network operation or return of power. The Contractor shall deliver a report describing results of functional tests, diagnostics, calibrations and commissioning procedures including written certification to the Government that the installed complete system has been calibrated, tested, adjusted and commissioned and is ready to begin the PVT. The report shall also include a copy of the approved PVT procedure.

2. Performance Verification Test (PVT): The Contractor shall prepare test procedures for the PVT. The test procedure shall describe all tests to be performed and other pertinent information such as specialized test equipment required and the length of the PVT. The test procedures shall explain, in detail, step-by-step actions and the expected results, to demonstrate compliance with all the requirements of the drawings and this specification. The test procedure shall be site specific and based on the inputs and outputs, required calculated points and the sequence of control. The Contractor shall demonstrate that the installed Control system complies with the contract requirements. All physical and functional requirements of the project including communication requirements shall be demonstrated and shown. The Contractor shall demonstrate that each system operates as required in the sequence of operation. The PVT as specified shall not be started until after receipt by the Contractor of written permission by the Government, based on the Contractor's written report including certification of successful completion of testing, adjusting and commissioning as specified, and upon successful completion of training as specified. Upon successful completion of the PVT, the Contractor shall deliver test reports and other documentation as specified to the Government.

(a) Government Acceptance of Performance Verification Test: Acceptance of the PVT is contingent upon successful completion of a 14 day endurance test of the certified system. The system will be operated 24 hours per day, 7 days per week, for 14 consecutive calendar days, including holidays, and the system shall operate as specified. If any failure occurs during the test, the Contractor shall identify failures, determine causes of failures, repair failures, and deliver a written report to the Government. The report shall explain in detail the nature of each failure, corrective action taken, and the results of tests performed. Upon correction of the deficiencies the 14 day endurance test shall be repeated. The PVT for each system

will be accepted when the endurance test has be successfully complete.

D. CONTROL SYSTEM OPERATING INSTRUCTIONS: Control drawings, framed, non-fading half-size in laminated plastic, and reproducibles, with corresponding CADD files, shall be provided for equipment furnished and for interfaces to equipment at each respective equipment location. Condensed operating instructions explaining preventive maintenance procedures, methods of checking the system for normal safe operation and procedures for safely starting and stopping the system manually shall be prepared in typed form, framed as specified for the control diagrams, and reproducible, with corresponding word processor files, and posted beside the diagrams. Diagrams and instructions shall be submitted prior to posting.

-- End of Section --

ATTACHMENT C
SUBMITALS

III. SUBMITTALS

E. Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted:

1. SD-01 Shop Drawings:

(a) Installation; GED.

(b) Wiring; GED.

Detail drawings containing complete wiring, schematic diagrams and any other details required to demonstrate that the system has been coordinated and will properly function as a unit. Drawings prepared using industry recognized device symbols, clearly defined and describing designations to define the service and materials. Drawings shall include, as appropriate: product specific catalog cuts; a drawing index; a list of symbols; a series of drawings for each control system using abbreviations, symbols, nomenclature and identifiers as shown; equipment schedules.

2. SD-02 Product Data:

(a) Instrumentation and Control System; GED.

Manufacturer's descriptive and technical literature, performance charts and installation instructions. Product specific catalog cuts shall be in booklet form, indexed to the unique identifiers, and shall consist of data sheets that document compliance with the specification. Where multiple components are shown on a catalog cut, the application specific component shall be marked.

(b) Meters and Sensors; GED.

Manufacturer's descriptive and technical literature, catalog cuts, performance charts and installation instructions.

(c) Training Manuals; GED.

Instruction manuals within 45 days of Notice to Proceed.

(d) Performance Verification Test (PVT); GED.

The performance verification test procedure; it shall refer to the actions and expected results to demonstrate that the control system performs in accordance with the sequence of control. A list of the equipment to be used during the testing shall be included. The list shall also include manufacturer's name, model number, equipment function, the date of the latest calibration and the results of the latest calibration.

(e) Factory Test Procedure; GED.

Documentation containing factory test methods and procedures.

3. SD-03 Test Reports.

(a) Radio Path Study Reports; GED

(b) Factory Test Report; GED.

(c) Testing, Adjusting and Commissioning; GED.

(d) Performance Verification Test(PVT); GED.

(e) Endurance Test; GED.

Test results in report format.

4. SD-04 Certificates.

(a) Sensor and Control Wiring; GED.

Certified test results for surge protection.

(b) Testing of Ground Rods; GED.

Certification stating that the test was performed in accordance with IEEE Std 142.

5. SD-05 Licenses and Documentation.

(a) Software, program licenses and documentation; GED.

Submit licenses, original disks, and documentation manuals for all Software packages purchased for this project.

6. SD-10 Operation and Maintenance Data.

(a) Control System; GED.

Six complete copies of operating instructions outlining the step-by-step procedures required for system startup, operation and shutdown. The instructions shall include layout, wiring and control diagrams of the system as installed. The instructions shall include paper, and CDROM copies of the PLC program listing, Man-Machine interface panel program listing, and operator workstation program listing. The instructions shall include the manufacturer's name, model number, service manual, parts list and a brief description of all equipment and their basic operating features. Six complete copies of maintenance instructions listing routine maintenance procedures, possible breakdowns and repairs and trouble shooting guides.

-- End of Section --

ATTACHMENT D
EXISTING CITY PUMPING CONTROL SYSTEMS

IV. GENERAL

F. The cities of Grand Forks, ND, and East Grand Forks, MN use the following equipment in the existing Master Control Stations, and in stormwater, and sewage lift pump stations.

G. Typical equipment configuration drawings from the City of Grand Forks are provided in a separate file attached to the solicitation, filename: “GFsysAttD.pdf”. Typical equipment configuration drawings from the City of East Grand Forks are provided in a separate file attached to the solicitation, filename: “EGFsysAttD.pdf”. Files are in Adobe Systems’ Portable Document Format (PDF), readable with Adobe Systems Acrobat Reader.

XVI. MASTER CONTROL STATION

A. OPERATOR WORKSTATION: Personal computer and monitor, Dell Dimension 8100. Dell Computer Corporation, One Dell Way, Round Rock, Texas 78682, Tel: 800-917-3355, Fax: 800-225-4893.

1. Dell Dimension: XPS B800r

   (a) Processor model: Pentium III

   (b) Processor speed: 800 MHz

   (c) Installed L2 cache: 256K

   (d) RAM included: 256MB

   (e) Hard disk size: 130GB

   (f) Graphics Processor: nVidia GeForce 256

   (g) Graphics memory type: SDRAM

   (h) Graphics memory amount 32MB

   (i) DVD Decoder Software: InterVideo WinDVD 2000

   (j) DVD-ROM drive: Hitachi

   (k) DVD-ROM drive speed: 8X

   (l) Additional mass storage: Iomega Zip 100

   (m) Speakers: Harman Kardon HK-595

   (n) Expansion slots: Three PCI

   (o) Speakers: Number of pieces 3

   (p) Graphics card: Creative Labs Annihilator

   (q) Sound card: Creative Labs Sound Blaster Live Value

(r) Hard disk manufacturer: Western Digital

(s) I/O Ports: Two PS/2, two USB, serial, parallel, VGA, game, digital audio out

(t) Software:

1) Windows NT 4.0
2) Cimplicity MMI, East Grand Fork, MN.
3) I-Fix MMI and Wonderware Industrial Sequel, Grand Forks, ND.

2. Monitor model: Dell M990

(a) Monitor diagonal size: 19 in.

B. UNINTERRUPTABLE POWER SUPPLIES (UPS). Uninterruptible Power Supplies (ups) are as follows for each Master Control Panel, and Operator Workstation. Master Control Panel UPS systems are 700 VA, Best “Fortress", Model B610-0700U. Operator Workstation UPS systems are 1000 VA, Best “Fortress” Model B610-1000U configured for 240 minutes of operation at full load. Best Power, Corporate Office, P.O. Box 280, Necedah, WI 54646, Tel: 608-565-7200, Toll-Free: 800-356-5794, Fax: 608-565-2221. Both units are as follows:

1. Capacity (VA/Watts):

(a) B610-0700U: 700/490.

(b) B610-1000U: 1,000/700.

2. Dimensions (HxWxD): 8.9x5.7x15.1 inches.

3. Weight:

(a) B610-0700U: 25.4 lbs.

(b) B610-1000U: 30.8 lbs.

4. Input Connection: NEMA 5-15P.

5. Output Receptacles: (4) NEMA 5-15R.

6. Typical Runtime:

(a) B610-0700U

1) Full load 6 minutes.
2) Half load 18 minutes.

(b) B610-1000U (External batteries and matching case required):

1) Full load 240 minutes.
2) Half load 480 minutes.

7. Operation:

(a) Nominal Input Voltage: 120 VAC.

(b) Input Voltage Range (for on-line operation): 80 to 138 VAC.

(c) Operating Frequency (on-line) 50/60Hz ± 5Hz, auto sensing.

8. Nominal Output Voltage: 100/110/120/127VAC Dip Switch Selectable.

(a) Output Voltage Regulation (on line): ± 3% of nominal.

(b) Overload Capacity: Up to 110% for 10 seconds then transfer to bypass.

(c) Transfer Time: 0 ms.

(d) On-Battery Voltage: 120 VAC ± 3% selected nominal voltage.

(e) Operating Frequency: Phase locked to input under normal conditions, ±0.5% on battery.

(f) Output Voltage Waveform: Sine wave.

9. Protection:

(a) Output Protection: Electronic overload and short circuit protector.

(b) Input Protection: Fuse or Circuit Breaker.

1) Lightning & Surge Protection: IEC 801-2, 801-3, 801-4, 801-5.

10. Recharge Time: (with half load) 8 hours.

11. Efficiency: >85% on-line (full-load, fully charged > load 50%).

12. Safety Certification: UL1778.

13. EMI Compliance: FCC Class A.

14. Communications: BestDock™ slot. DB9 male for RS-232 communications and contact closure.

(a) Testing Standards: ANSI/IEEE C62.45 (1991).

(b) Indicators: Load level (on AC), Battery discharge level (on battery), Fault indicator & LED mimic panel indicators.

(c) Audible Alarms: Battery discharge, Low battery, Overload, UPS fault.

(d) Environmental:

1) Operating Temperature: 0° to 40° (32° to 104°F).
2) Storage Temperature: -15° to 50°C (5° to 122°F).
3) Relative Humidity: 0-95% non-condensing.
4) Audible Noise at one Meter: <50 dBA.
5) Altitude: 10,000 ft. without derating.

C. MASTER CONTROL PANEL.

1. ENCLOSURE. Hoffman Concept single-door, NEMA 12 enclosure with back panel, and 3-point locking door handle. Enclosure sized as required. Hoffman Enclosures Inc., 2100 Hoffman Way, Anoka, MN 55303 USA, (763) 421-2240.

2. TRANSIENT PROTECTION.

(a) Radio Surge Arrestor: For general radio use; surface mountable; Multi-strike Capability; Low strike throughput energy. PolyPhaser Corp, PO Box 9000, Minden, NV USA 89423, Tel: 800-325-7170, 775-782-2511, Fax: 775-782-4476. Polyphaser IS-50NX-C2, as follows:

1) Freq. Range: 125-1000MHz.

2) Mounting: Flange.
3) Protected Side Connector: N Female 50Ù.
4) Surge Side Connector: N Female 50Ù.
5) Unit Impedance: 50Ù.
6) Insertion Loss: 0.1dB.
7) Protected Side Isolation: No.
8) Sampling Port: No.
9) Throughput Energy: 220ìJ for 3kA @ 8/20ìs Waveform.
10) Throughput Voltage: 144 Vpk.
11) Turn-On Voltage: +/-600 Volts.
12) Voltage Standing Wave Ratio: 1.1:1.

(b) Signal and Dataline Protector: Bourns, Inc., 1200 Columbia Ave., Riverside, CA 92507-2114, Tel: 909-781-5690, Fax: 909-781-5273. Josyln Bourns Series 1800, as follows:

1) Surge Life:
   (i) >100 operations with 200 Amps: 10 x 1000 µsec.
   (ii) >10 operations with 10,000 Amps: 8 x 20 µsec.
2) DC Leakage Current at Rated L/G Voltage: >10 µAmps.
3) Signal/Data Attenuation at Maximum Data Rate: 3db with 6000 termination.
4) Operating Temperature: -40ºC to + 60ºC.
5) Response Time: 50 pico-seconds.
6) Wire Size: 22-14 AWG.

(c) Transient Protection. Secondary surge arrester, designed for use on 120/240 Vac, 50/60 Hz electrical services. Square D Company, 1601 Mercer Road, Lexington, KY 40511, Tel: 888-778-2733. Square D, Class 6671-SDSA 1175 as follows:

1) Features:
   (i) UL Listed and CSA Certified secondary surge arresters
   (ii) Meet ANSI/IEEE C62.11-1987
   (iii) Suitable for use in Category B and C locations
   (iv) Metal oxide varistor (MOV) design
   (v) Excellent clamping voltage performance
   (vi) Fast response time
   (vii) Maintenance-free, long life
2) Electrical:
   (i) Intrinsic varistor response time Less than 1 nanosecond.
   (ii) Minimum life 2500 operations (for 1.5 kA 8/20µs wave for each line-to-ground).
   (iii) Varistor surge current rating per phase 36,000 A peak (8/20µs wave).
   (iv) Power consumption per phase: Less than 60 milliwatts.
3) Surge energy capability per phase: 560 Joules (8/20µs wave)
4) Fuse Link:
   (i) A non-replaceable internal fuse link opens in the event of a varistor-damaging overload.
5) Housing:
   (i) Arrester housing is made of high temperature thermoplastic, cover is permanently bonded to the housing by an ultrasonic welding process; wire exit sealed using urethane or epoxy adhesive, arrester completely sealed for both indoor and outdoor applications.
6) Operating temperature range -40 to +65 °C (-40 to +140 °F)

3. POWER SUPPLIES. World-wide AC input ranges and safety standards; Industry standard packages; UL/CSA TUV/IEC approved; models to

UL1950; CSA C22.2 No. 234 L3; TUV certified to IEC950; Burn-in with cycling; 3-year warranty; MTBF 200,000+ hours per Mil Handbook 217D; All electrolytic caps rated 105ºC; Transformer insulation meets Class F (155ºC); Exceeds FCC and CISPR22 Class B conducted emissions. Condor D.C. Power Supplies, Inc., A subsidiary of SL Industries, 2311 Statham Parkway, Oxnard, CA 93033, Toll-Free: 1-800-235-5929, Tel: 805-486-4565, Fax: 805-487-8911. Condor D.C. Power Supplies HB24-1.2-A+, and HN12-5.1A+, as follows:

1) AC Input
   (i) 100, 120 and 240Vac: +10%, -13%; 215Vac: +12%, -11 %; 47 to 63Hz.
   (ii) Tolerance for 230Vac operation is +15%,
   (iii) -10%. Derate output current 10% for 50Hz operation.
2) DC Output: See voltage-rating chart. Adjustment range ±5% minimum except HA series.
3) Line Regulation: ±0.05% for a 10% change.
4) Load Regulation: ± 0.05% for a 50% load change.
5) Output Ripple: 3mV +0.05% of output voltage, peak-to-peak maximum. All “3-terminal regulator” outputs: 3mV +0.2% peak-to-peak maximum.
6) Transient Response: <50 microseconds for 50% load change.
7) Short Circuit Protection: Automatic current limit/fold back.
8) Over voltage Protection: Built-in on all 5V models, set at 6.2V ±0.4V. Other models use optional over voltage protection.
9) Remote Sensing: Provided on all models; open sense lead protection built-in (except HA series).
10) Stability: ±0.05% for 24 hours after warm-up.
11) Temperature Rating: 0 to 50°C full rated, derated linearly to 40% at 70°C.
12) Temperature Coefficient: ±0.01%/°C maximum.
13) Efficiency

4. RADIO. Range/Scale 380 – 512 MHz; input - PLC interface; output, 0.1 to 5 watts programmable; 7ms data turnaround time; low power usage – Sleep Mode; Configurable as Master or remote radio; Remote diagnostics with InSite Network Management software for maintenance and link monitoring. Microwave Data Systems Inc., 175 Science Parkway, Rochester, New York 14620, Tel: 716-242-9600, Fax: 716-242-9620. Microware Data Systems 4710, as follows:

(a) Operational Modes:

1) Async. - Simplex, half-duplex, (synchronous available (9600 bps only) in MDS 4710B, and MDS 9710B).

(b) Data Interface:

1) RS-232, DB-25 Female Connector Supports: TXD, RXD, RTS, CTS, DCD, RUS, AUX POWER, DSR, and GND.

(c) Transmitter:

1) Carrier Power: 0.1 to 5 Watts Programmable.
2) Duty Cycle: Continuous.
3) Output Impedance: 50 Ohms.
4) Frequency Stability: +/- 0.00015% 1.5 ppm.
5) Carrier Power Accuracy: Normal +/- 1.5 dB.

(d) Receiver:

1) Type: Double Conversion Superheterodyne.
2) Frequency Stability: +/- 0.00015% (1.5 ppm).
3) Adjacent Channel (EIA): 60 dB nominal.

(e) Power:

1) Sleep Mode: 15 mA nominal.
2) Primary Power: Voltage 13.8 Vdc nominal (10.5 to 16 Vdc operating range).
3) Tx Current: 2A Typical at 5 Watts.
4) Rx Current: <125 mA.

(f) Modem:

1) Modulation: Digital / CPFSK.
2) CTS Delay: 0-255 msec programmable in 1 msec increments.
3) PTT Delay: 0-255 msec programmable in 1 msec increments.

(g) Environmental:

1) Humidity: 95% at 40C (104F) non-condensing.
2) Temperature Range: -30C to +60C (-22F to +140F).

(h) Physical:

1) Case: Rugged Die Cast Aluminum.
   (i) Dimensions: 5.08 x 14.29 x 18.4 cm (2.0 x 5.625 x 7.25 inches).
2) Weight: 1 kg (2.2 lbs).

5. PROGRAMMABLE LOGIC CONTROLLER

(a) Programmable logic controllers for Grand Forks are Allen Bradley Model SLC 100/1746 with SLC 5/03 processor. Rockwell Automation, Allen-Bradley & Rockwell Software Brands, Global Headquarters, 1201 South Second Street, Milwaukee, WI 53204-2496, Tel: 414-382-2000, Fax: 414-382-4444.

(b) Programmable logic controllers for East Grand Forks are General Electric Fanuc Automation Series 90/30 351. GE Fanuc, Rte. 29 & Rte. 606, Charlottesville, VA 22906, Tel: 800-648-2001, Fax: 610-437-5212

(c) The programmable logic controller (PLC) consists of an integral central processing unit power supply and input/output devices required to perform all functions as required by the supervisory control sequence of operation.

(d) The PLC includes:

1) RAM memory for all functions plus 50% spare capacity with battery backup and EEPROM.
2) EPROM in processor for program storage.
3) Security key switch.
4) One communication port (RS232).

(e) Supported input/output modules:

1) 120VAC/DC.
2) 240VAC/DC.
3) 48VAC/DC.
4) 12-24VAC/DC,
5) TTL digital.
6) 1-5VDC.
7) 0-10VDC.

8) -10 to +10DC.
9) 4-20mA analog.
10) Other supported modules are as required for control and alarm features.

(f) The PLC supports:

1) Timing and math functions including:
(i) Multiplication.
(ii) Division.
(iii) Exponents.
(iv) Addition.
(v) Multiplexing.
(vi) BCD input.
(vii) Logical operators, less than, equal to, greater than.
(viii) real time clocking and counting.
2) Additional PLC functions:
(i) Analog to BCD and BCD to Analog conversion.

(g) Primary control decisions are made by the PLC using standard ladder logic. The control program logic shall be essentially transportable to similar equipment of another manufacturer with minimal modification.

D. PUSH BUTTONS, SELECTOR SWITCHES, AND PILOT LIGHT UNITS

1. Push Buttons and Selector Switches: All panel mounted push buttons, and switches are rotary or push button type, heavy duty, oil tight switches, rated for 600 VAC, with Screw-together contact blocks.

2. Pilot Lights: Devices in or surface mounted on control panels are cartridge type light emitting diodes (LED’s) with Full-voltage power module. Lens cap include internal fresnel ring pattern, color as required. Panels include a common rotate-to-test switch to operate all lights.

3. All components are Allen-Bradley Bulletin 800H. Rockwell Automation, Allen-Bradley, Global Headquarters, 1201 South Second Street, Milwaukee, WI 53204-2496, Tel: 414-382-2000, Fax: 414-382-4444:

(a) Electrical Ratings:

1) Dielectric Strength:
(i) 2200V for one minute.
(ii) 1300V for one minute (Logic Reed).
2) Electrical Design Life Cycles:
(i) 1,000,000 at maximum rated load.

(b) Mechanical Ratings:

1) Vibration: 10 to 200 Hz 1.52 mm displacement (peak-to-peak) Max./10 G Max. (except Logic Reed).
2) Shock: 1/2 cycle sine wave for 11 milliseconds 25 G (contact fragility) and no damage at 100 G.
3) Degree of Protection:
(i) Type 4/4X/13: Watertight/Corrosion-Resistant, Oil tight IEC 529 IP66/65.

(c) Mechanical Design Life Cycles:

1) Push Buttons:

(i) (Momentary, Non-Illuminated): 10,000,000 minimum.
(ii) (Momentary, Illuminated): 250,000 minimum.
(iii) (Push-Pull/Twist-to-Release): 250,000 minimum.

2) Selector Switches:
(i) (Non-Illuminated): 1,000,000 minimum.
(ii) (Illuminated): 200,000 minimum.
(iii) All other devices: 200,000 minimum.

(d) Contact Operation:

1) Shallow, mini, and Low Voltage Contact Blocks: Slow, double make and break.
2) Logic Reed and Sealed Switch Contact Blocks: Single break magnetic.

(e) Typical Operating Forces:

1) Operators without contact blocks:
(i) Flush, Extended, Standard Mushroom, Jumbo Plastic mushroom: 2 lbs Max.
(ii) Maintained Selector Switch: 3.6 in. lbs maximum.
2) Spring Return Selector Switches: 3.6 in. lbs to stop; 0.2 in. lbs to return.
3) Illuminated Push Buttons and Push-to-Test Pilot Lights: 5 lbs maximum.
4) 3-Position Push-Pull: 8 lbs maximum push to in position or pull to center position (15 lbs maximum pull to out position).
5) Push-Pull and Push-Pull/Twist: 9 lbs maximum push or pull, 30 in. oz. maximum twist, 6 in. oz. minimum return.
6) Contact Blocks:
(i) 800T-XA: 1 lb
(ii) Logic Reed: 1 lb maximum.
(iii) Sealed Switch: 3 lbs maximum at 0.205" plunger travel.
(iv) Stackable Sealed Switch: 1 lb maximum.

(f) Environment:

1) Temperature Range:
(i) Operating: –40…+131F (–40C…+55C).
(ii) Storage: –40…+185F (–40…+85C).
2) Humidity: 50% at +104F (+40C)

(g) Contact Ratings:

1) Maximum thermal continuous current *I-th* 10 A AC/2.5 A DC.
2) Bulletin 800H units with 800T-XA contacts have ratings as follows:

Max. Opertnl. Volts	Utilization Category		Rated Operational Currents		
	IEC	NEMA	Volts	Make	Break
AC 600	AC-15	A600	120…600 72…120 24…72	7200 VA 60 A 60 A	720 VA 720 VA 10 A
DC 600	DC-13	Q600	28…600 24…28	69 VA 2.5 A	

(h) Sealed Switch Contact Ratings:

1) Maximum continuous current *I-th* 5 A. Bulletin 800H units have control.
2) Circuit ratings with sealed switch contact blocks as follows:

Max. Opertnl. Volts	Utilization Category		Rated Operational Currents		
	IEC	NEMA	Volts	Make	Break

AC 600	AC-15	B600	120…600 0…120	3600 VA 30 A	360 VA 3 A
DC 300	DC-13	P300	24…300 0…24	138 VA 5.0 A	

(i) Stackable Sealed Switch Contact Ratings:

1) Maximum continuous current *I-th* 2.5 A.
2) Logic Reed Contact Ratings.
   (i) Maximum DC: 30V, 0.06 A, AC: 150V, 0.15 A. when used with resistive loads.

(j) Pen TUFF (Low Voltage) Contact Ratings:

1) Minimum DC: 5V, 1 Ma.
2) Maximum thermal continuous current *I-th* 2.5 A AC/1.0 A DC.

(k) Bulletin 800H units with 800T-XAV contacts have ratings as follows:

Max. Opertnl. Volts	Utilization Category		Rated Operational Currents		
	IEC	NEMA	Volts	Make	Break
AC 300	AC-15	C300	120…300 0…120	1800 VA 15 A	180 VA 1.5 A
DC 150	DC-13	R150	24…150 0…24	28 VA 1.0 A	

(l) Approvals:

1) UL Listed
   (i) File: E14840, E10314
   (ii) Guide: NKCR, NOIV
2) CSA Certified: LR1234, LR11924
3) CE compliant IEC: 60947-5

4. Materials Used in 800H Type 4X Operators

(a) Thermoplastic Polyester (Fiberglass Reinforced):

1) Bushings.
2) Mounting rings.
3) Sockets.

(b) Thermoplastic Polyester:

1) Non-illuminated button caps.

(c) Transparent Amorphous Nylon:

1) Pilot light lens cap.
2) Illuminated button caps.

(d) Glass Filled Crystalline Nylon:

1) Thrust washer.

(e) Mineral Filled Nylon:

1) Trim washer.

(f) Nitrile (Synthetic Rubber):

1) Gaskets and internal seals.

E. ANTENNA (Master Control Station): UHF omni-directional antenna; radiators enclosed in a 3” OD radome made of fiberglass; 8 dBd gain, Decibel Model DB638. Decibel Products, 8635 N. Stemmons Frwy., Dallas, TX 75247, Tel: 214-635-8502, as follows:

1. Electrical Data:

(a) Frequency Range: 406-512 MHz.

(b) Bandwidth: 450-482 Mhz.(or as req.)

(c) Gain (maximum): 8 dBd.

(d) Beamwidth “E” Plane (half power): 10°.

(e) Beamwidth “H” Plane (half power): Omni.

(f) Maximum power input: 500 watts.

(g) Input impedance: 50 ohms.

(h) VSWR: 1:5 to 1.

(i) Lightning protection: Direct ground.

(j) Termination: Type N-Female (fixed).

2. Mechanical Data:

(a) Lateral thrust at 100 mph: 108 lbf.

(b) Radome OD: 3 in.

(c) Radome ID: 2.5 in.

(d) Radome length:

1) NS-B 15.4 ft.
2) NS-C 14.6 ft.

(e) Mast OD: 2.5 in.

(f) Mast length: 26 in.

(g) Maximum exposed area (flat plate equivalent): 2.70 ft.

(h) Wind rating: 140 mph.

(i) Tip deflection at 100 mph: 6.6°.

(j) Bending moment 1" below top of mast at 100 mph: 773 ft./lbs.

(k) Radome: Fiberglass.

(l) Radiators: Brass.

(m) Support pipe: 6061-T6 Aluminum.

(n) Net weight: 40 lbs.

(o) Clamps (galvanized steel) DB365-OS.

F. ANTENNA CABLE. Low loss, highly shielded cable capable of repeated bending and installation in extremely tight spaces. Stranded center conductors and thermoplastic elastomer jackets. RF shielding better than 90 dB, LMR-400-UltraFlex. Times Microwave Systems, 358 Hall Avenue, P.O. Box 5039, Wallingford, CT 06492-5039, Tel: 203-949-8400, FAX: 203-949-8423, as follows:

1. Conductor: Stranded BC 0.109".
2. Dielectric: Polyethylene Foam 0.285".
3. Outer Conductor: Bonded Alum Tape: 0.291".
4. Outer Braid: Tin Plated Copper: 0.320".
5. Jacket: Blk Thermoplastic Elastomer: 0.405".
6. Bend Radius: 1".
7. Weight: 0.09 lbs/ft.
8. Temperature Range: -40 F to 185 F.
9. Impedance: 50 Ohms.
10. Velocity: 85%.
11. Capacitance: 23.9 pF/ft.
12. DC Resistance:
    (a) Center Conductor: 1.67 ohms/1000 ft.
    (b) Shield: 1.65 ohms/1000 ft.
13. Shielding: >90 dB.
14. Phase Stability: +/-10 ppm/degC.

XVII. PUMPING STATION CONTROL SYSTEM

A. SUPERVISORY CONTROL PANEL (Located at each pump station).

1. UNINTERRUPTIBLE POWER SUPPLY.
    (a) As described for MASTER CONTROL PANEL, UNINTERRUPTABLE POWER SUPLIES (UPS), MASTER CONTROL PANEL.
2. ENCLOSURE.
    (a) As described in MASTER CONTROL PANEL, ENCLOSURE.
3. TRANSIENT PROTECTION.
    (a) As described in MASTER CONTROL PANEL TRANSIENT PROTECTION.
4. POWER SUPPLIES.
    (a) As described in MASTER CONTROL PANEL, POWER SUPPLIES.
5. RADIO.
    (a) as described in MASTER CONTROL PANEL, RADIO.
6. PROGRAMMABLE LOGIC CONTROLLER.
    (a) As described in MASTER CONTROL PANEL, PROGRAMMABLE LOGIC CONTROLLER.
7. FLAT PANEL OPERATOR INTERFACE MODULE (Grand Forks, ND)
    (a) Operator interface modules supplied with Grand Forks supervisory control panels are Allen Bradley Panel View 1000e, 10.4″ TFT active matrix color displays. Rockwell Automation,

Allen-Bradley & Rockwell Software Brands, Global Headquarters, 1201 South Second Street, Milwaukee, WI 53204-2496, Tel: 414-382-2000, Fax: 414-382-4444

1) Display:
   (i) 10.4-inch (26.4 cm) diagonal, color, 640 x 480 pixel, TFT Active Matrix Display with screen saver function. Adjustable and replaceable backlight.
2) Touch Screen:
   (i) Analog resistive touch screen with clear, hard-coated, scratch resistant polyester membrane over chemically strengthened glass.
   (ii) Up to 192 touch cell areas definable as small as 40 x 40 pixels.
   (iii) Actuation Force: 2.5 to 3.5 oz (71 to 100 grams.)
   (iv) Actuation Rating: 1,000,000 presses.
3) Key Panel:
   (i) Sealed, stainless steel dome membrane switches with tactile feedback, bezel mounted, protected with hard-coated, scratch resistant polyester surface.
   (ii) Display window with clear, hard-coated, scratch resistant polyester over chemically strengthened glass.
   (iii) Actuation Force: 1 lb (0.455 kg.)
   (iv) Actuation Rating: 2,000,000 presses.
   (v) Keys: 21 user definable, numeric entry, cursor control, other special functions.
4) Bezel:
   (i) Reinforced plastic.
5) Approximate Weight:
   (i) Touch Screen: 11.3 lbs (5.1 kg.)
   (ii) Keypad: 11.6 lbs (5.3 kg.)
6) Input Voltage Requirement:
   (i) 90-132 or 180-264V AC auto-select switching power supply 47-63 Hz.
7) Power Consumption:
   (i) 60VA typical, 90VA maximum.
   (ii) 45W typical, 70W maximum.
8) Alarm Relay:
   (i) Form-C Contact.
      1. 24V AC, 1 Amp. continuous (max.)
      2. 24V DC, 1 Amp. continuous (max.)
9) Battery:
   (i) Permanent Lithium battery less than or equal to 0.5 grams Lithium.
   (ii) Life Expectancy: 7.7 Years @ 30 C (86 F.)
10) User Memory:
   (i) 2.25 MB on-board flash.
   (ii) PC memory card option up to 16MB.
11) Time Clock:
   (i) Battery backed, AM/PM or 24-hour display with day of week and leap year corrected date.
   (ii) Accuracy: 7 minutes per month @50 C (122 F.)
12) Operating Temperature: 0 to 50 C (32 to 122 F.)
13) Storage Temperature: -25 to 60 C (-13 to 140 F.)
14) Relative Operating: Humidity 95% humidity (no condensing) @ 50 C (122 F).

15) Heat Generation: 154 BTU/Hour typical, 290 BTU/Hour maximum.
16) Maximum Altitude:
(i) Operating: 6500 Feet,
(ii) Non-operating: 40,000 Feet
17) Shock(Operating): 15G Peak acceleration.
18) Vibration (Operating):
(i) 5 to 57 Hz: 0.012-inch (.3 mm) peak-to-peak displacement.
(ii) 58 to 150 Hz: 2G peak acceleration.
19) Certifications
(i) Safety:
1. UL 508.
2. CUL 22.2 No. 142 listed through UL program (CSA Equivalent.)
3. EU Low Voltage Directive: 73/23/EEC w/93/68/EEC low voltage amendment from EN61010-1:1995 Standard.
(ii) EMC:
1. European Union EMC Directive: 89/336/EEC using: EN 50081-2:1993 and EN 50082-2:1995.
2. ICES 003 (Industry Canada) Class A.
3. FCC Part 15, Subpart B, Class A.
(iii) Environmental:
1. UL 50, 1992, ENCL 4X,12 (Indoor Use Only.)
2. CSA C22-2 No. 94-M91, ENCL 4X, 12 (Indoor Use Only.)
3. NEMA 4X, 12 (Indoor Use Only.)
4. IEC 529, IP66 (Indoor use Only.)

8. FLAT PANEL OPERATOR INTERFACE MODULE (East Grand Forks, MN)

(a) Operator interface module supplied with East Grand Forks supervisory control panels are Total Control QuickPanel 12.1" Color TFT QuickPanel, 800 X 600 pixel TFT (Thin Film Transistor) display. Total Control Products Inc., 2001-T N. Janice Ave., Melrose Park, IL 60160, Tel: 708-345-5500, Fax: 708-345-5670

1) Screen Type:
(i) 12.1" Diagonal 800 x 640 Color TFT with Fluorescent Back Light.
2) Power Requirements Voltage:
(i) 120 VAC Power 50 VA Maximum (QPL-21100-C2P.)
(ii) 24VDC (QPL-2D200-C2P.)
3) Physical Size:
(i) 13.62" (346mm) W x 10.70" (272mm) H x 3.18" (81mm) D (4.38"(111.2mm) D with optional module.)
(ii) Cut Out Size 13.07" (332 +1 mm) W x 10.16" (258mm +1 mm) H.
4) Protocol Support:
(i) Same as all the other QuickPanel family of products.
5) Communication Modules:
(i) All QPI Modules including Allen-Bradley RI/O, Data Highway Plus, GE Genius, and Modicon Modbus Plus.
6) Rating:
(i) Nema 12 / 4, IP 65.
7) Agency Approvals:

(b) 24VDC has UL, CUL, CE and Class 1 Div. 2. 120VAC has none.

9. RELAYS

(a) All auxiliary relays are plug-in style, provided with dust protecting enclosures with holding springs and plug-in bases with screw terminals. Time delay relays, and any relay whose operating frequency would indicate a life of less than twenty years, is solid state, either plug-in as above or with screw terminals.

(b) All electrical components are U.L. recognized, or listed and to be of general purpose, heavy-duty grade. Custom designed components are not used.

(c) Relays include Mechanical indication of On-Off status.

(d) Relays are United States IDEC Corporation, 1175 Elko Drive Sunnyvale, California 94089-2209, Tel: 408-747-0550, 800-262-4332, FAX: 408-744-9055 / 800-635-6246. IDEC Corporation RR series RR3B as follows:

1) High reliability and long service life.
2) Square (11-blade) base.
3) Options include check button for test operation, indicator light, and side flange.
4) DIN rail, surface and panel type sockets available for a wide range of mounting applications.
5) Contact Material: Silver.
6) Contact Resistance: 30mW maximum (initial value).
7) Minimum Applicable Load: 24V DC/10mA, 5V DC/20mA (reference value).
8) Operating Time: 25ms maximum.
9) Release Time: 25ms maximum.
10) Power Consumption:
   (i) AC: approximately 3VA (50Hz), 2.5VA (60Hz).
   (ii) DC: approximately 1.5W.

(e) Insulation Resistance. 100MW minimum (measured with 500V DC megger).

(f) Dielectric Strength:

1) Blade:
   (i) Between live and dead parts: 2,000V AC, 1 minute.
   (ii) Between contact circuit and operating coil: 2,000V AC, 1 minute.
2) Between contact circuits: 2,000V AC, 1 minute.
3) Between contacts of same polarity: 1,000V AC, 1 minute.

(g) Frequency Response 1,800 operations/hour.

(h) Temperature Rise:

1) Coil: 85°C maximum.
2) Contact: 65°C maximum.

(i) Vibration Resistance: 0 to 6G (55Hz maximum).

(j) Shock Resistance: 100N (approximately 10G).

(k) Life Expectancy:

1) Electrical: over 500,000 operations(120V, 50/60Hz, 10A).
2) Mechanical: over 10,000,000 operations.

(l) Operating Temperature: –30 to +70°C.

(m) Maximum Continuous Applied Voltage: (AC/DC) at 20°C 110% of the rated voltage.

(n) Minimum Operating Voltage: (AC/DC) at 20°C 80% of the rated voltage.

(o) Drop-Out Voltage: (AC) at 20°C 30% of the rated voltage.

(p) Drop-Out Voltage: (DC) at 20°C 15% of the rated voltage.

(q) Certifications:

1) UL Recognized.
   (i) File Nos. E67770, E59804, E64245.

10. Time Delay Relays: Delay On Make time delay relay featuring easy to program multiple time ranges and digital time selection with extremely high accuracy and repeatability. Programming is accomplished using a 5 position rotary switch to select one of five time ranges. A 3-digit pushbutton switch selects the amount of time delay required. Time delay relays are AMETEK NCC - National Controls Corporation, 1725 Western Drive, West Chicago, IL 60185, Tel: 800-323-2593, 630-231-5900, Fax: 630-231-1377, A1M series as follows:

(a) Time Delay:

1) Adjustment: 3-digit pushbutton switch.
2) Range: 50 mS to 999 minutes in 5 ranges.
3) Repeatability: ± 0.1%, ± 20 mS over specified timing range.
4) Accuracy: ± 1% of set time, plus fixed error of 80 mS max. (40 mS typical including power on response time).

(b) Input:

1) Operating Voltage: 24, 120, 240 VAC, 12, 24 VDC ± 10% (D.C. models have reverse polarity protection. Unfiltered input voltage to them must be full-wave rectified).
2) Power On Response: 50 mS max.
3) Power Off Reset Time: 150 mS min.
4) Start Switch Closure Time: 200 mS to initiate timing cycle; 50 mS to reset delay during cycle.
5) Power Consumption: 2 VA maximum.
6) Frequency: 50/60 Hz.

(c) Output:

1) Type: Relay Contacts, D.P.D.T. (2 form C) Silver Cad. Oxide material.
2) Rating: 10 amp. max. resistive at 240 volts A.C. 100 mA at 5 VDC min. load current.

(d) Life:

1) Mechanical - 10,000,000 operations.
2) Full Load - 500,000 operations

(e) Timing Light Logic: Flashing during timing; continuously on after time out.

(f) Protection:

1) Transient Voltage: 12, 24 volt timers are protected by an 8.8 joule metal oxide varistor; 120, 240 volt timers are protected by a 30 joule metal oxide varistor.

2) Dielectric Breakdown: 1500 VAC RMS minimum at 60 Hz between input and outputs and between outputs.

(g) Mechanical:

1) Termination: 8 - pin plug.
2) Mounting: Socket Mount.

(h) Environmental:

1) Storage Temperature: -23°C to 70°C.
2) Operating Temperature: -23°C to 55°C.
3) Humidity: 95% relative.

(i) Timing:

1) Selectable Time Ranges:
(i) .05 to 9.99 seconds.
(ii) .1 to 99.9 seconds.
(iii) 1 to 999 seconds.
(iv) .1 to 99.9 minutes.
(v) 1 to 999 minutes.

(j) Programming: Timer programmed by power removal from the unit and selection of time range.

B. PUSH BUTTONS, SELECTOR SWITCHES, AND PILOT LIGHT UNITS.

1. As described in MASTER CONTROL PANEL, PUSH BUTTONS, SELECTOR SWITCHES, AND PILOT LIGHT UNITS.

C. ELAPSED TIME METER

1. Elapsed time meter, 7 digit LCD type, Omron H7ET-BV, 24V DG. Omron Electronics LLC, One East Commerce Drive, Schaumburg, IL 60173, Tel: 847-843-7900, FAX: 847-843-8081, Customer Service - Tel: 800-556-6766:

(a) Subminiature Time Counter: 0.9400” H x 2.3600” L x 1.8900” W.

(b) Display 8.6 mm (0.338 in) height

(c) Backlit LCD.

(d) PNP/NPN DC voltage input available if required.

(e) Seven digits, time range 0 to 3999d23,9h .

(f) Key-protect switch to prevent front resetting.

(g) Selectable time range: 999999.9h or 3999d23.9h and 999h59m59s or 9999h59.9m.

(h) NEMA 4/IP66 front.

(i) Replaceable battery.

(j) Black case.

D. LEVEL SENSORS/INTRINSICALLY SAFE RELAYS

1. Float Switches.

(a) Direct acting float switches. Anchor Scientific Inc., Type W Roto-float. Anchor Scientific, Inc., 481 Tamarack Ave, Long Lake, MN 55356, Tel: 952-473-7115, Fax: 952-473-6002:

1) Switch: Single pole mercury switch encapsulated to form a completely watertight and impact resistant unit. Normally Open, N.O., Normally Closed, N.C. contacts as required.
2) Float housing: Polypropylene.
3) Cable Clamp: Polypropylene.
4) Cable: PVC type STO #18 conductors (41 strands) rated 600 volt. Length as required.
5) Suspension Cable and Float:
(i) 1/8″ stainless steel, nylon coated wire rope float suspension cable.
(ii) 13 lb. Anchor weight.

2. Submersible Analog Level Transmitters. AMETEK Inc., Model 575. AMETEK, U.S. GAUGE, PMT PRODUCTS, 820 Pennsylvania Blvd., Feasterville, PA 19053, Tel: 215-355-6900, Fax: 215-355-2937:

(a) Solid-state semiconductor sensors.

(b) 316L stainless steel housing, non-clogging protected sensor heads, vented to atmosphere through surface end of electrical leads.

(c) Designed for use in submersible applications where top down accessibility is preferred.

(d) Piezoresistive Silicon sensor with Oil Isolation.

(e) Ranges 3 to 300 PSIG (20 bar)

1) Vented Gage.
2) Overpressure 2X Full Scale.
3) Burst Pressure 3X Full Scale.
4) Accuracy +/-0.25% of range (BFSL) includes linearity, hysteresis and repeatability.
5) Input 12 - 40VDC.
6) Output, 4 - 20mADC, limited to 30mADC,
7) Compensated Temperature Range: -0 to 50°C, Thermal Effect +/-1% URL per 25°C between 0 to 50°C.
8) Stability +/-0.5% Span/6 Months.

(f) Process Connection:

1) Snub Nose (Nylon 6/6) and 1/2" NPTF Female.
2) Electrical Connection Polyurethane Cable. Minimum length 100-feet; longer length as required for connection to supervisory control panel.

(g) Wetted Materials:

1) 316L Stainless Steel:
2) Viton® Seal and Polyurethane Cable.

(h) Approvals CSA Intrinsically Safe.

3. Intrinsically Safe Repeater Barriers (analog): Repeater barriers protect all circuits with intrinsically safe 4-20mA transmitters. Crouse-Hinds Model SB49430M2427. Crouse-Hinds Div., Cooper

Industries, Inc., P.O. Box 4999, Dept. TR, Wolf & 7th N. St., Syracuse, NY 13221, Tel: 315-477-7000, Fax: 315-477-5179:

(a) Input:

1) Signal Range: 4-20mA.
2) Power Supply to Transmitter: 15VDC stabilized.

(b) Output:

1) Signal Range: 4-20 mA.
2) Maximum Load: 1000 ohms.

(c) Transmission Characteristics:

1) Synchronization Accuracy: Less than or equal to 20 ìA.
2) Ramp-up Time: Less than or equal to 50ìA.

(d) Power Supply:

1) Supply voltage: 24VDC, +/-15%.
2) Power Consumption: less than or equal to 1.2W.

(e) Mounting: Modular snap-in construction for 35 mm DIN rail.

(f) Ambient Conditions:

1) Temperature Range: -20deg. C to +50deg. C.
2) Relative Humidity: 0 to 95%.

(g) Entity Parameters:

1) Class I, II, III, Div. 1, Groups A-G.
2) Voc: 23.30 V Ca: 069ìF.
3) Isc: 91.32mA La: 17.87mH.

4. Intrinsically Safe Relays (discrete): Warrick Controls Model Series 67. Gems Sensors Inc., Warrick Controls, 1-T Cowles Rd., Plainville, CT 06062, Tel: 800-378-1600, 860-747-3000, Fax: 860-747-4244:

(a) Four independent channels.

(b) LED indication of channel activation.

(c) Removable terminal blocks.

(d) Contact Ratings:

1) 10 amp (style C).
2) 5 amp (style A).

(e) Contact Design:

1) Standard Normally Open, N.O., Normally Closed, N.C.

(f) Primary Voltage:

1) 120, 240 VAC, +10%, -15%, 60Hz.

(g) Secondary Voltage:

1) 12 VAC @6ma RMS.

(h) Sensitivity:

1) 4,700-100,000 ohms max. Factory set specific resistance.

(i) Operating Temperature:

1) –20 deg. F. to 150 deg. F.

5. Listing:

(a) UL 913

1) Motor Control.
2) Intrinsically safe.

E. ANTENNAS.

1. Pump Station: light duty, multi-element yagi, 8 dB, directional gain. Decibel Products DB432. Decibel Products, 8635 N. Stemmons Frwy., Dallas, TX 75247, Tel: 214-635-8502:

(a) Electrical Data:

1) Frequency Range: A = 450-470 MHz.
2) Bandwidth: 20 MHz.
3) VSWR: 1.5 to 1 or less.
4) Nominal impedance: 50 ohms.
5) Forward gain (over half-wave dipole): 8 dBd.
6) Beamwidth “E”Plane (half power): 50°.
7) Beamwidth “H” Plane (half power): 70°.
8) Polarization: Vertical.
9) Maximum power input: 100 watts.
10) Lightning protection: Direct ground.
11) Standard Termination: Captive Type N-Female.

(b) Mechanical Data:

1) Support boom: Aluminum.
2) Elements: Aluminum.
3) Maximum exposed area (flat plate equivalent): .3 sq. ft.
4) Lateral thrust at 100 mph: 12 lbf.
5) Wind rating:
   (i) Survival without ice: 125 mph/hr.
   (ii) Survival with .5'' radial ice: 90 mph.
6) Dimensions (WxH): 36x14 in.
7) Net weight: 5 lbs.

(c) Mounting brackets: Galvanized steel.

2. ANTENNA CABLE.

3. As described in MASTER CONTROL PANEL, ANTENNA CABLE.

XVIII. MOTOR STARTERS.

A. COMBINATION SOLID STATE REDUCED VOLTAGE STARTERS (SSRV). Circuit breaker equipped combination SSRV starters in NEMA 12 enclosures with extra capacity as required to house control components as follows:

1. AC CONTACTORS/STARTERS

(a) Used in conjunction with SSRV starters. Sizes 0 – 5 Allen-Bradley Bulletin 500. Allen-Bradley, 1201 South Second Street, Milwaukee, WI 53104, Tel: 414-382-2000, Fax: 414 382-4444:

1) Contactors and starters conform to industry standard practices as outlined in NEMA Standard ICS 1988.
2) Each starter and accessory attachments are listed by UL.
3) Starters UL Certified to comply with IEC 947-4-1, Type “2” coordination requirements at 600V AC with a 100,000 ampere

available fault current when protected by any brand of UL Listed Class RKl, J or CC fuses.

(b) Magnetic Motor Starter

1) Contactor
   (i) Vertical lift - gravity dropout with no pivots or bell cranks.
   (ii) Double break silver alloy contacts.
   (iii) Prominent “ON-OFF” indicator on front.
   (iv) Permanent air gap in magnet yoke.
   (v) Hot pressure molded coil, color coded for identification.
   (vi) Power contacts replaceable without disconnecting terminal wiring.
   (vii) Up to 8 auxiliary contacts including hold-in contact.

(c) Terminals and Wiring

1) Control terminals with retractable wire clamps that will clamp conductor strands between two non-rotating surfaces.
2) All terminals accessible for wiring without disturbing other components.
3) Starter power wiring straight-through with line terminals above and load terminals below the moving assembly.
4) Surge suppression for 120 or 240 volt AC mounted across coil terminals of contactors and starters without disturbing or taking the space of other accessories.

(d) Overload Relays

1) Three pole block style overload relay.
2) Eutectic alloy type.
3) Manual reset with “trip-free” operation.
4) Tamper-proof provisions: Non-adjustable and non-convertible from manual to automatic operation.
5) Single, large reset button with “non-slip” surface.
6) Optical trip indicator.
7) Test module to allow opening of N.C. contact.
8) N.O. or N.C. alarm circuit contact field addable. *
9) Standard element to be Class 10, or 20 design.

2. SOLID-STATE REDUCED VOLTAGE STARTERS (SSRV). Solid-state reduced voltage starters (controllers) are used to provide ramp starting and stopping of three-phase AC induction motors or resistive loads. Provide Allen Bradley “SMC Dialog Plus” series SSRV’s. Allen-Bradley, 1201 South Second Street, Milwaukee, WI 53104, Tel: 414-382-2000, Fax: 414 382-4444:

(a) Electrical Ratings:

1) 24 to 1000 Amps.
2) 200 to 600 Volts.
3) 50 to 60 Hz.

(b) The controllers include the following starting modes as standard:

1) Soft Start with Selectable Kickstart.
2) Current Limit Start.
3) Full Voltage Start.
4) Dual Ramp Start.

(c) The controllers include following optional features:

1) Soft Stop.
2) Pump Control.
3) Preset Slow Speed.
4) SMB Smart Motor Braking.
5) Accu-Stop/Slow Speed with Braking.

(d) device is be modular, consisting of a logic component and a power structure.

(e) The logic component is a self-contained control module, compatible with the full range of power structures. The control module mounts directly to the power structure without the use of wiring.

(f) The power structure consists of three power modules mounted on a heat sink for ratings up to and including 135 Amps. For ratings 180 Amps to 1000 Amps, the power structure consists of three power poles with integral heat sinks.

3. CODES AND STANDARDS.

(a) The controllers are designed to meet the applicable requirements of:

(b) These standards include:

(i) CreEN, IEC, UL, CSA, NEMA, IEEE, VDE.
2) ep distances and clearances 600V (UL/CSA) and 500V (IEC).
3) Power terminal markings per EN 50005 and EN 60947.
4) Dielectric withstand per UL508 and IEC947.
5) Noise and radio frequency (RF) immunity per NEMA ICS 1-109.
6) Surge withstand per IEEE587 and IEC 801-5

4. CONTROL MODULE DESIGN FEATURES.

(a) Mechanical

1) The control modules consist of a power supply, logic control circuitry, silicon controlled rectifier (SCR) firing circuitry, I/O circuitry, a digital programming keypad, a backlit LCD display, and a serial communication port.
2) The control modules are designed for integral mounting on the power structure and are compatible with the full range of current ratings – 24 Amps to 1000 Amps.
3) The control modules are easily removed from the power structure, without the need to disassemble associated printed circuit board assemblies.
4) Control terminals are easily accessible, and located on the front top of the device. The terminals are UL rated for 300 Volts, 10 Amps maximum and accept a maximum of two wires, 0.75-2.5mm 2 (#18-#14 AWG).
5) Digital parameter adjustments are provided through a built-in keypad. There are no analog potentiometer adjustments.
6) A built-in alphanumeric, backlit LCD display is provided for controller set-up, diagnostics, status, and monitoring. The display consists of two-lines, 16-characters minimum.
7) A serial communication port are provided as standard. Optional communication protocol interface modules are included as required and include connection to Remote I/O, DH485, DeviceNet, and RS 232/422/485.

8) A minimum of three auxiliary contacts are provided for customer use. These can be programmable as follows:
   (i) Two form C SPDT: normal (instantaneous) or up-to-speed
   (ii) One SPST: normal or fault; N.O. or N.C.

(b) Electrical.

1) The control module provides digital microprocessor control and supervision of all controller operation, including SCR pulse firing control.
2) The control module’s power supply is self-tuning to accept control power input from 100 to 240 VAC, 50/60 Hz.
3) The SCR firing circuitry incorporates an RC snubber network to prevent false SCR firing.
4) The logic circuitry incorporates a latch circuit for three-wire control.

(c) User Adjustments.

1) The acceleration ramp time is adjustable from 0 to 30 seconds.
2) The initial torque setting is adjustable from 0 to 90% of locked rotor torque.
3) Current limit starting is adjustable from 50 to 600% of the motor’s full load current.
4) A selectable kickstart feature is be available to provide a current pulse at 550% of the motor’s full load current rating. The time period is from 0.0 to 2.0 seconds.

(d) Monitoring.

1) The controller provides the following monitoring functions indicated through the built-in LCD display:
   (i) Phase-to-phase supply voltage.
   (ii) Three-phase line current.
   (iii) Watts in kW.
   (iv) KWH.
   (v) Elapsed time.
   (vi) Power factor.
   (vii) Motor thermal capacity usage.

(e)

(f) Protection and Diagnostics.

1) The following protection is provided as standard with the controller:
   (i) Power loss (with phase indication; pre-start).
   (ii) Line fault (with phase indication; pre-start) advising:
      1. Shorted SCR.
      2. Missing load connection.
   (iii) Line fault (running protection) advising:
      1. Power loss.
      2. Shorted SCR.
      3. Missing load connection.
   (iv) Voltage unbalance.
   (v) Phase reversal.
   (vi) Under voltage.
   (vii) Over voltage.
   (viii) Stall.
   (ix) Jam.
   (x) Overload.
   (xi) Underload.

(xii) Excessive starts/hour.
(xiii) Open gate (with phase indication).
(xiv) Controller over temperature.

2) Overload protection is as follows:
   (i) Meets applicable standards as a motor thermal protective device.
   (ii) Three-phase current sensing is utilized; the use of two current transformers is unacceptable.
   (iii) Overload trip classes of 10, 15, 20, and 30 are provided and user-programmable.
   (iv) Electronic thermal memory is provided for enhanced motor protection.
   (v) Overload protection is available through the controller, even in a bypass configuration.
3) When fault conditions are detected, the controller inhibits starting or shuts down SCR pulse firing.
4) Fault diagnostics is indicated in descriptive text on the built-in LCD display. The exclusive use of fault codes is not acceptable.
5) An auxiliary contact that is programmable for fault indication is provided for customer use.

(g) Soft Stop.

1) The Soft Stop option provides a voltage ramp-down for extended motor stopping times.
2) Soft Stop is initiated by a dedicated Soft Stop input. A coast-to-rest stop is still possible with a separate stop input.
3) The Soft Stop time is user adjustable from 0 to 60 seconds.

(h) Pump Control.

1) The Pump Control option provides closed loop control of a motor to match the specific torque requirements of centrifugal pumps for both starting and stopping. This aids in eliminating the phenomena commonly referred to as “water hammer.” Methods utilizing Soft Start with Soft Stop are not acceptable.
2) Closed loop control is achieved without using external sensors or feedback devices.
3) Pump Stop is initiated by a dedicated Pump Stop input. A coast-to-rest stop is still possible with a separate stop input.
4) The Pump Stop time is user adjustable from 0 to 120 seconds.

(i) Preset Slow Speed.

1) The Preset Slow Speed option provides two jog speeds in the forward direction: high (15% of base speed) and low (7% of base speed).
2) Two jog speeds are also be available in the reverse direction: high (20% of base speed) and low (10% of base speed).
3) Reverse operation of the motor is achievable in the jog mode without the use of a reversing contactor.
4) The starting current for the slow speed operation is user adjustable from 0 to 450% of the motor’s full load current rating.
5) The running current for the slow speed operation is user adjustable from 0 to 450% of the motor’s full load current rating.

(j) SMB Smart Motor Braking.

1) The SMB Smart Motor Braking option provides braking torque to the motor to shorten the time period for the motor to come to rest.
2) Braking is achieved without using additional equipment such as resistors or contactors.
3) The controller brings the motor to rest and automatically shut it down when zero speed is sensed.
4) Additional equipment, such as tachometers, encoders, or speed switches, are not be required for sensing a zero-speed condition.
5) Braking is initiated by a dedicated brake input. A coast-to-rest stop is still be possible with a separate stop input.
6) The strength of the braking torque is user adjustable from 0 to 400% of the motor’s full load current rating.

(k) Accu-Stop/Slow Speed with Braking.

1) The Accu-Stop/Slow Speed with Braking option provides general positioning control by providing jogging and braking control.
2) Two jog speeds in the forward direction are provided for both the starting and end-of-cycle periods: high (15% of base speed) and low (7% of base speed).
3) The starting current for the slow speed operation is user adjustable from 0 to 450% of the motor’s full load current rating.
4) The running current for the slow speed operation is user adjustable from 0 to 450% of the motor’s full load current rating.
5) Braking provides braking torque to the motor to shorten the time period for the motor to reach the preset slow speed or brake to zero speed.
6) Braking is achieved without the use of additional equipment such as resistors or contactors.
7) The strength of the braking torque is user adjustable from 0 to 400% of the motor’s full load current rating.

5. POWER STRUCTURE DESIGN FEATURES.

(a) Mechanical: 24 Amps to 135 Amps.

1) The power structure consists of three plug-in modules for controllers rated 24 Amps to 135 Amps.
2) The three power modules rated 24 Amps to 135 Amps are mounted on a single heat sink. The heat sink is isolated from the power modules and has a grounding provision.
3) Power modules rated 24 Amps to 135 Amps are encapsulated and include two power-switching semi-conductors and control module interface pins. Integral lugs for power wiring terminations are provided for controllers rated 24 Amps to 54 Amps.

(b) Mechanical: 180 Amps to 1000 Amps

1) The power structure for controllers rated 180 Amps to 1000 Amps shall consist of three power poles with a clamped pair of hockey puck style power switching semiconductors.
2) The individual power poles for controllers rated 180 Amps to 1000 Amps shall have integral, power-conducting heat sinks that mount to the controller-mounting flange. The controller-mounting flange shall have a grounding provision.

3) For controllers rated 180 Amps to 1000 Amps, a printed circuit board shall be provided to interface the control module with the power structure. Interface pins shall be located on the printed circuit board for direct mounting of the control module.

(c) Electrical.

1) Back-to-back SCR pairs are the only power-switching semiconductor means acceptable. Diode-SCR combinations are not acceptable.
2) There are separate power sections to operate from 200V to 480V and 200V to 600V, 50/60 Hz.
3) SCRs have the following minimum repetitive peak inverse voltage ratings:
   (i) 200 to 480V: 1400V.
   (ii) 200 to 600V: 1600V.
4) The power section has a minimum thermal capacity rating of 600% of the controller’s current rating for 10 seconds.

(d) Transient Protection: 24 Amps to 360 Amps.

1) For controllers rated 24 Amps to 360 Amps, transient protection with separately mounted protective modules shall be available as an option.
2) Protective modules consist of metal oxide varistors (MOVs) in combination with capacitors to protect the power components from electrical transients and/or electrical noise. The capacitors are provided to shunt noise energy away from the controller’s electronics.
3) The MOVs and capacitors are encapsulated in a clear material for easy inspection.
4) The protective modules are mounted so that they will not cause damage to the power components upon absorbing an electrical transient.

(e) The MOVs are rated for a minimum of 220 joules. Transient Protection: 500 Amps to 1000 Amps.

1) For controllers rated 500 Amps to 1000 Amps, transient protection are provided as standard.
2) The MOVs are rated for a minimum of 220 joules for 200-480V rated controllers and 300 joules for 200-600V rated controllers.
3) Integral fusing is provided for additional protection.

6. ENERGY SAVER.

(a) The Energy Saver feature operates to automatically cause the output voltage from the controller to be reduced when a motor is unloaded or lightly loaded.

(b) Customer adjustments are not required.

(c) The Energy Saver feature is defeatable.

(d) Additional mounting space or wiring is not required.

7. PHASE REBALANCE.

(a) When the Phase Rebalance feature is enabled, the controller regulates the individual phase output voltages from the

controller to maintain equal three-phase currents to the motor.

(b) Customer adjustments are not required.

(c) The Phase Rebalance feature is defeatable.

(d) Additional mounting space or wiring is not required.

8. ENVIRONMENTAL RATINGS.

(a) Temperature Ratings.

1) The open-type device delivers its rated current in ambient temperatures ranging from 0C to +50C.
2) The ambient storage temperature ranges from –20C to +75C.

(b) Humidity Range.

1) The controller is operable in relative humidity of 5 to 95%, non-condensing.

(c) Shock and Vibration.

1) The controller can withstand a 30G shock for 11 ms in any plane without malfunction.
2) The controller can withstand 2.5G vibration for one hour in any plane without malfunction.

(d) Altitude Rating.

1) The controller is suitable for operation up to altitudes of 2,000 meters without derating.

(e) Noise and RF Immunity.

1) The controller can perform without malfunction from showering arc tests of 500V to 1500V (NEMA ICS 2-230).
2) The controller can perform without malfunction when subjected to 3000V surges at a rate of 100 bursts per second for 10 seconds (IEEE STD 472).

(f) Dielectric Withstand.

1) The controller is tested to withstand 1000V + 2x (voltage rating) at a rate of 200V per second (held for 60 seconds, then gradually reduced) between live parts and ground.
2) The controller is subjected to an additional test at the previous voltage level plus 20% for one second (UL 508) (CSA Std. C22.2).

XIX. INTRUSION DETECTION MAGNETIC CONTACTS.

A. Contacts are Sentrol Industrial part number 2507A. Sentrol, 12345 SW Leveton Dr., Tualatin, OR 97062, Tel: 800-547-2556:

1. The contact are a hermetically sealed reed switch nominally 3" L x 1" H x 0.50" D with matching actuating magnet. Contact and magnets shall be in brushed anodized aluminum tube housing. Contact shall be sealed in polyurethane potting compound. Right angle mounting bracket shall be furnished with contact.

2. Mounting holes shall be on 2" centers.

3. Each contact shall connect three feet of flex stainless steel conduit.

4. Voltage: 30 V AC/DC max.

5. Current: 0.25 A max.

6. Power: 3.0 W max.

7. SPDT Lead Colors:

   (a) Black: Common

   (b) White: Closed Loop (N.O.)

   (c) Red: Open Loop (N.C.)

CLAUSES INCORPORATED BY FULL TEXT

52.246-2 INSPECTION OF SUPPLIES--FIXED-PRICE (AUG 1996)

(a) Definition. "Supplies," as used in this clause, includes but is not limited to raw materials, components, intermediate assemblies, end products, and lots of supplies.

(b) The Contractor shall provide and maintain an inspection system acceptable to the Government covering supplies under this contract and shall tender to the Government for acceptance only supplies that have been inspected in accordance with the inspection system and have been found by the Contractor to be in conformity with contract requirements. As part of the system, the Contractor shall prepare records evidencing all inspections made under the system and the outcome. These records shall be kept complete and made available to the Government during contract performance and for as long afterwards as the contract requires. The Government may perform reviews and evaluations as reasonably necessary to ascertain compliance with this paragraph. These reviews and evaluations shall be conducted in a manner that will not unduly delay the contract work. The right of review, whether exercised or not, does not relieve the Contractor of the obligations under the contract.

(c) The Government has the right to inspect and test all supplies called for by the contract, to the extent practicable, at all places and times, including the period of manufacture, and in any event before acceptance. The Government shall perform inspections and tests in a manner that will not unduly delay the work. The Government assumes no contractual obligation to perform any inspection and test for the benefit of the Contractor unless specifically set forth elsewhere in this contract.

(d) If the Government performs inspection or test on the premises of the Contractor or a subcontractor, the Contractor shall furnish, and shall require subcontractors to furnish, at no increase in contract price, all reasonable facilities and assistance for the safe and convenient performance of these duties. Except as otherwise provided in the contract, the Government shall bear the expense of Government inspections or tests made at other than the Contractor's or subcontractor's premises; provided, that in case of rejection, the Government shall not be liable for any reduction in the value of inspection or test samples.

(e)(1) When supplies are not ready at the time specified by the Contractor for inspection or test, the Contracting Officer may charge to the Contractor the additional cost of inspection or test.

(2) The Contracting Officer may also charge the Contractor for any additional cost of inspection or test when prior rejection makes reinspection or retest necessary.

(f) The Government has the right either to reject or to require correction of nonconforming supplies. Supplies are nonconforming when they are defective in material or workmanship or are otherwise not in conformity with contract requirements. The Government may reject nonconforming supplies with or without disposition instructions.

(g) The Contractor shall remove supplies rejected or required to be corrected. However, the Contracting Officer may require or permit correction in place,promptly after notice, by and at the expense of the Contractor. The Contractor shall not tender for acceptance corrected or rejected supplies without disclosing the former rejection or requirement for correction, and, when required, shall disclose the corrective action taken.

(h) If the Contractor fails to promptly remove, replace, or correct rejected supplies that are required to be removed or to be replaced or corrected, the Government may either (1) by contract or otherwise, remove, replace, or correct the supplies and charge the cost to the Contractor or (2) terminate the contract for default. Unless the Contractor corrects or replaces the supplies within the delivery schedule, the Contracting Officer may require their delivery and make an equitable price reduction. Failure to agree to a price reduction shall be a dispute.

(i)(1) If this contract provides for the performance of Government quality assurance at source, and if requested by the Government, the Contractor shall furnish advance notification of the time (i) when Contractor inspection or tests will be performed in accordance with the terms and conditions of the contract and (ii) when the supplies will be ready for Government inspection.

(2) The Government's request shall specify the period and method of the advance notification and the Government representative to whom it shall be furnished. Requests shall not require more than 2 workdays of advance notification if the Government representative is in residence in the Contractor's plant, nor more than 7 workdays in other instances.

(j) The Government shall accept or reject supplies as promptly as practicable after delivery, unless otherwise provided in the contract. Government failure to inspect and accept or reject the supplies shall not relieve the Contractor from responsibility, nor impose liability on the Government, for nonconforming supplies.

(k) Inspections and tests by the Government do not relieve the Contractor of responsibility for defects or other failures to meet contract requirements discovered before acceptance. Acceptance shall be conclusive, except for latent defects, fraud, gross mistakes amounting to fraud, or as otherwise provided in the contract.

(l) If acceptance is not conclusive for any of the reasons in paragraph (k) hereof, the Government, in addition to any other rights and remedies provided by law, or under other provisions of this contract, shall have the right to require the Contractor (1) at no increase in contract price, to correct or replace the defective or nonconforming supplies at the original point of delivery or at the Contractor's plant at the Contracting Officer's election, and in accordance with a reasonable delivery schedule as may be agreed upon between the Contractor and the Contracting Officer; provided, that the Contracting Officer may require a reduction in contract price if the Contractor fails to meet such delivery schedule, or (2) within a reasonable time after receipt by the Contractor of notice of defects or nonconformance, to repay such portion of the contract as is equitable under the circumstances if the Contracting Officer elects not to require correction or replacement. When supplies are returned to the Contractor, the Contractor shall bear the transportation cost from the original point of delivery to the Contractor's plant and return to the original point when that point is not the Contractor's plant. If the Contractor fails to perform or act as required in (1) or (2) above and does not cure such failure within a period of 10 days (or such longer period as the Contracting Officer may authorize in writing) afterreceipt of notice from the Contracting Officer specifying such failure, the Government shall have the right by contract or otherwise to replace or correct such supplies and charge to the Contractor the cost occasioned the Government thereby.

52.246-16 RESPONSIBILITY FOR SUPPLIES (APR 1984)

(a) Title to supplies furnished under this contract shall pass to the Government upon formal acceptance, regardless of when or where the Government takes physical possession, unless the contract specifically provides for earlier passage of title.

(b) Unless the contract specifically provides otherwise, risk of loss of or damage to supplies shall remain with the Contractor until, and shall pass to the Government upon--

(1) Delivery of the supplies to a carrier, if transportation is f.o.b. origin; or

(2) Acceptance by the Government or delivery of the supplies to the Government at the destination specified in the contract, whichever is later, if transportation is f.o.b. destination.

(c) Paragraph (b) of this section shall not apply to supplies that so fail to conform to contract requirements as to give a right of rejection. The risk of loss of or damage to such nonconforming supplies remains with the Contractor until cure or acceptance. After cure or acceptance, paragraph (b) of this section shall apply.

(d) Under paragraph (b) of this section, the Contractor shall not be liable for loss of or damage to supplies caused by the negligence of officers, agents, or employees of the Government acting within the scope of their employment.

52.246-17 Warranty of Supplies of a Noncomplex Nature (Mar 2001)

(a) *Definitions.* As used in this clause --

Acceptance means the act of an authorized representative of the Government by which the Government assumes for itself, or as an agent of another, ownership of existing supplies, or approves specific services as partial or complete performance of the contract.

Supplies means the end items furnished by the Contractor and related services required under this contract. The word does not include "data."

"Start-up", as used in this clause, means the date that all the work required by the contract line item entitled Full System Integration Services is accepted by the Government as complete.

(b) *Contractor's obligations.*

(1) Notwithstanding inspection and acceptance by the Government of supplies furnished under this contract, or any condition of this contract concerning the conclusiveness thereof, the Contractor warrants that, for the period commencing at delivery of any supply or service called for under this contract and ending two calendar years after start-up --

(i) All supplies furnished under this contract will be free from defects in design, material or workmanship and will conform with all requirements of this contract; and

(ii) The preservation, packaging, packing, and marking, and the preparation for, and method of, shipment of such supplies will conform with the requirements of this contract.

(2) When return, correction, or replacement is required, transportation charges and responsibility for the supplies while in transit shall be borne by the Contractor. However, the Contractor's liability for the transportation charges shall not exceed an amount equal to the cost of transportation by the usual commercial method of shipment between the place of delivery specified in this contract and the Contractor's plant, and return.

(3) Any supplies or parts thereof, corrected or furnished in replacement under this clause, shall also be subject to the terms of this clause to the same extent as supplies initially delivered. The warranty, with respect to supplies or parts thereof, shall be equal in duration to that in paragraph (b)(1) of this clause and shall run from the date of delivery of the corrected or replaced supplies.

(4) All implied warranties of merchantability and "fitness for a particular purpose" are excluded from any obligation contained in this contract.

(c) *Remedies available to the Government.*

(1) The Contracting Officer shall give written notice to the Contractor of any breach of warranties in paragraph (b)(1) of this clause within 45 days after discovery of the defect.

(2) Within a reasonable time after the notice, the Contracting Officer may either --

(i) Require, by written notice, the prompt correction or replacement of any supplies or parts thereof (including preservation, packaging, packing, and marking) that do not conform with the requirements of this contract within the meaning of paragraph (b)(1) of this clause; or

(ii) Retain such supplies and reduce the contract price by an amount equitable under the circumstances.

(3)

(i) Within a reasonable time after notice of any breach of the warranties specified in paragraph (b)(1) of this clause, the Contracting Officer may exercise one or more of the following options:

(A) Require an equitable adjustment in the contract price for any group of supplies.

(B) Screen the supplies grouped for warranty action under this clause at the Contractor’s expense and return all nonconforming supplies to the Contractor for correction or replacement.

(C) Require the Contractor to screen the supplies at locations designated by the Government within the continental United States and to correct or replace all nonconforming supplies.

(D) Return the supplies grouped for warranty action under this clause to the Contractor (irrespective of the f.o.b. point or the point of acceptance) for screening and correction or replacement.

(4)

If the Contractor does not agree as to responsibility to correct or replace the supplies delivered, the Contractor

shall nevertheless proceed in accordance with the written request issued by the Contracting Officer under paragraph (c)(2) of this clause to correct or replace the defective or nonconforming supplies. In the event it is later determined that the supplies were not defective or nonconforming within the terms and conditions of this clause, the contract price will be equitably adjusted.

(5)

The rights and remedies of the Government provided in this clause are in addition to and do not limit any rights afforded to the Government by any other clause of this contract.

(6)

The Contractor shall be liable for the reasonable costs of disassembly and/or reassembly of larger items when it is necessary to remove the supplies to be inspected and/or returned for correction or replacement.

(End of Clause)

252.246-7000 MATERIAL INSPECTION AND RECEIVING REPORT (DEC 1991)

At the time of each delivery of supplies or services under this contract, the Contractor shall prepare and furnish to the Government a Material Inspection and Receiving Report in the manner and to the extent required by Appendix F, Material Inspection and Receiving Report, of the Defense FAR Supplement.

(End of clause)

SECTION F Deliveries or Performance

DELIVERY INFORMATION

CLINS	DELIVERY DATE	UNIT OF ISSUE	QUANTITY	FOB	SHIP TO ADDRESS
0001					
0001AA		Each	1.00	Dest.	
0001AB		Each	1.00	Dest.	
0001AC		Each	1.00	Dest.	
0001AD		Each	1.00	Dest.	
0001AE		Lump Sum	1.00	Dest.	
0001AF		Lump Sum	1.00	Dest.	
0001AG		Lump Sum	1.00	Dest.	
0002					
0002AA		Each	1.00	Dest.	
0002AB		Each	1.00	Dest.	
0002AC		Each	1.00	Dest.	
0002AD		Each	1.00	Dest.	
0002AE		Lump Sum	1.00	Dest.	
0002AF		Lump Sum	1.00	Dest.	
0002AG		Lump Sum	1.00	Dest.	
0003					
0003AA		Each	1.00	Dest.	
0003AB		Each	1.00	Dest.	
0003AC		Each	1.00	Dest.	
0003AD		Each	1.00	Dest.	
0003AE		Lump Sum	1.00	Dest.	
0003AF		Lump Sum	1.00	Dest.	
0003AG		Lump Sum	1.00	Dest.	
0004					
0004AA		Each	1.00	Dest.	
0004AB		Each	1.00	Dest.	
0004AC		Each	1.00	Dest.	
0004AD		Each	1.00	Dest.	
0004AE		Lump Sum	1.00	Dest.	
0004AF		Lump Sum	1.00	Dest.	
0004AG		Lump Sum	1.00	Dest.	
0005					
0005AA		Each	1.00	Dest.	
0005AB		Each	1.00	Dest.	
0005AC		Each	1.00	Dest.	
0005AD		Each	1.00	Dest.	
0005AE		Each	1.00	Dest.	
0005AF		Lump Sum	1.00	Dest.	
0005AG		Lump Sum	1.00	Dest.	
0005AH		Lump Sum	1.00	Dest.	
0006					
0006AA		Each	1.00	Dest.	
0006AB		Each	1.00	Dest.	
0006AC		Each	1.00	Dest.	
0006AD		Each	1.00	Dest.	
0006AE		Lump Sum	1.00	Dest.	
0006AF		Lump Sum	1.00	Dest.	
0006AG		Lump Sum	1.00	Dest.	

0007			
0007AA	Each	1.00	Dest.
0007AB	Each	1.00	Dest.
0007AC	Each	1.00	Dest.
0007AD	Each	1.00	Dest.
0007AE	Lump Sum	1.00	Dest.
0007AF	Lump Sum	1.00	Dest.
0007AG	Lump Sum	1.00	Dest.
0008			
0008AA	Each	1.00	Dest.
0008AB	Each	1.00	Dest.
0008AC	Each	1.00	Dest.
0008AD	Each	1.00	Dest.
0008AE	Each	1.00	Dest.
0008AF	Lump Sum	1.00	Dest.
0008AG	Lump Sum	1.00	Dest.
0008AH	Lump Sum	1.00	Dest.
0009			
0009AA	Each	1.00	Dest.
0009AB	Each	1.00	Dest.
0009AC	Each	1.00	Dest.
0009AD	Each	1.00	Dest.
0009AE	Each	1.00	Dest.
0009AF	Lump Sum	1.00	Dest.
0009AG	Lump Sum	1.00	Dest.
0009AH	Lump Sum	1.00	Dest.
0010			
0010AA	Each	1.00	Dest.
0010AB	Each	1.00	Dest.
0010AC	Each	1.00	Dest.
0010AD	Each	1.00	Dest.
0010AE	Each	1.00	Dest.
0010AF	Lump Sum	1.00	Dest.
0010AG	Lump Sum	1.00	Dest.
0010AH	Lump Sum	1.00	Dest.
0011			
0011AA	Each	1.00	Dest.
0011AB	Each	1.00	Dest.
0011AC	Each	1.00	Dest.
0011AD	Each	1.00	Dest.
0011AE	Each	1.00	Dest.
0011AF	Each	1.00	Dest.
0011AG	Lump Sum	1.00	Dest.
0011AH	Lump Sum	1.00	Dest.
0011AJ	Lump Sum	1.00	Dest.
0012			
0012AA	Each	1.00	Dest.
0012AB	Each	1.00	Dest.
0012AC	Each	1.00	Dest.
0012AD	Each	1.00	Dest.
0012AE	Each	1.00	Dest.
0012AF	Each	1.00	Dest.
0012AG	Each	1.00	Dest.
0012AH	Lump Sum	1.00	Dest.
0012AJ	Lump Sum	1.00	Dest.
0012AK	Lump Sum	1.00	Dest.

0013			
0013AA	Each	1.00	Dest.
0013AB	Each	1.00	Dest.
0013AC	Each	1.00	Dest.
0013AD	Each	1.00	Dest.
0013AE	Each	1.00	Dest.
0013AF	Lump Sum	1.00	Dest.
0013AG	Lump Sum	1.00	Dest.
0013AH	Lump Sum	1.00	Dest.
0014			
0014AA	Each	1.00	Dest.
0014AB	Each	1.00	Dest.
0014AC	Each	1.00	Dest.
0014AD	Each	1.00	Dest.
0014AE	Each	1.00	Dest.
0014AF	Each	1.00	Dest.
0014AG	Each	1.00	Dest.
0014AH	Lump Sum	1.00	Dest.
0014AJ	Lump Sum	1.00	Dest.
0014AK	Lump Sum	1.00	Dest.
0015			
0015AA	Each	1.00	Dest.
0015AB	Each	1.00	Dest.
0015AC	Each	1.00	Dest.
0015AD	Each	1.00	Dest.
0015AE	Each	1.00	Dest.
0015AF	Lump Sum	1.00	Dest.
0015AG	Lump Sum	1.00	Dest.
0015AH	Lump Sum	1.00	Dest.
0016	Each	1.00	Dest.
0017	Lump Sum	1.00	Dest.
0018	Lump Sum	1.00	Dest.
0019			
0019AA	Each	1.00	Dest.
0019AB	Each	1.00	Dest.
0019AC	Each	1.00	Dest.
0019AD	Each	1.00	Dest.
0019AE	Lump Sum	1.00	Dest.
0019AF	Lump Sum	1.00	Dest.
0019AG	Lump Sum	1.00	Dest.
0020			
0020AA	Each	1.00	Dest.
0020AB	Each	1.00	Dest.
0020AC	Each	1.00	Dest.
0020AD	Each	1.00	Dest.
0020AE	Lump Sum	1.00	Dest.
0020AF	Lump Sum	1.00	Dest.
0020AG	Lump Sum	1.00	Dest.
0021			
0021AA	Each	1.00	Dest.
0021AB	Each	1.00	Dest.
0021AC	Each	1.00	Dest.
0021AD	Each	1.00	Dest.
0021AE	Lump Sum	1.00	Dest.
0021AF	Lump Sum	1.00	Dest.
0021AG	Lump Sum	1.00	Dest.

0022			
0022AA	Each	1.00	Dest.
0022AB	Each	1.00	Dest.
0022AC	Each	1.00	Dest.
0022AD	Each	1.00	Dest.
0022AE	Lump Sum	1.00	Dest.
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0022AG	Lump Sum	1.00	Dest.
0023			
0023AA	Each	1.00	Dest.
0023AB	Each	1.00	Dest.
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0023AE	Lump Sum	1.00	Dest.
0023AF	Lump Sum	1.00	Dest.
0023AG	Lump Sum	1.00	Dest.
0024			
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0024AB	Each	1.00	Dest.
0024AC	Each	1.00	Dest.
0024AD	Each	1.00	Dest.
0024AE	Lump Sum	1.00	Dest.
0024AF	Lump Sum	1.00	Dest.
0024AG	Lump Sum	1.00	Dest.
0025			
0025AA	Each	1.00	Dest.
0025AB	Each	1.00	Dest.
0025AC	Each	1.00	Dest.
0025AD	Each	1.00	Dest.
0025AE	Each	1.00	Dest.
0025AF	Lump Sum	1.00	Dest.
0025AG	Lump Sum	1.00	Dest.
0025AH	Lump Sum	1.00	Dest.
0026			
0026AA	Each	1.00	Dest.
0026AB	Each	1.00	Dest.
0026AC	Each	1.00	Dest.
0026AD	Each	1.00	Dest.
0026AE	Lump Sum	1.00	Dest.
0026AF	Lump Sum	1.00	Dest.
0026AG	Lump Sum	1.00	Dest.
0027			
0027AA	Each	1.00	Dest.
0027AB	Each	1.00	Dest.
0027AC	Each	1.00	Dest.
0027AD	Each	1.00	Dest.
0027AE	Each	1.00	Dest.
0027AF	Lump Sum	1.00	Dest.
0027AG	Lump Sum	1.00	Dest.
0027AH	Lump Sum	1.00	Dest.
0028	Each	1.00	Dest.
0029	Lump Sum	1.00	Dest.
0030	Lump Sum	1.00	Dest.
0031	Lump Sum	1.00	Dest.
0032	Lump Sum	1.00	Dest.

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52.211-8 TIME OF DELIVERY (JUN 1997)

(a) The Government requires delivery to be made according to the following schedule:

REQUIRED DELIVERY SCHEDULE

(1) The contractor shall deliver the supply items listed in CLINs 0001 through 0033 in accordance with the following :

a. Table C, in ATTACHMENT A, FLOOD CONTROL PUMPING SYSTEM, provides estimated dates for start and duration of construction contracts containing subject pump stations. The proposed construction schedule is approximate, and is subject to change.

b. Orders for control systems fabricated for specific pump stations, except for orders made at the time of award of this contract, will be made by the Contracting Officer a minimum of 60 days in advance of the date needed by the construction contractor. The Contractor shall coordinate the fabrication of equipment and supply services with the construction contractor, upon receipt of request from the Contracting Officer. Planned delivery dates and delivery location shall be coordinated with both the Contracting Officer and the construction contractor.

c. The Contracting Officer may place an order for any item (or combination of items) by written notice to the contractor at any time after award of this contract and before December 31, 2005. The order shall be made on a Standard Form 30, cite this provision, and specify the dates that the items are to be delivered by (in no event less than 60 days from the date of the order).

d. The Government anticipates that an order for the first three control systems will be placed immediately upon award of the contract.

(2) The Support Engineering Services shall be delivered as directed by the Contracting Officer by written notice to the contractor. That notice will not require the contractor to commence work until at least 60 days after the date of the notice. The notice may specify the date that the services are to commence or provide the contractor with a date by which the services must be complete. In the latter situation, the contractor shall be responsible for scheduling a mutually agreeable delivery date with the Corps' Western Area Office. In no event will the Government require the contractor to commence Support Engineering Services after December 31, 2006.

(3) Staggered Delivery for Support Engineering Services - For the services identified , the Contracting Officer may require the services for each pump station to be provided individually, in combination, or all in one effort. The contractor's pricing for each pump station shall include all labor, equipment, materials, per diem and travel necessary to perform the services at that pump station. If the Government requires the contractor to perform any combination of the services described in the schedule as Support Engineering Services in a single visit to the project site, the Government shall be entitled to an equitable reduction in the contract price in the amount of direct cost of travel saved by combining the services.

(4) System Integration Services shall be completed not later than July, 1, 2007.

52.211-17 DELIVERY OF EXCESS QUANTITIES (SEP 1989)

The Contractor is responsible for the delivery of each item quantity within allowable variations, if any. If the Contractor delivers and the Government receives quantities of any item in excess of the quantity called for (after considering any allowable variation in quantity), such excess quantities will be treated as being delivered for the convenience of the Contractor. The Government may retain such excess quantities up to $250 in value without compensating the Contractor therefor, and the Contractor waives all right, title, or interests therein. Quantities in excess of $250 will, at the option of the Government, either be returned at the Contractor's expense or retained and paid for by the Government at the contract unit price.

52.242-15 STOP-WORK ORDER (AUG 1989)

(a) The Contracting Officer may, at any time, by written order to the Contractor, require the Contractor to stop all, or any part, of the work called for by this contract for a period of 90 days after the order is delivered to the Contractor, and for any further period to which the parties may agree. The order shall be specifically identified as a stop-work order issued under this clause. Upon receipt of the order, the Contractor shall immediately comply with its terms and take all reasonable steps to minimize the
incurrence of costs allocable to the work covered by the order during the period of work stoppage. Within a period of 90 days after a stop-work is delivered to the Contractor, or within any extension of that period to which the parties shall have agreed, the Contracting Officer shall either--

(1) Cancel the stop-work order; or

(2) Terminate the work covered by the order as provided in the Default, or the Termination for Convenience of the Government, clause of this contract.

(b) If a stop-work order issued under this clause is canceled or the period of the order or any extension thereof expires, the Contractor shall resume work. The Contracting Officer shall make an equitable adjustment in the delivery schedule or contract price, or both, and the contract shall be modified, in writing, accordingly, if--

(1) The stop-work order results in an increase in the time required for, or in the Contractor's cost properly allocable to, the performance of any part of this contract; and

(2) The Contractor asserts its right to the adjustment within 30 days after the end of the period of work stoppage; provided, that, if the Contracting Officer decides the facts justify the action, the Contracting Officer may receive and act upon the claim submitted at any time before final payment under this contract.

(c) If a stop-work order is not canceled and the work covered by the order is terminated for the convenience of the Government, the Contracting Officer shall allow reasonable costs resulting from the stop-work order in arriving at the termination settlement.

(d) If a stop-work order is not canceled and the work covered by the order is terminated for default, the Contracting Officer shall allow, by equitable adjustment or otherwise, reasonable costs resulting from the stop-work order.

52.242-17 GOVERNMENT DELAY OF WORK (APR 1984)

(a) If the performance of all or any part of the work of this contract is delayed or interrupted (1) by an act of the Contracting Officer in the administration of this contract that is not expressly or impliedly authorized by this contract, or (2) by a failure of the Contracting Officer to act within the time specified in this contract, or within a reasonable time if not specified, an adjustment (excluding profit) shall be made for any increase in the cost of performance of this contract caused by the delay or interruption and the contract shall be modified in writing accordingly. Adjustment shall also be made in the delivery or performance dates and any other contractual term or condition affected by the delay or interruption. However, no adjustment shall be made under this clause for any

delay or interruption to the extent that performance would have been delayed or interrupted by any other cause, including the fault or negligence of the Contractor, or for which an adjustment is provided or excluded under any other term or condition of this contract.

(b) A claim under this clause shall not be allowed (1) for any costs incurred more than 20 days before the Contractor shall have notified the Contracting Officer in writing of the act or failure to act involved, and (2) unless the claim, in an amount stated, is asserted in writing as soon as practicable after the termination of the delay or interruption, but not later than the day of final payment under the contract.

52.247-34 F.O.B. DESTINATION (NOV 1991)

(a) The term "f.o.b. destination," as used in this clause, means--

(1) Free of expense to the Government, on board the carrier's conveyance, at a specified delivery point where the consignee's facility (plant, warehouse, store, lot, or other location to which shipment can be made) is located; and

(2) Supplies shall be delivered to the destination consignee's wharf (if destination is a port city and supplies are for export), warehouse unloading platform, or receiving dock, at the expense of the Contractor. The Government shall not be liable for any delivery, storage, demurrage, accessorial, or other charges involved before the actual delivery (or "constructive placement" as defined in carrier tariffs) of the supplies to the destination, unless such charges are caused by an act or order of the Government acting in its contractual capacity. If rail carrier is used, supplies shall be delivered to the specified unloading platform of the consignee. If motor carrier (including "piggyback") is used, supplies shall be delivered to truck tailgate at the unloading platform of the consignee, except when the supplies delivered meet the requirements of Item 568 of the National Motor Freight Classification for "heavy or bulky freight." When supplies meeting the requirements of the referenced Item 568 are delivered, unloading (including movement to the tailgate) shall be performed by the consignee, with assistance from the truck driver, if requested. If the contractor uses rail carrier or freight forwarded for less than carload shipments, the contractor shall ensure that the carrier will furnish tailgate delivery, when required, if transfer to truck is required to complete delivery to consignee.

(b) The Contractor shall--

(1)(i) Pack and mark the shipment to comply with contract specifications; or

(ii) In the absence of specifications, prepare the shipment in conformance with carrier requirements;

(2) Prepare and distribute commercial bills of lading;

(3) Deliver the shipment in good order and condition to the point of delivery specified in the contract;

(4) Be responsible for any loss of and/or damage to the goods occurring before receipt of the shipment by the consignee at the delivery point specified in the contract;

(5) Furnish a delivery schedule and designate the mode of delivering carrier; and

(6) Pay and bear all charges to the specified point of delivery.

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252.242-7000 POSTAWARD CONFERENCE (DEC 1991)

The Contractor agrees to attend any postaward conference convened by the contracting activity or contract administration office in accordance with Federal Acquisition Regulation subpart 42.5.

(End of clause)

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52.228-16 PERFORMANCE AND PAYMENT BONDS--OTHER THAN CONSTRUCTION (SEP 1996) - ALTERNATE I (SEP 1996)

(a) Definitions. As used in this clause--

Contract price means the total amount of the contract for the term of the contract (excluding options, if any) or, for requirements contracts, the price payable for the estimated quantity; or for indefinite-delivery type contracts, the price payable for the specified minimum quantity.

(b) The Contractor shall furnish a performance bond (Standard Form 1418) for the protection of the Government in an amount equal to 100 (%) percent of the contract price.

(c) The Contractor shall furnish all executed bonds, including any necessary reinsurance agreements, to the Contracting Officer, within ten (10) days, but in any event, before starting work.

(d) The Government may require additional performance bond protection when the contract price is increased. The Government may secure additional protection by directing the Contractor to increase the penal amount of the existing bond or to obtain an additional bond.

(e) The bonds shall be in the form of firm commitment, supported by corporate sureties whose names appear on the list contained in Treasury Department Circular 570, individual sureties, or by other acceptable security such as postal money order, certified check, cashier's check, irrevocable letter of credit, or, in accordance with Treasury Department regulations, certain bonds or notes of the United States. Treasury Circular 570 is published in the Federal Register, or may be obtained from the U.S. Department of Treasury, Financial Management Service, Surety Bond Branch, 401 14th Street, NW., 2nd Floor, West Wing, Washington, DC 20227.

52.232-5001 CONTINUING CONTRACTS (MAR 1995)—EFARS

(a) This is a continuing contract, as authorized by Section 10 of the River and Harbor Act of September 22, 1922 (33 U.S. Code 621). The payment of some portion of the contract price is dependent upon reservations of funds from future appropriations, and from future contribution to the project having one or more non-federal project sponsors. The responsibilities of the Government are limited by this clause notwithstanding any contrary provision of the "Payments to Contractor" clause or any other clause of this contract.

(b) The sum of $750,000.00 has been reserved for this contract and is available for payments to the contractor during the current fiscal year. It is expected that Congress will make appropriations for future fiscal years from which additional funds together with funds provided by one or more non-federal project sponsors will be reserved for this contract.

(c) Failure to make payments in excess of the amount currently reserved, or that may be reserved from time to time, shall not entitle the contractor to a price adjustment under the terms of this contract except as specifically provided in paragraphs (f) and (i) below. No such failure shall constitute a breach of this contract, except that this provision shall not bar a breach-of-contract action if an amount finally determined to be due as a termination allowance remains unpaid for one year due solely to a failure to reserve sufficient additional funds therefore.

(d) The Government may at any time reserve additional funds for payments under the contract if there are funds available for such purpose. The contracting officer will promptly notify the contractor of any additional funds reserved for the contract by issuing an administrative modification
to the contract.

(e) If earnings will be such that funds reserved for the contract will be exhausted before the end of any fiscal year, the contractor shall give written notice to the contracting officer of the estimated date of exhaustion and the amount of additional funds which will be needed to meet payments due or to become due under the contract during that fiscal year. This notice shall be given not less than 45 nor more than 60 days prior to the estimated date of exhaustion.

(f) No payments will be made after exhaustion of funds except to the extent that additional funds are reserved for the contract. The contractor shall be entitled to simple interest on any payment that the contracting officer determines was actually earned under the terms of the contract and would have been made except for exhaustion of funds. Interest shall be computed from the time such payment would otherwise have been made until actually or constructively made, and shall be at the rate established by the Secretary of the Treasury pursuant to Public Law 92-41, 85 STAT 97, as in effect on the first day of the delay in such payment.

(g) Any suspension, delay, or interruption of work arising from exhaustion or anticipated exhaustion of funds shall not constitute a breach of this contract and shall not entitle the contractor to any price adjustment under the "Suspension of Work" clause or in any other manner under this contract.

(h) An equitable adjustment in performance time shall be made for any increase in the time required for performance of any part of the work arising from exhaustion of funds or the reasonable anticipation of exhaustion of funds.

(i) If, upon the expiration of sixty (60) days after the beginning of the fiscal year following an exhaustion of funds, the Government has failed to reserve sufficient additional funds to cover payments otherwise due, the contractor, by written notice delivered to the contracting officer at any time before such additional funds are reserved, may elect to treat his right to proceed with the work as having been terminated. Such a termination shall be considered a termination for the convenience of the Government.

(j) If at any time it becomes apparent that the funds reserved for any fiscal year are in excess of the funds required to meet all payments due or to become due the contractor because of work performed and to be performed under the contract during the fiscal year, the Government reserves the right, after notice to the contractor, to reduce said reservation by the amount of such excess.

(End of clause)

52.242-4002 CERTIFICATE OF INDIRECT COSTS

This is to certify that to the best of my knowledge and belief:

1. I have reviewed the indirect cost proposal submitted herewith;

2. All costs included in this proposal _____ (identify), _____(date) to establish billing or final indirect costs rates for _____(identify) period covered by rate) are allowable in accordance with the requirements of contracts to which they apply and with the cost principles of the Department of Defense applicable to those contracts;

3. This proposal does not include any costs which are unallowable under applicable cost principles of the Department of Defense, such as (without limitation): advertising and public relations costs, contributions and donations, entertainment costs, fines and penalties, lobbying costs, defense of fraud proceedings, and good will; and

4. All costs included in this proposal are properly allocable to Defense contracts on the basis of a beneficial or casual relationship between the expenses incurred and the contracts to which they are allocated in accordance with applicable acquisition regulations.

I declare under penalty of perjury that the foregoing is true and correct.

Firm: _____

Signature: _____

Name of Corporate Officer: _____

Title*: _____

Date of Execution: _____

*Must be Vice President or their equivalent.

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52.202-1 DEFINITIONS. (MAY 2001)

(a) “Agency head” or “head of the agency” means the Secretary (Attorney General, Administrator, Governor, Chairperson, or other chief official, as appropriate) of the agency, unless otherwise indicated, including any deputy or assistant chief official of the executive agency.

(b) “Commercial component” means any component that is a commercial item.

(c) “Commercial item” means--

(1) Any item, other than real property, that is of a type customarily used for nongovernmental purposes and that--

(i) Has been sold, leased, or licensed to the general public; or

(ii) Has been offered for sale, lease, or license to the general public;

(2) Any item that evolved from an item described in paragraph (c)(1) of this clause through advances in technology or performance and that is not yet available in the commercial marketplace, but will be available in the commercial marketplace in time to satisfy the delivery requirements under a Government solicitation;

(3) Any item that would satisfy a criterion expressed in paragraphs (c)(1) or (c)(2) of this clause, but for--

(i) Modifications of a type customarily available in the commercial marketplace; or

(ii) Minor modifications of a type not customarily available in the commercial marketplace made to meet Federal Government requirements. “Minor” modifications means modifications that do not significantly alter the nongovernmental function or essential physical characteristics of an item or component, or change the purpose of a process. Factors to be considered in determining whether a modification is minor include the value and size of the modification and the comparative value and size of the final product. Dollar values and percentages may be used as guideposts, but are not conclusive evidence that a modification is minor;

(4) Any combination of items meeting the requirements of paragraphs (c)(1), (2), (3), or (5) of this clause that are of a type customarily combined and sold in combination to the general public;

(5) Installation services, maintenance services, repair services, training services, and other services if such services are procured for support of an item referred to in paragraphs (c)(1), (2), (3), or (4) of this clause, and if the source of such services--

(i) Offers such services to the general public and the Federal Government contemporaneously and under similar terms and conditions; and

(ii) Offers to use the same work force for providing the Federal Government with such services as the source uses for providing such services to the general public;

(6) Services of a type offered and sold competitively in substantial quantities in the commercial marketplace based on established catalog or market prices for specific tasks performed under standard commercial terms and conditions. This does not include services that are sold based on hourly rates without an established catalog or market price for a specific service performed;

(7) Any item, combination of items, or service referred to in paragraphs (c)(1) through (c)(6), notwithstanding the fact that the item, combination of items, or service is transferred between or among separate divisions, subsidiaries, or affiliates of a Contractor; or

(8) A nondevelopmental item, if the procuring agency determines the item was developed exclusively at private expense and sold in substantial quantities, on a competitive basis, to multiple State and local Governments.

(d) “Component” means any item supplied to the Government as part of an end item or of another component, except that for use in 52.225-9, and 52.225-11 see the definitions in 52.225-9(a) and 52.225-11(a).

(e) “Contracting Officer” means a person with the authority to enter into, administer, and/or terminate contracts and make related determinations and findings. The term includes certain authorized representatives of the Contracting Officer acting within the limits of their authority as delegated by the Contracting Officer.

(f) “Nondevelopmental” item means--

(1) Any previously developed item of supply used exclusively for governmental purposes by a Federal agency, a State or local government, or a foreign government with which the United States has a mutual defense cooperation agreement;

(2) Any item described in paragraph (f)(1) of this definition that requires only minor modification or modifications of a type customarily available in the commercial marketplace in order to meet the requirements of the procuring department or agency; or

(3) Any item of supply being produced that does not meet the requirements of paragraph (f)(1) or (f)(2) solely because the item is not yet in use.

(g) Except as otherwise provided in this contract, the term "subcontracts" includes, but is not limited to, purchase orders and changes and modifications to purchase orders under this contract.

(End of clause)

52.203-3 GRATUITIES (APR 1984)

(a) The right of the Contractor to proceed may be terminated by written notice if, after notice and hearing, the agency head or a designee determines that the Contractor, its agent, or another representative--

(1) Offered or gave a gratuity (e.g., an entertainment or gift) to an officer, official, or employee of the Government; and

(2) Intended, by the gratuity, to obtain a contract or favorable treatment under a contract.

(b) The facts supporting this determination may be reviewed by any court having lawful jurisdiction.

(c) If this contract is terminated under paragraph (a) of this clause, the Government is entitled--

(1) To pursue the same remedies as in a breach of the contract; and

(2) In addition to any other damages provided by law, to exemplary damages of not less than 3 nor more than 10 times the cost incurred by the Contractor in giving gratuities to the person concerned, as determined by the agency head or a designee. (This subparagraph (c)(2) is applicable only if this contract uses money appropriated to the Department of Defense.)

(d) The rights and remedies of the Government provided in this clause shall not be exclusive and are in addition to any other rights and remedies provided by law or under this contract.

(End of clause)

52.203-5 COVENANT AGAINST CONTINGENT FEES (APR 1984)

(a) The Contractor warrants that no person or agency has been employed or retained to solicit or obtain this contract upon an agreement or understanding for a contingent fee, except a bona fide employee or agency. For breach or violation of this warranty, the Government shall have the right to annul this contract without liability or, in its discretion, to deduct from the contract price or consideration, or otherwise recover, the full amount of the contingent fee.

(b) "Bona fide agency," as used in this clause, means an established commercial or selling agency, maintained by a contractor for the purpose of securing business, that neither exerts nor proposes to exert improper influence to solicit or obtain Government contracts nor holds itself out as being able to obtain any Government contract or contracts through improper influence.

"Bona fide employee," as used in this clause, means a person, employed by a contractor and subject to the contractor's supervision and control as to time, place, and manner of performance, who neither exerts nor proposes to exert improper influence to solicit or obtain Government contracts nor holds out as being able to obtain any Government contract or contracts through improper influence.

"Contingent fee," as used in this clause, means any commission, percentage, brokerage, or other fee that is contingent upon the success that a person or concern has in securing a Government contract.

"Improper influence," as used in this clause, means any influence that induces or tends to induce a Government employee or officer to give consideration or to act regarding a Government contract on any basis other than the merits of the matter.

(End of clause)

52.203-6 RESTRICTIONS ON SUBCONTRACTOR SALES TO THE GOVERNMENT (JUL 1995)

(a) Except as provided in (b) of this clause, the Contractor shall not enter into any agreement with an actual or prospective subcontractor, nor otherwise act in any manner, which has or may have the effect of restricting sales by such subcontractors directly to the Government of any item or process (including computer software) made or furnished by the subcontractor under this contract or under any follow-on production contract.

(b) The prohibition in (a) of this clause does not preclude the Contractor from asserting rights that are otherwise authorized by law or regulation.

(c) The Contractor agrees to incorporate the substance of this clause, including this paragraph (c), in all subcontracts under this contract which exceed $100,000.

(End of clause)

52.203-7 ANTI-KICKBACK PROCEDURES. (JUL 1995)

(a) Definitions.

"Kickback," as used in this clause, means any money, fee, commission, credit, gift, gratuity, thing of value, or compensation of any kind which is provided, directly or indirectly, to any prime Contractor, prime Contractor employee, subcontractor, or subcontractor employee for the purpose of improperly obtaining or rewarding favorable treatment in connection with a prime contract or in connection with a subcontract relating to a prime contract.

"Person," as used in this clause, means a corporation, partnership, business association of any kind, trust, joint-stock company, or individual.

"Prime contract," as used in this clause, means a contract or contractual action entered into by the United States for the purpose of obtaining supplies, materials, equipment, or services of any kind.

"Prime Contractor," as used in this clause, means a person who has entered into a prime contract with the United States.

"Prime Contractor employee," as used in this clause, means any officer, partner, employee, or agent of a prime Contractor.

"Subcontract," as used in this clause, means a contract or contractual action entered into by a prime Contractor or subcontractor for the purpose of obtaining supplies, materials, equipment, or services of any kind under a prime contract.

"Subcontractor," as used in this clause, (1) means any person, other than the prime Contractor, who offers to furnish or furnishes any supplies, materials, equipment, or services of any kind under a prime contract or a subcontract entered into in connection with such prime contract, and (2) includes any person who offers to furnish or furnishes general supplies to the prime Contractor or a higher tier subcontractor.

"Subcontractor employee," as used in this clause, means any officer, partner, employee, or agent of a subcontractor.

(b) The Anti-Kickback Act of 1986 (41 U.S.C. 51-58) (the Act), prohibits any person from -

(1) Providing or attempting to provide or offering to provide any kickback;

(2) Soliciting, accepting, or attempting to accept any kickback; or

(3) Including, directly or indirectly, the amount of any kickback in the contract price charged by a prime Contractor to the United States or in the contract price charged by a subcontractor to a prime Contractor or higher tier subcontractor.

(c)(1) The Contractor shall have in place and follow reasonable procedures designed to prevent and detect possible violations described in paragraph (b) of this clause in its own operations and direct business relationships.

(2) When the Contractor has reasonable grounds to believe that a violation described in paragraph (b) of this clause may have occurred, the Contractor shall promptly report in writing the possible violation. Such reports shall be made to the inspector general of the contracting agency, the head of the contracting agency if the agency does not have an inspector general, or the Department of Justice.

(3) The Contractor shall cooperate fully with any Federal agency investigating a possible violation described in paragraph (b) of this clause.

(4) The Contracting Officer may (i) offset the amount of the kickback against any monies owed by the United States under the prime contract and/or (ii) direct that the Prime Contractor withhold, from sums owed a subcontractor under the prime contract, the amount of any kickback. The Contracting Officer may order the monies withheld under subdivision (c)(4)(ii) of this clause be paid over to the Government unless the Government has already offset those monies under subdivision (c)(4)(i) of this clause. In either case, the Prime Contractor shall notify the Contracting Officer when the monies are withheld.

(5) The Contractor agrees to incorporate the substance of this clause, including this subparagraph (c)(5) but excepting subparagraph (c)(1), in all subcontracts under this contract which exceed $100,000.

(End of clause)

52.203-8 CANCELLATION, RESCISSION, AND RECOVERY OF FUNDS FOR ILLEGAL OR IMPROPER ACTIVITY (JAN 1997)

(a) If the Government receives information that a contractor or a person has engaged in conduct constituting a violation of subsection (a), (b), (c), or (d) of Section 27 of the Office of Federal Procurement Policy Act (41 U.S.C. 423) (the Act), as amended by section 4304 of the 1996 National Defense Authorization Act for Fiscal Year 1996 (Pub. L. 104-106), the Government may--

(1) Cancel the solicitation, if the contract has not yet been awarded or issued; or

(2) Rescind the contract with respect to which--

(i) The Contractor or someone acting for the Contractor has been convicted for an offense where the conduct constitutes a violation of subsection 27(a) or (b) of the Act for the purpose of either--

(A) Exchanging the information covered by such subsections for anything of value; or

(B) Obtaining or giving anyone a competitive advantage in the award of a Federal agency procurement contract; or

(ii) The head of the contracting activity has determined, based upon a preponderance of the evidence, that the Contractor or someone acting for the Contractor has engaged in conduct constituting an offense punishable under subsections 27(e)(1) of the Act.

(b) If the Government rescinds the contract under paragraph (a) of this clause, the Government is entitled to recover, in addition to any penalty prescribed by law, the amount expended under the contract.

(c) The rights and remedies of the Government specified herein are not exclusive, and are in addition to any other rights and remedies provided by law, regulation, or under this contract.

(End of clause)

52.203-10 PRICE OR FEE ADJUSTMENT FOR ILLEGAL OR IMPROPER ACTIVITY (JAN 1997)

(a) The Government, at its election, may reduce the price of a fixed-price type contract and the total cost and fee under a cost-type contract by the amount of profit or fee determined as set forth in paragraph (b) of this clause if the head of the contracting activity or designee determines that there was a violation of subsection 27 (a), (b), or (c) of the Office of Federal Procurement Policy Act, as amended (41 U.S.C. 423), as implemented in section 3.104 of the Federal Acquisition Regulation.

(b) The price or fee reduction referred to in paragraph (a) of this clause shall be--

(1) For cost-plus-fixed-fee contracts, the amount of the fee specified in the contract at the time of award;

(2) For cost-plus-incentive-fee contracts, the target fee specified in the contract at the time of award, notwithstanding any minimum fee or "fee floor" specified in the contract;

(3) For cost-plus-award-fee contracts--

(i) The base fee established in the contract at the time of contract award;

(ii) If no base fee is specified in the contract, 30 percent of the amount of each award fee otherwise payable to the Contractor for each award fee evaluation period or at each award fee determination point.

(4) For fixed-price-incentive contracts, the Government may--

(i) Reduce the contract target price and contract target profit both by an amount equal to the initial target profit specified in the contract at the time of contract award; or

(ii) If an immediate adjustment to the contract target price and contract target profit would have a significant adverse impact on the incentive price revision relationship under the contract, or adversely affect the contract financing provisions, the Contracting Officer may defer such adjustment until establishment of the total final price of the contract. The total final price established in accordance with the incentive price revision provisions of the contract shall be reduced by an amount equal to the initial target profit specified in the contract at the time of contract award and such reduced price shall be the total final contract price.

(5) For firm-fixed-price contracts, by 10 percent of the initial contract price or a profit amount determined by the Contracting Officer from records or documents in existence prior to the date of the contract award.

(c) The Government may, at its election, reduce a prime contractor's price or fee in accordance with the procedures of paragraph (b) of this clause for violations of the Act by its subcontractors by an amount not to exceed the amount of profit or fee reflected in the subcontract at the time the subcontract was first definitively priced.

(d) In addition to the remedies in paragraphs (a) and (c) of this clause, the Government may terminate this contract for default. The rights and remedies of the Government specified herein are not exclusive, and are in addition to any other rights and remedies provided by law or under this contract.

(End of clause)

52.203-12 LIMITATION ON PAYMENTS TO INFLUENCE CERTAIN FEDERAL TRANSACTIONS (JUN 1997)

(a) Definitions.

"Agency," as used in this clause, means executive agency as defined in 2.101.

"Covered Federal action," as used in this clause, means any of the following Federal actions:

(1) The awarding of any Federal contract.

(2) The making of any Federal grant.

(3) The making of any Federal loan.

(4) The entering into of any cooperative agreement.

(5) The extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

"Indian tribe" and "tribal organization," as used in this clause, have the meaning provided in section 4 of the Indian Self-Determination and Education Assistance Act (25 U.S.C. 450B) and include Alaskan Natives.

"Influencing or attempting to influence," as used in this clause, means making, with the intent to influence, any communication to or appearance before an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with any covered Federal action.

"Local government," as used in this clause, means a unit of government in a State and, if chartered, established, or otherwise recognized by a State for the performance of a governmental duty, including a local public authority, a special district, an intrastate district, a council of governments, a sponsor group representative organization, and any other instrumentality of a local government.

"Officer or employee of an agency," as used in this clause, includes the following individuals who are employed by an agency:

(1) An individual who is appointed to a position in the Government under Title 5, United States Code, including a position under a temporary appointment.

(2) A member of the uniformed services, as defined in subsection 101(3), Title 37, United States Code.

(3) A special Government employee, as defined in section 202, Title 18, United States Code.

(4) An individual who is a member of a Federal advisory committee, as defined by the Federal Advisory Committee Act, Title 5, United States Code, appendix 2.

"Person," as used in this clause, means an individual, corporation, company, association, authority, firm, partnership, society, State, and local government, regardless of whether such entity is operated for profit, or not for profit. This term excludes an Indian tribe, tribal organization, or any other Indian organization with respect to expenditures specifically permitted by other Federal law.

"Reasonable compensation," as used in this clause, means, with respect to a regularly employed officer or employee of any person, compensation that is consistent with the normal compensation for such officer or employee for work that is not furnished to, not funded by, or not furnished in cooperation with the Federal Government.

"Reasonable payment," as used in this clause, means, with respect to professional and other technical services, a payment in an amount that is consistent with the amount normally paid for such services in the private sector.

"Recipient," as used in this clause, includes the Contractor and all subcontractors. This term excludes an Indian tribe, tribal organization, or any other Indian organization with respect to expenditures specifically permitted by other Federal law.

"Regularly employed," as used in this clause, means, with respect to an officer or employee of a person requesting or receiving a Federal contract, an officer or employee who is employed by such person for at least 130 working days within 1 year immediately preceding the date of the submission that initiates agency consideration of such person for receipt of such contract. An officer or employee who is employed by such person for less than 130 working days within 1 year immediately preceding the date of the submission that initiates agency consideration of such person shall be considered to be regularly employed as soon as he or she is employed by such person for 130 working days.

"State," as used in this clause, means a State of the United States, the District of Columbia, the Commonwealth of Puerto Rico, a territory or possession of the United States, an agency or instrumentality of a State, and multi-State, regional, or interstate entity having governmental duties and powers.

(b) Prohibitions.

(1) Section 1352 of Title 31, United States Code, among other things, prohibits a recipient of a Federal contract, grant, loan, or cooperative agreement from using appropriated funds to pay any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with any of the following covered Federal actions: the awarding of any Federal contract; the making of any Federal grant; the making of any Federal loan; the entering into of any cooperative agreement; or the modification of any Federal contract, grant, loan, or cooperative agreement.

(2) The Act also requires Contractors to furnish a disclosure if any funds other than Federal appropriated funds (including profit or fee received under a covered Federal transaction) have been paid, or will be paid, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with a Federal contract, grant, loan, or cooperative agreement.

(3) The prohibitions of the Act do not apply under the following conditions:

(i) Agency and legislative liaison by own employees.

(A) The prohibition on the use of appropriated funds, in subparagraph (b)(1) of this clause, does not apply in the case of a payment of reasonable compensation made to an officer or employee of a person requesting or receiving a covered Federal action if the payment is for agency and legislative liaison activities not directly related to a covered Federal action.

(B) For purposes of subdivision (b)(3)(i)(A) of this clause, providing any information specifically requested by an agency or Congress is permitted at any time.

(C) The following agency and legislative liaison activities are permitted at any time where they are not related to a specific solicitation for any covered Federal action:

(1) Discussing with an agency the qualities and characteristics (including individual demonstrations) of the person's products or services, conditions or terms of sale, and service capabilities.

(2) Technical discussions and other activities regarding the application or adaptation of the person's products or services for an agency's use.

(D) The following agency and legislative liaison activities are permitted where they are prior to formal solicitation of any covered Federal action--

(1) Providing any information not specifically requested but necessary for an agency to make an informed decision about initiation of a covered Federal action;

(2) Technical discussions regarding the preparation of an unsolicited proposal prior to its official submission; and

(3) Capability presentations by persons seeking awards from an agency pursuant to the provisions of the Small Business Act, as amended by Pub. L. 95-507, and subsequent amendments.

(E) Only those services expressly authorized by subdivision (b)(3)(i)(A) of this clause are permitted under this clause.

(ii) Professional and technical services.

(A) The prohibition on the use of appropriated funds, in subparagraph (b)(1) of this clause, does not apply in the case of--

(1) A payment of reasonable compensation made to an officer or employee of a person requesting or receiving a covered Federal action or an extension, continuation, renewal, amendment, or modification of a covered Federal action, if payment is for professional or technical services rendered directly in the preparation, submission, or negotiation of any bid, proposal, or application for that Federal action or for meeting requirements imposed by or pursuant to law as a condition for receiving that Federal action.

(2) Any reasonable payment to a person, other than an officer or employee of a person requesting or receiving a covered Federal action or an extension, continuation, renewal, amendment, or modification of a covered Federal action if the payment is for professional or technical services rendered directly in the preparation, submission, or negotiation of any bid, proposal, or application for that Federal action or for meeting requirements imposed by or pursuant to law as a condition for receiving that Federal action. Persons other than officers or employees of a person requesting or receiving a covered Federal action include consultants and trade associations.

(B) For purposes of subdivision (b)(3)(ii)(A) of this clause, "professional and technical services" shall be limited to advice and analysis directly applying any professional or technical discipline. For example, drafting of a legal document accompanying a bid or proposal by a lawyer is allowable. Similarly, technical advice provided by an

engineer on the performance or operational capability of a piece of equipment rendered directly in the negotiation of a contract is allowable. However, communications with the intent to influence made by a professional (such as a licensed lawyer) or a technical person (such as a licensed accountant) are not allowable under this section unless they provide advice and analysis directly applying their professional or technical expertise and unless the advice or analysis is rendered directly and solely in the preparation, submission or negotiation of a covered Federal action. Thus, for example, communications with the intent to influence made by a lawyer that do not provide legal advice or analysis directly and solely related to the legal aspects of his or her client's proposal, but generally advocate one proposal over another are not allowable under this section because the lawyer is not providing professional legal services. Similarly, communications with the intent to influence made by an engineer providing an engineering analysis prior to the preparation or submission of a bid or proposal are not allowable under this section since the engineer is providing technical services but not directly in the preparation, submission or negotiation of a covered Federal action.

(C) Requirements imposed by or pursuant to law as a condition for receiving a covered Federal award include those required by law or regulation and any other requirements in the actual award documents.

(D) Only those services expressly authorized by subdivisions (b)(3)(ii)(A)(1) and (2) of this clause are permitted under this clause.

(E) The reporting requirements of FAR 3.803(a) shall not apply with respect to payments of reasonable compensation made to regularly employed officers or employees of a person.

(c) Disclosure.

(1) The Contractor who requests or receives from an agency a Federal contract shall file with that agency a disclosure form, OMB standard form LLL, Disclosure of Lobbying Activities, if such person has made or has agreed to make any payment using nonappropriated funds (to include profits from any covered Federal action), which would be prohibited under subparagraph (b)(1) of this clause, if paid for with appropriated funds.

(2) The Contractor shall file a disclosure form at the end of each calendar quarter in which there occurs any event that materially affects the accuracy of the information contained in any disclosure form previously filed by such person under subparagraph (c)(1) of this clause. An event that materially affects the accuracy of the information reported includes--

(i) A cumulative increase of $25,000 or more in the amount paid or expected to be paid for influencing or attempting to influence a covered Federal action; or

(ii) A change in the person(s) or individual(s) influencing or attempting to influence a covered Federal action; or

(iii) A change in the officer(s), employee(s), or Member(s) contacted to influence or attempt to influence a covered Federal action.

(3) The Contractor shall require the submittal of a certification, and if required, a disclosure form by any person who requests or receives any subcontract exceeding $100,000 under the Federal contract.

(4) All subcontractor disclosure forms (but not certifications) shall be forwarded from tier to tier until received by the prime Contractor. The prime Contractor shall submit all disclosures to the Contracting Officer at the end of the calendar quarter in which the disclosure form is submitted by the subcontractor. Each subcontractor certification shall be retained in the subcontract file of the awarding Contractor.

(d) Agreement. The Contractor agrees not to make any payment prohibited by this clause.

(e) Penalties.

(1) Any person who makes an expenditure prohibited under paragraph (a) of this clause or who fails to file or amend the disclosure form to be filed or amended by paragraph (b) of this clause shall be subject to civil penalties as

provided for by 31 U.S.C. 1352. An imposition of a civil penalty does not prevent the Government from seeking any other remedy that may be applicable.

(2) Contractors may rely without liability on the representation made by their subcontractors in the certification and disclosure form.

(f) Cost allowability. Nothing in this clause makes allowable or reasonable any costs which would otherwise be unallowable or unreasonable. Conversely, costs made specifically unallowable by the requirements in this clause will not be made allowable under any other provision.

(End of clause)

52.204-4 PRINTED OR COPIED DOUBLE-SIDED ON RECYCLED PAPER (AUG 2000)

(a) Definitions. As used in this clause--

“Postconsumer material” means a material or finished product that has served its intended use and has been discarded for disposal or recovery, having completed its life as a consumer item. Postconsumer material is a part of the broader category of “recovered material.” For paper and paper products, postconsumer material means “postconsumer fiber” defined by the U.S. Environmental Protection Agency (EPA) as--

(1) Paper, paperboard, and fibrous materials from retail stores, office buildings, homes, and so forth, after they have passed through their end-usage as a consumer item, including: used corrugated boxes; old newspapers; old magazines; mixed waste paper; tabulating cards; and used cordage; or

(2) All paper, paperboard, and fibrous materials that enter and are collected from municipal solid waste; but not

(3) Fiber derived from printers' over-runs, converters' scrap, and over-issue publications.

“Printed or copied double-sided” means printing or reproducing a document so that information is on both sides of a sheet of paper.

“Recovered material,” for paper and paper products, is defined by EPA in its Comprehensive Procurement Guideline as “recovered fiber” and means the following materials:

(1) Postconsumer fiber; and

(2) Manufacturing wastes such as--

(i) Dry paper and paperboard waste generated after completion of the papermaking process (that is, those manufacturing operations up to and including the cutting and trimming of the paper machine reel into smaller rolls or rough sheets) including: envelope cuttings, bindery trimmings, and other paper and paperboard waste resulting from printing, cutting, forming, and other converting operations; bag, box, and carton manufacturing wastes; and butt rolls, mill wrappers, and rejected unused stock; and

(ii) Repulped finished paper and paperboard from obsolete inventories of paper and paperboard manufacturers, merchants, wholesalers, dealers, printers, converters, or others.

(b) In accordance with Section 101 of Executive Order 13101 of September 14, 1998, Greening the Government through Waste Prevention, Recycling, and Federal Acquisition, the Contractor is encouraged to submit paper documents, such as offers, letters, or reports, that are printed or copied double-sided on recycled paper that meet minimum content standards specified in Section 505 of Executive Order 13101, when not using electronic commerce methods to submit information or data to the Government.

(c) If the Contractor cannot purchase high-speed copier paper, offset paper, forms bond, computer printout paper, carbonless paper, file folders, white wove envelopes, writing and office paper, book paper, cotton fiber paper, and

cover stock meeting the 30 percent postconsumer material standard for use in submitting paper documents to the Government, it should use paper containing no less than 20 percent postconsumer material. This lesser standard should be used only when paper meeting the 30 percent postconsumer material standard is not obtainable at a reasonable price or does not meet reasonable performance standards.

(End of clause)

52.209-6 PROTECTING THE GOVERNMENT'S INTEREST WHEN SUBCONTRACTING WITH CONTRACTORS DEBARRED, SUSPENDED, OR PROPOSED FOR DEBARMENT (JUL 1995)

(a) The Government suspends or debars Contractors to protect the Government's interests. The Contractor shall not enter into any subcontract in excess of the $25,000 with a Contractor that is debarred, suspended, or proposed for debarment unless there is a compelling reason to do so.

(b) The Contractor shall require each proposed first-tier subcontractor, whose subcontract will exceed $25,000, to disclose to the Contractor, in writing, whether as of the time of award of the subcontract, the subcontractor, or its principles, is or is not debarred, suspended, or proposed for debarment by the Federal Government.

(c) A corporate officer or a designee of the Contractor shall notify the Contracting Officer, in writing, before entering into a subcontract with a party that is debarred, suspended, or proposed for debarment (see FAR 9.404 for information on the List of Parties Excluded from Federal Procurement and Nonprocurement Programs). The notice must include the following:

(1) The name of the subcontractor.

(2) The Contractor's knowledge of the reasons for the subcontractor being on the List of Parties Excluded from Federal Procurement and Nonprocurement Programs.

(3) The compelling reason(s) for doing business with the subcontractor notwithstanding its inclusion on the List of Parties Excluded from Federal Procurement and Nonprocurement Programs.

(4) The systems and procedures the Contractor has established to ensure that it is fully protecting the Government's interests when dealing with such subcontractor in view of the specific basis for the party's debarment, suspension, or proposed debarment.

(End of clause)

52.211-5 MATERIAL REQUIREMENTS (AUG 2000)

(a) Definitions.

As used in this clause--

“New” means composed of previously unused components, whether manufactured from virgin material, recovered material in the form of raw material, or materials and by-products generated from, and reused within, an original manufacturing process; provided that the supplies meet contract requirements, including but not limited to, performance, reliability, and life expectancy.

“Reconditioned” means restored to the original normal operating condition by readjustments and material replacement.

“Recovered material” means waste materials and by-products recovered or diverted from solid waste, but the term does not include those materials and by-products generated from, and commonly reused within, an original manufacturing process.

“Remanufactured” means factory rebuilt to original specifications.

“Virgin material” means--

(1) Previously unused raw material, including previously unused copper, aluminum, lead, zinc, iron, other metal or metal ore; or

(2) Any undeveloped resource that is, or with new technology will become, a source of raw materials.

(b) Unless this contract otherwise requires virgin material or supplies composed of or manufactured from virgin material, the Contractor shall provide supplies that are new, reconditioned, or remanufactured, as defined in this clause.

(c) A proposal to provide unused former Government surplus property shall include a complete description of the material, the quantity, the name of the Government agency from which acquired, and the date of acquisition.

(d) A proposal to provide used, reconditioned, or remanufactured supplies shall include a detailed description of such supplies and shall be submitted to the Contracting Officer for approval.

(e) Used, reconditioned, or remanufactured supplies, or unused former Government surplus property, may be used in contract performance if the Contractor has proposed the use of such supplies, and the Contracting Officer has authorized their use.

(End of clause)

52.215-2 AUDIT AND RECORDS--NEGOTIATION (JUN 1999)

(a) As used in this clause, "records" includes books, documents, accounting procedures and practices, and other data, regardless of type and regardless of whether such items are in written form, in the form of computer data, or in any other form.

(b) Examination of costs. If this is a cost-reimbursement, incentive, time-and-materials, labor-hour, or price redeterminable contract, or any combination of these, the Contractor shall maintain and the Contracting Officer, or an authorized representative of the Contracting Officer, shall have the right to examine and audit all records and other evidence sufficient to reflect properly all costs claimed to have been incurred or anticipated to be incurred directly or indirectly in performance of this contract. This right of examination shall include inspection at all reasonable times of the Contractor's plants, or parts of them, engaged in performing the contract.

(c) Cost or pricing data. If the Contractor has been required to submit cost or pricing data in connection with any pricing action relating to this contract, the Contracting Officer, or an authorized representative of the Contracting Officer, in order to evaluate the accuracy, completeness, and currency of the cost or pricing data, shall have the right to examine and audit all of the Contractor's records, including computations and projections, related to--

(1) The proposal for the contract, subcontract, or modification;

(2) The discussions conducted on the proposal(s), including those related to negotiating;

(3) Pricing of the contract, subcontract, or modification; or

(4) Performance of the contract, subcontract or modification.

(d) Comptroller General--(1) The Comptroller General of the United States, or an authorized representative, shall have access to and the right to examine any of the Contractor's directly pertinent records involving transactions related to this contract or a subcontract hereunder.

(2) This paragraph may not be construed to require the Contractor or subcontractor to create or maintain any record

that the Contractor or subcontractor does not maintain in the ordinary course of business or pursuant to a provision of law.

(e) Reports. If the Contractor is required to furnish cost, funding, or performance reports, the Contracting Officer or an authorized representative of the Contracting Officer shall have the right to examine and audit the supporting records and materials, for the purpose of evaluating (1) the effectiveness of the Contractor's policies and procedures to produce data compatible with the objectives of these reports and (2) the data reported.

(f) Availability. The Contractor shall make available at its office at all reasonable times the records, materials, and other evidence described in paragraphs (a), (b), (c), (d), and (e) of this clause, for examination, audit, or reproduction, until 3 years after final payment under this contract or for any shorter period specified in Subpart 4.7, Contractor Records Retention, of the Federal Acquisition Regulation (FAR), or for any longer period required by statute or by other clauses of this contract. In addition--

(1) If this contract is completely or partially terminated, the Contractor shall make available the records relating to the work terminated until 3 years after any resulting final termination settlement; and

(2) The Contractor shall make available records relating to appeals under the Disputes clause or to litigation or the settlement of claims arising under or relating to this contract until such appeals, litigation, or claims are finally resolved.

(g) The Contractor shall insert a clause containing all the terms of this clause, including this paragraph (g), in all subcontracts under this contract that exceed the simplified acquisition threshold, and--

(1) That are cost-reimbursement, incentive, time-and-materials, labor-hour, or price-redeterminable type or any combination of these;

(2) For which cost or pricing data are required; or

(3) That require the subcontractor to furnish reports as discussed in paragraph (e) of this clause.

The clause may be altered only as necessary to identify properly the contracting parties and the Contracting Officer under the Government prime contract.

(End of clause)

52.215-8 ORDER OF PRECEDENCE--UNIFORM CONTRACT FORMAT (OCT 1997)

Any inconsistency in this solicitation or contract shall be resolved by giving precedence in the following order:

(a) The Schedule (excluding the specifications).

(b) Representations and other instructions.

(c) Contract clauses.

(d) Other documents, exhibits, and attachments.

(e) The specifications.

52.215-10 PRICE REDUCTION FOR DEFECTIVE COST OR PRICING DATA (OCT 1997)

(a) If any price, including profit or fee, negotiated in connection with this contract, or any cost reimbursable under this contract, was increased by any significant amount because--

(1) The Contractor or a subcontractor furnished cost or pricing data that were not complete, accurate, and current as certified in its Certificate of Current Cost or Pricing Data;

(2) A subcontractor or prospective subcontractor furnished the Contractor cost or pricing data that were not complete, accurate, and current as certified in the Contractor's Certificate of Current Cost or Pricing Data; or

(3) Any of these parties furnished data of any description that were not accurate, the price or cost shall be reduced accordingly and the contract shall be modified to reflect the reduction.

(b) Any reduction in the contract price under paragraph (a) of this clause due to defective data from a prospective subcontractor that was not subsequently awarded the subcontract shall be limited to the amount, plus applicable overhead and profit markup, by which--

(1) The actual subcontract; or

(2) The actual cost to the Contractor, if there was no subcontract, was less than the prospective subcontract cost estimate submitted by the Contractor; provided, that the actual subcontract price was not itself affected by defective cost or pricing data.

(c)(1) If the Contracting Officer determines under paragraph (a) of this clause that a price or cost reduction should be made, the Contractor agrees not to raise the following matters as a defense:

(i) The Contractor or subcontractor was a sole source supplier or otherwise was in a superior bargaining position and thus the price of the contract would not have been modified even if accurate, complete, and current cost or pricing data had been submitted.

(ii) The Contracting Officer should have known that the cost or pricing data in issue were defective even though the Contractor or subcontractor took no affirmative action to bring the character of the data to the attention of the Contracting Officer.

(iii) The contract was based on an agreement about the total cost of the contract and there was no agreement about the cost of each item procured under the contract.

(iv) The Contractor or subcontractor did not submit a Certificate of Current Cost or Pricing Data.

(2)(i) Except as prohibited by subdivision (c)(2)(ii) of this clause, an offset in an amount determined appropriate by the Contracting Officer based upon the facts shall be allowed against the amount of a contract price reduction if--

(A) The Contractor certifies to the Contracting Officer that, to the best of the Contractor's knowledge and belief, the Contractor is entitled to the offset in the amount requested; and

(B) The Contractor proves that the cost or pricing data were available before the “as of” date specified on its Certificate of Current Cost or Pricing Data, and that the data were not submitted before such date.

(ii) An offset shall not be allowed if--

(A) The understated data were known by the Contractor to be understated before the “as of” date specified on its Certificate of Current Cost or Pricing Data; or

(B) The Government proves that the facts demonstrate that the contract price would not have increased in the amount to be offset even if the available data had been submitted before the “as of” date specified on its Certificate of Current Cost or Pricing Data.

(d) If any reduction in the contract price under this clause reduces the price of items for which payment was made prior to the date of the modification reflecting the price reduction, the Contractor shall be liable to and shall pay the United States at the time such overpayment is repaid--

(1) Simple interest on the amount of such overpayment to be computed from the date(s) of overpayment to the Contractor to the date the Government is repaid by the Contractor at the applicable underpayment rate effective for each quarter prescribed by the Secretary of the Treasury under 26 U.S.C. 6621(a)(2); and

A penalty equal to the amount of the overpayment, if the Contractor or subcontractor knowingly submitted cost or pricing data that were incomplete, inaccurate, or noncurrent.

52.215-12 SUBCONTRACTOR COST OR PRICING DATA (OCT 1997)

(a) Before awarding any subcontract expected to exceed the threshold for submission of cost or pricing data at FAR 15.403-4, on the date of agreement on price or the date of award, whichever is later; or before pricing any subcontract modification involving a pricing adjustment expected to exceed the threshold for submission of cost or pricing data at FAR 15.403-4, the Contractor shall require the subcontractor to submit cost or pricing data (actually or by specific identification in writing), unless an exception under FAR 15.403-1 applies.

(b) The Contractor shall require the subcontractor to certify in substantially the form prescribed in FAR 15.406-2 that, to the best of its knowledge and belief, the data submitted under paragraph (a) of this clause were accurate, complete, and current as of the date of agreement on the negotiated price of the subcontract or subcontract modification.

(c) In each subcontract that exceeds the threshold for submission of cost or pricing data at FAR 15.403-4, when entered into, the Contractor shall insert either--

(1) The substance of this clause, including this paragraph (c), if paragraph (a) of this clause requires submission of cost or pricing data for the subcontract; or

(2) The substance of the clause at FAR 52.215-13, Subcontractor Cost or Pricing Data--Modifications.

52.215-14 INTEGRITY OF UNIT PRICES (OCT 1997)

(a) Any proposal submitted for the negotiation of prices for items of supplies shall distribute costs within contracts on a basis that ensures that unit prices are in proportion to the items' base cost (e.g., manufacturing or acquisition costs). Any method of distributing costs to line items that distorts unit prices shall not be used. For example, distributing costs equally among line items is not acceptable except when there is little or no variation in base cost. Nothing in this paragraph requires submission of cost or pricing data not otherwise required by law or regulation.

(b) When requested by the Contracting Officer, the Offeror/Contractor shall also identify those supplies that it will not manufacture or to which it will not contribute significant value.

The Contractor shall insert the substance of this clause, less paragraph (b), in all subcontracts for other than: acquisitions at or below the simplified acquisition threshold in FAR Part 2; construction or architect-engineer services under FAR Part 36; utility services under FAR Part 41; services where supplies are not required; commercial items; and petroleum products.

52.215-15 PENSION ADJUSTMENTS AND ASSET REVERSIONS (DEC 1998)

(a) The Contractor shall promptly notify the Contracting Officer in writing when it determines that it will terminate a defined-benefit pension plan or otherwise recapture such pension fund assets.

(b) For segment closings, pension plan terminations, or curtailment of benefits, the adjustment amount shall be the amount measured, assigned, and allocated in accordance with 48 CFR 9904.413-50(c)(12) for contracts and subcontracts that are subject to Cost Accounting Standards (CAS) Board rules and regulations (48 CFR Chapter 99). For contracts and subcontracts that are not subject to CAS, the adjustment amount shall be the amount measured, assigned, and allocated in accordance with 48 CFR 9904.413-50(c)(12), except the numerator of the fraction at 48 CFR 9904.413-50(c)(12)(vi) shall be the sum of the pension plan costs allocated to all non-CAS-covered contracts and subcontracts that are subject to Federal Acquisition Regulation (FAR) Subpart 31.2 or for which cost or pricing data were submitted.

(c) For all other situations where assets revert to the Contractor, or such assets are constructively received by it for any reason, the Contractor shall, at the Government's option, make a refund or give a credit to the Government for its equitable share of the gross amount withdrawn. The Government's equitable share shall reflect the Government's participation in pension costs through those contracts for which cost or pricing data were submitted or that are subject to FAR Subpart 31.2.

(d) The Contractor shall include the substance of this clause in all subcontracts under this contract that meet the applicability requirement of FAR 15.408(g).

(End of clause)

52.215-17 WAIVER OF FACILITIES CAPITAL COST OF MONEY (OCT 1997)

The Contractor did not include facilities capital cost of money as a proposed cost of this contract. Therefore, it is an unallowable cost under this contract.

52.215-18 REVERSION OR ADJUSTMENT OF PLANS FOR POSTRETIREMENT BENEFITS (PRB) OTHER THAN PENSIONS (OCT 1997)

The Contractor shall promptly notify the Contracting Officer in writing when it determines that it will terminate or reduce a PRB plan. If PRB fund assets revert, or inure, to the Contractor or are constructively received by it under a plan termination or otherwise, the Contractor shall make a refund or give a credit to the Government for its equitable share as required by FAR 31.205-6(o)(6). The Contractor shall include the substance of this clause in all subcontracts under this contract that meet the applicability requirements of FAR 15.408(j).

(End of clause)

52.215-19 NOTIFICATION OF OWNERSHIP CHANGES (OCT 1997)

(a) The Contractor shall make the following notifications in writing:

(1) When the Contractor becomes aware that a change in its ownership has occurred, or is certain to occur, that could result in changes in the valuation of its capitalized assets in the accounting records, the Contractor shall notify the Administrative Contracting Officer (ACO) within 30 days.

(2) The Contractor shall also notify the ACO within 30 days whenever changes to asset valuations or any other cost changes have occurred or are certain to occur as a result of a change in ownership.

(b) The Contractor shall--

(1) Maintain current, accurate, and complete inventory records of assets and their costs;

(2) Provide the ACO or designated representative ready access to the records upon request;

(3) Ensure that all individual and grouped assets, their capitalized values, accumulated depreciation or amortization, and remaining useful lives are identified accurately before and after each of the Contractor's ownership changes; and

(4) Retain and continue to maintain depreciation and amortization schedules based on the asset records maintained before each Contractor ownership change.

The Contractor shall include the substance of this clause in all subcontracts under this contract that meet the applicability requirement of FAR 15.408(k).

(End of clause)

52.215-21 REQUIREMENTS FOR COST OR PRICING DATA OR INFORMATION OTHER THAN COST OR PRICING DATA--MODIFICATIONS (OCT 1997)

(a) Exceptions from cost or pricing data. (1) In lieu of submitting cost or pricing data for modifications under this contract, for price adjustments expected to exceed the threshold set forth at FAR 15.403-4 on the date of the agreement on price or the date of the award, whichever is later, the Contractor may submit a written request for exception by submitting the information described in the following subparagraphs. The Contracting Officer may require additional supporting information, but only to the extent necessary to determine whether an exception should be granted, and whether the price is fair and reasonable--

(i) Identification of the law or regulation establishing the price offered. If the price is controlled under law by periodic rulings, reviews, or similar actions of a governmental body, attach a copy of the controlling document, unless it was previously submitted to the contracting office.

(ii) Information on modifications of contracts or subcontracts for commercial items. (A) If--

(1) The original contract or subcontract was granted an exception from cost or pricing data requirements because the price agreed upon was based on adequate price competition or prices set by law or regulation, or was a contract or subcontract for the acquisition of a commercial item; and

(2) The modification (to the contract or subcontract) is not exempted based on one of these exceptions, then the Contractor may provide information to establish that the modification would not change the contract or subcontract from a contract or subcontract for the acquisition of a commercial item to a contract or subcontract for the acquisition of an item other than a commercial item.

(B) For a commercial item exception, the Contractor shall provide, at a minimum, information on prices at which the same item or similar items have previously been sold that is adequate for evaluating the reasonableness of the price of the modification. Such information may include--

(1) For catalog items, a copy of or identification of the catalog and its date, or the appropriate pages for the offered items, or a statement that the catalog is on file in the buying office to which the proposal is being submitted. Provide a copy or describe current discount policies and price lists (published or unpublished), e.g., wholesale, original equipment manufacturer, or reseller. Also explain the basis of each offered price and its relationship to the established catalog price, including how the proposed price relates to the price of recent sales in quantities similar to the proposed quantities.

(2) For market-priced items, the source and date or period of the market quotation or other basis for market price, the base amount, and applicable discounts. In addition, describe the nature of the market.

(3) For items included on an active Federal Supply Service Multiple Award Schedule contract, proof that an

exception has been granted for the schedule item.

(2) The Contractor grants the Contracting Officer or an authorized representative the right to examine, at any time before award, books, records, documents, or other directly pertinent records to verify any request for an exception under this clause, and the reasonableness of price. For items priced using catalog or market prices, or law or regulation , access does not extend to cost or profit information or other data relevant solely to the Contractor's determination of the prices to be offered in the catalog or marketplace.

(b) Requirements for cost or pricing data. If the Contractor is not granted an exception from the requirement to submit cost or pricing data, the following applies:

(1) The Contractor shall submit cost or pricing data and supporting attachments in accordance with Table 15-2 of FAR 15.408.

As soon as practicable after agreement on price, but before award (except for unpriced actions), the Contractor shall submit a Certificate of Current Cost or Pricing Data, as prescribed by FAR 15.406-2.

52.219-6 NOTICE OF TOTAL SMALL BUSINESS SET-ASIDE (JUL 1996)

(a) Definition.

"Small business concern," as used in this clause, means a concern, including its affiliates, that is independently owned and operated, not dominant in the field of operation in which it is bidding on Government contracts, and qualified as a small business under the size standards in this solicitation.

(b) General. (1) Offers are solicited only from small business concerns. Offers received from concerns that are not small business concerns shall be considered nonresponsive and will be rejected.

(2) Any award resulting from this solicitation will be made to a small business concern.

(c) Agreement. A small business concern submitting an offer in its own name agrees to furnish, in performing the contract, only end items manufactured or produced by small business concerns in the United States. The term “United States” includes its territories and possessions, the Commonwealth of Puerto Rico, the Trust Territory of the Pacific Islands, and the District of Columbia. If this procurement is processed under simplified acquisition procedures and the total amount of this contract does not exceed $25,000, a small business concern may furnish the product of any domestic firm. This paragraph does not apply in connection with construction or service contracts.

(End of clause)

52.219-8 UTILIZATION OF SMALL BUSINESS CONCERNS (OCT 2000)

(a) It is the policy of the United States that small business concerns, veteran-owned small business concerns, service-disabled veteran-owned small business concerns, HUBZone small business concerns, small disadvantaged business concerns, and women-owned small business concerns shall have the maximum practicable opportunity to participate in performing contracts let by any Federal agency, including contracts and subcontracts for subsystems, assemblies, components, and related services for major systems. It is further the policy of the United States that its prime contractors establish procedures to ensure the timely payment of amounts due pursuant to the terms of their subcontracts with small business concerns, veteran-owned small business concerns, service-disabled veteran-owned small business concerns, HUBZone small business concerns, small disadvantaged business concerns, and women-owned small business concerns.

(b) The Contractor hereby agrees to carry out this policy in the awarding of subcontracts to the fullest extent consistent with efficient contract performance. The Contractor further agrees to cooperate in any studies or surveys

as may be conducted by the United States Small Business Administration or the awarding agency of the United States as may be necessary to determine the extent of the Contractor's compliance with this clause.

Definitions. As used in this contract--

HUBZone small business concern means a small business concern that appears on the List of Qualified HUBZone Small Business Concerns maintained by the Small Business Administration.

Service-disabled veteran-owned small business concern--

(1) Means a small business concern--

(i) Not less than 51 percent of which is owned by one or more service-disabled veterans or, in the case of any publicly owned business, not less than 51 percent of the stock of which is owned by one or more service-disabled veterans; and

(ii) The management and daily business operations of which are controlled by one or more service-disabled veterans or, in the case of a veteran with permanent and severe disability, the spouse or permanent caregiver of such veteran.

(2) Service-disabled veteran means a veteran, as defined in 38 U.S.C. 101(2), with a disability that is service-connected, as defined in 38 U.S.C. 101(16).

Small business concern means a small business as defined pursuant to Section 3 of the Small Business Act and relevant regulations promulgated pursuant thereto.

Small disadvantaged business concern means a small business concern that represents, as part of its offer that--

(1) It has received certification as a small disadvantaged business concern consistent with 13 CFR part 124, subpart B;

(2) No material change in disadvantaged ownership and control has occurred since its certification;

(3) Where the concern is owned by one or more individuals, the net worth of each individual upon whom the certification is based does not exceed $750,000 after taking into account the applicable exclusions set forth at 13 CFR 124.104(c)(2); and

(4) It is identified, on the date of its representation, as a certified small disadvantaged business in the database maintained by the Small Business Administration (PRO-Net).

Veteran-owned small business concern means a small business concern--

(1) Not less than 51 percent of which is owned by one or more veterans (as defined at 38 U.S.C. 101(2)) or, in the case of any publicly owned business, not less than 51 percent of the stock of which is owned by one or more veterans; and

(2) The management and daily business operations of which are controlled by one or more veterans.

Women-owned small business concern means a small business concern--

(1) That is at least 51 percent owned by one or more women, or, in the case of any publicly owned business, at least 51 percent of the stock of which is owned by one or more women; and

(2) Whose management and daily business operations are controlled by one or more women.

(d) Contractors acting in good faith may rely on written representations by their subcontractors regarding their status as a small business concern, a veteran-owned small business concern, a service-disabled veteran-owned small

business concern, a HUBZone small business concern, a small disadvantaged business concern, or a women-owned small business concern.

(End of clause)

52.219-9 SMALL BUSINESS SUBCONTRACTING PLAN (OCT 2001)

(a) This clause does not apply to small business concerns.

(b) Definitions. As used in this clause--

Commercial item means a product or service that satisfies the definition of commercial item in section 2.101 of the Federal Acquisition Regulation.

Commercial plan means a subcontracting plan (including goals) that covers the offeror's fiscal year and that applies to the entire production of commercial items sold by either the entire company or a portion thereof (e.g., division, plant, or product line).

Individual contract plan means a subcontracting plan that covers the entire contract period (including option periods), applies to a specific contract, and has goals that are based on the offeror's planned subcontracting in support of the specific contract, except that indirect costs incurred for common or joint purposes may be allocated on a prorated basis to the contract.

Master plan means a subcontracting plan that contains all the required elements of an individual contract plan, except goals, and may be incorporated into individual contract plans, provided the master plan has been approved.

Subcontract means any agreement (other than one involving an employer-employee relationship) entered into by a Federal Government prime Contractor or subcontractor calling for supplies or services required for performance of the contract or subcontract.

(c) The offeror, upon request by the Contracting Officer, shall submit and negotiate a subcontracting plan, where applicable, that separately addresses subcontracting with small business, veteran-owned small business, service-disabled veteran-owned small business, HUBZone small business concerns, small disadvantaged business, and women-owned small business concerns. If the offeror is submitting an individual contract plan, the plan must separately address subcontracting with small business, veteran-owned small business, HUBZone small business, small disadvantaged business, and women-owned small business concerns, with a separate part for the basic contract and separate parts for each option (if any). The plan shall be included in and made a part of the resultant contract. The subcontracting plan shall be negotiated within the time specified by the Contracting Officer. Failure to submit and negotiate the subcontracting plan shall make the offeror ineligible for award of a contract.

(d) The offeror's subcontracting plan shall include the following:

(1) Goals, expressed in terms of percentages of total planned subcontracting dollars, for the use of small business, veteran-owned small business, service-disabled veteran-owned small business, HUBZone small business, small disadvantaged business, and women-owned small business concerns as subcontractors. Service-disabled veteran-owned small business concerns meet the definition of veteran-owned small business concerns, and offerors may include them within the subcontracting plan goal for veteran-owned small business concerns. A separate goal for service-disabled veteran-owned small business concerns is not required. The offeror shall include all subcontracts that contribute to contract performance, and may include a proportionate share of products and services that are normally allocated as indirect costs.

(2) A statement of--

(i) Total dollars planned to be subcontracted for an individual contract plan; or the offeror's total projected sales, expressed in dollars, and the total value of projected subcontracts to support the sales for a commercial plan;

(ii) Total dollars planned to be subcontracted to small business concerns;

(iii) Total dollars planned to be subcontracted to veteran-owned small business concerns;

(iv) Total dollars planned to be subcontracted to HUBZone small business concerns;

(v) Total dollars planned to be subcontracted to small disadvantaged business concerns; and

(vi) Total dollars planned to be subcontracted to women-owned small business concerns.

(3) A description of the principal types of supplies and services to be subcontracted, and an identification of the types planned for subcontracting to--

(i) Small business concerns;

(ii) Veteran-owned small business concerns;

(iii) HUBZone small business concerns;

(iv) Small disadvantaged business concerns; and

(v) Women-owned small business concerns.

(4) A description of the method used to develop the subcontracting goals in paragraph (d)(1) of this clause.

(5) A description of the method used to identify potential sources for solicitation purposes (e.g., existing company source lists, the Procurement Marketing and Access Network (PRO-Net) of the Small Business Administration (SBA), veterans service organizations, the National Minority Purchasing Council Vendor Information Service, the Research and Information Division of the Minority Business Development Agency in the Department of Commerce, or small, HUBZone, small disadvantaged, and women-owned small business trade associations). A firm may rely on the information contained in PRO-Net as an accurate representation of a concern's size and ownership characteristics for the purposes of maintaining a small, veteran-owned small, HUBZone small, small disadvantaged, and women-owned small business source list. Use of PRO-Net as its source list does not relieve a firm of its responsibilities (e.g., outreach, assistance, counseling, or publicizing subcontracting opportunities) in this clause.

(6) A statement as to whether or not the offeror in included indirect costs in establishing subcontracting goals, and a description of the method used to determine the proportionate share of indirect costs to be incurred with—

(i) Small business concerns;

(ii) Veteran-owned small business concerns;

(iii) HUBZone small business concerns;

(iv) Small disadvantaged business concerns; and

(v) Women-owned small business concerns.

(7) The name of the individual employed by the offeror who will administer the offeror's subcontracting program, and a description of the duties of the individual.

(8) A description of the efforts the offeror will make to assure that small business, veteran-owned small business, service-disabled veteran-owned small business, HUBZone small business, small disadvantaged business and women-owned small business concerns have an equitable opportunity to compete for subcontracts.

(9) Assurances that the offeror will include the clause of this contract entitled ``Utilization of Small Business Concerns" in all subcontracts that offer further subcontracting opportunities, and that the offeror will require all subcontractors (except small business concerns) that receive subcontracts in excess of $500,000 ($1,000,000 for construction of any public facility) to adopt a subcontracting plan that complies with the requirements of this clause.

(10) Assurances that the offeror will--

(i) Cooperate in any studies or surveys as may be required;

(ii) Submit periodic reports so that the Government can determine the extent of compliance by the offeror with the subcontracting plan;

(iii) Submit Standard Form (SF) 294, Subcontracting Report for Individual Contracts, and/or SF 295, Summary Subcontract Report, in accordance with paragraph (j) of this clause. The reports shall provide information on subcontract awards to small business concerns, veteran-owned small business concerns, service-disabled veteran-owned small business concerns, small disadvantaged business concerns, women-owned small business concerns, and Historically Black Colleges and Universities and Minority Institutions. Reporting shall be in accordance with the instructions on the forms or as provided in agency regulations.

(iv) Ensure that its subcontractors agree to submit SF 294 and SF 295.

(11) A description of the types of records that will be maintained concerning procedures that have been adopted to comply with the requirements and goals in the plan, including establishing source lists; and a description of the offeror's efforts to locate small business, veteran-owned small business, service-disabled veteran-owned small business, HUBZone small business, small disadvantaged business, and women-owned small business concerns and award subcontracts to them. The records shall include at least the following (on a plant-wide or company-wide basis, unless otherwise indicated)

(i) Source lists (e.g., PRO-Net), guides, and other data that identify small business, veteran-owner small business, service-disabled veteran-owned small business, HUBZone small business, small disadvantaged business, and women-owned small business concerns.

(ii) Organizations contacted in an attempt to locate sources that are small business, veteran-owned small business, service-disabled veteran-owned small business, HUBZone small business, small disadvantaged business, or women-owned small business concerns.

(iii) Records on each subcontract solicitation resulting in an award of more than $100,000, indicating--

(A) Whether small business concerns were solicited and, if not, why not;

(B) Whether veteran-owned small business concerns were solicited and, if not, why not;

(C) Whether HUBZone small business concerns were solicited and, if not, why not;

(D) Whether small disadvantaged business concerns were solicited and, if not, why not;

(E) Whether women-owned small business concerns were solicited and, if not, why not; and

(F) If applicable, the reason award was not made to a small business concern.

(iv) Records of any outreach efforts to contact--

(A) Trade associations;

(B) Business development organizations;

(C) Conferences and trade fairs to locate small, HUBZone small, small disadvantaged, and women-owned small business sources; and

(D) Veterans service organizations.

(v) Records of internal guidance and encouragement provided to buyers through--

(A) Workshops, seminars, training, etc.; and

(B) Monitoring performance to evaluate compliance with the program's requirements.

(vi) On a contract-by-contract basis, records to support award data submitted by the offeror to the Government, including the name, address, and business size of each subcontractor. Contractors having commercial plans need not comply with this requirement.

(e) In order to effectively implement this plan to the extent consistent with efficient contract performance, the Contractor shall perform the following functions:

(1) Assist small business, veteran-owner small business, service-disabled veteran-owned small business, HUBZone small business, small disadvantaged business, and women-owned small business concerns by arranging solicitations, time for the preparation of bids, quantities, specifications, and delivery schedules so as to facilitate the participation by such concerns. Where the Contractor's lists of potential small business, veteran-owner small business, service-disabled veteran-owned small business, HUBZone small business, small disadvantaged business, and women-owned small business subcontractors are excessively long, reasonable effort shall be made to give all such small business concerns an opportunity to compete over a period of time.

(2) Provide adequate and timely consideration of the potentialities of small business, veteran-owner small business, service-disabled veteran-owned small business, HUBZone small business, small disadvantaged business, and women-owned small business concerns in all ``make-or-buy'' decisions.

(3) Counsel and discuss subcontracting opportunities with representatives of small business, veteran-owner small business, service-disabled veteran-owned small business, HUBZone small business, small disadvantaged business, and women-owned small business firms.

(4) Provide notice to subcontractors concerning penalties and remedies for misrepresentations of business status as small, veteran-owner small business, HUBZone small, small disadvantaged, or women-owned small business for the purpose of obtaining a subcontract that is to be included as part or all of a goal contained in the Contractor's subcontracting plan.

(f) A master plan on a plant or division-wide basis that contains all the elements required by paragraph (d) of this clause, except goals, may be incorporated by reference as a part of the subcontracting plan required of the offeror by this clause; provided--

(1) the master plan has been approved, (2) the offeror ensures that the master plan is updated as necessary and provides copies of the approved master plan, including evidence of its approval, to the Contracting Officer, and (3) goals and any deviations from the master plan deemed necessary by the Contracting Officer to satisfy the requirements of this contract are set forth in the individual subcontracting plan.

(g) A commercial plan is the preferred type of subcontracting plan for contractors furnishing commercial items. The commercial plan shall relate to the offeror's planned subcontracting generally, for both commercial and Government business, rather than solely to the Government contract. Commercial plans are also preferred for subcontractors that provide commercial items under a prime contract, whether or not the prime contractor is supplying a commercial item.

(h) Prior compliance of the offeror with other such subcontracting plans under previous contracts will be considered by the Contracting Officer in determining the responsibility of the offeror for award of the contract.

(i) The failure of the Contractor or subcontractor to comply in good faith with (1) the clause of this contract entitled "Utilization Of Small Business Concerns," or (2) an approved plan required by this clause, shall be a material breach of the contract.

(j) The Contractor shall submit the following reports:

(1) Standard Form 294, Subcontracting Report for Individual Contracts. This report shall be submitted to the Contracting Officer semiannually and at contract completion. The report covers subcontract award data related to this contract. This report is not required for commercial plans.

(2) Standard Form 295, Summary Subcontract Report. This report encompasses all of the contracts with the awarding agency. It must be submitted semi-annually for contracts with the Department of Defense and annually for contracts with civilian agencies. If the reporting activity is covered by a commercial plan, the reporting activity must report annually all subcontract awards under that plan. All reports submitted at the close of each fiscal year (both individual and commercial plans) shall include a breakout, in the Contractor's format, of subcontract awards, in whole dollars, to small disadvantaged business concerns by North American Industry Classification System (NAICS) Industry Subsector. For a commercial plan, the Contractor may obtain from each of its subcontractors a predominant NAICS Industry Subsector and report all awards to that subcontractor under its predominant NAICS Industry Subsector.

(End of clause)

52.219-14 LIMITATIONS ON SUBCONTRACTING (DEC 1996)

(a) This clause does not apply to the unrestricted portion of a partial set-aside.

(b) By submission of an offer and execution of a contract, the Offeror/Contractor agrees that in performance of the contract in the case of a contract for--

(1) Services (except construction). At least 50 percent of the cost of contract performance incurred for personnel shall be expended for employees of the concern.

(2) Supplies (other than procurement from a nonmanufacturer of such supplies). The concern shall perform work for at least 50 percent of the cost of manufacturing the supplies, not including the cost of materials.

(3) General construction. The concern will perform at least 15 percent of the cost of the contract, not including the cost of materials, with its own employees.

(4) Construction by special trade contractors. The concern will perform at least 25 percent of the cost of the contract, not including the cost of materials, with its own employees.

52.219-16 LIQUIDATED DAMAGES-SUBCONTRACTING PLAN (JAN 1999)

(a) Failure to make a good faith effort to comply with the subcontracting plan, as used in this clause, means a willful or intentional failure to perform in accordance with the requirements of the subcontracting plan approved under the clause in this contract entitled "Small Business Subcontracting Plan," or willful or intentional action to frustrate the plan.

(b) Performance shall be measured by applying the percentage goals to the total actual subcontracting dollars or, if a commercial plan is involved, to the pro rata share of actual subcontracting dollars attributable to Government contracts covered by the commercial plan. If, at contract completion or, in the case of a commercial plan, at the close of the fiscal year for which the plan is applicable, the Contractor has failed to meet its subcontracting goals and the Contracting Officer decides in accordance with paragraph (c) of this clause that the Contractor failed to make a

good faith effort to comply with its subcontracting plan, established in accordance with the clause in this contract entitled “Small Business Subcontracting Plan,” the Contractor shall pay the Government liquidated damages in an amount stated. The amount of probable damages attributable to the Contractor's failure to comply shall be an amount equal to the actual dollar amount by which the Contractor failed to achieve each subcontract goal.

(c) Before the Contracting Officer makes a final decision that the Contractor has failed to make such good faith effort, the Contracting Officer shall give the Contractor written notice specifying the failure and permitting the Contractor to demonstrate what good faith efforts have been made and to discuss the matter. Failure to respond to the notice may be taken as an admission that no valid explanation exists. If, after consideration of all the pertinent data, the Contracting Officer finds that the Contractor failed to make a good faith effort to comply with the subcontracting plan, the Contracting Officer shall issue a final decision to that effect and require that the Contractor pay the Government liquidated damages as provided in paragraph (b) of this clause.

(d) With respect to commercial plans, the Contracting Officer who approved the plan will perform the functions of the Contracting Officer under this clause on behalf of all agencies with contracts covered by the commercial plan.

(e) The Contractor shall have the right of appeal, under the clause in this contract entitled Disputes, from any final decision of the Contracting Officer.

(f) Liquidated damages shall be in addition to any other remedies that the Government may have.

(End of clause)

52.222-19 CHILD LABOR--COOPERATION WITH AUTHORITIES AND REMEDIES (FEBRUARY 2001)

(a) Applicability. This clause does not apply to the extent that the Contractor is supplying end products mined, produced, or manufactured in--

(1) Canada, and the anticipated value of the acquisition is $25,000 or more;

(2) Israel, and the anticipated value of the acquisition is $50,000 or more;

(3) Mexico, and the anticipated value of the acquisition is $54,372 or more; or

(4) Aruba, Austria, Belgium, Denmark, Finland, France, Germany, Greece, Hong Kong, Ireland, Italy, Japan, Korea, Liechtenstein, Luxembourg, Netherlands, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, or the United Kingdom and the anticipated value of the acquisition is $177,000 or more.

(b) Cooperation with Authorities. To enforce the laws prohibiting the manufacture or importation of products mined, produced, or manufactured by forced or indentured child labor, authorized officials may need to conduct investigations to determine whether forced or indentured child labor was used to mine, produce, or manufacture any product furnished under this contract. If the solicitation includes the provision 52.222-18, Certification Regarding Knowledge of Child Labor for Listed End Products, or the equivalent at 2.212-3(i), the Contractor agrees to cooperate fully with authorized officials of the contracting agency, the Department of the Treasury, or the Department of Justice by providing reasonable access to records, documents, persons, or premises upon reasonable request by the authorized officials.

(c) Violations. The Government may impose remedies set forth in paragraph (d) for the following violations:

(1) The Contractor has submitted a false certification regarding knowledge of the use of forced or indentured child labor for listed end products.

(2) The Contractor has failed to cooperate, if required, in accordance with paragraph (b) of this clause, with an investigation of the use of forced or indentured child labor by an Inspector General, Attorney General, or the Secretary of the Treasury.

(3) The Contractor uses forced or indentured child labor in its mining, production, or manufacturing processes.

(4) The Contractor has furnished under the contract end products or components that have been mined, produced, or manufactured wholly or in part by forced or indentured child labor. (The Government will not pursue remedies at paragraph (d)(2) or paragraph (d)(3) of this clause unless sufficient evidence indicates that the Contractor knew of the violation.)

(d) Remedies. (1) The Contracting Officer may terminate the contract.

(2) The suspending official may suspend the Contractor in accordance with procedures in FAR Subpart 9.4.

(3) The debarring official may debar the Contractor for a period not to exceed 3 years in accordance with the procedures in FAR Subpart 9.4.

(End of clause)

52.222-20 WALSH-HEALEY PUBLIC CONTRACTS ACT (DEC 1996)

If this contract is for the manufacture or furnishing of materials, supplies, articles or equipment in an amount that exceeds or may exceed $10,000, and is subject to the Walsh-Healey Public Contracts Act, as amended (41 U.S.C. 35-45), the following terms and conditions apply:

(a) All stipulations required by the Act and regulations issued by the Secretary of Labor (41 CFR Chapter 50) are incorporated by reference. These stipulations are subject to all applicable rulings and interpretations of the Secretary of Labor that are now, or may hereafter, be in effect.

(b) All employees whose work relates to this contract shall be paid not less than the minimum wage prescribed by regulations issued by the Secretary of Labor (41 CFR 50-202.2). Learners, student learners, apprentices, and handicapped workers may be employed at less than the prescribed minimum wage (see 41 CFR 50-202.3) to the same extent that such employment is permitted under Section 14 of the Fair Labor Standards Act (41 U.S.C. 40).

52.222-21 PROHIBITION OF SEGREGATED FACILITIES (FEB 1999)

(a) Segregated facilities, as used in this clause, means any waiting rooms, work areas, rest rooms and wash rooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees, that are segregated by explicit directive or are in fact segregated on the basis of race, color, religion, sex, or national origin because of written or oral policies or employee custom. The term does not include separate or single-user rest rooms or necessary dressing or sleeping areas provided to assure privacy between the sexes.

(b) The Contractor agrees that it does not and will not maintain or provide for its employees any segregated facilities at any of its establishments, and that it does not and will not permit its employees to perform their services at any location under its control where segregated facilities are maintained. The Contractor agrees that a breach of this clause is a violation of the Equal Opportunity clause in this contract.

(c) The Contractor shall include this clause in every subcontract and purchase order that is subject to the Equal Opportunity clause of this contract.

(End of clause)

52.222-26 EQUAL OPPORTUNITY (FEB 1999)

(a) If, during any 12-month period (including the 12 months preceding the award of this contract), the Contractor has been or is awarded nonexempt Federal contracts and/or subcontracts that have an aggregate value in excess of

$10,000, the Contractor shall comply with subparagraphs (b)(1) through (11) of this clause. Upon request, the Contractor shall provide information necessary to determine the applicability of this clause.

(b) During performing this contract, the Contractor agrees as follows:

(1) The Contractor shall not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. However, it shall not be a violation of this clause for the Contractor to extend a publicly announced preference in employment to Indians living on or near an Indian reservation, in connection with employment opportunities on or near an Indian reservation, as permitted by 41 CFR 60-1.5.

(2) The Contractor shall take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, or national origin. This shall include, but not be limited to, (i) employment, (ii) upgrading, (iii) demotion, (iv) transfer, (v) recruitment or recruitment advertising, (vi) layoff or termination, (vii) rates of pay or other forms of compensation, and (viii) selection for training, including apprenticeship.

(3) The Contractor shall post in conspicuous places available to employees and applicants for employment the notices to be provided by the Contracting Officer that explain this clause.

(4) The Contractor shall, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, or national origin.

(5) The Contractor shall send, to each labor union or representative of workers with which it has a collective bargaining agreement or other contract or understanding, the notice to be provided by the Contracting Officer advising the labor union or workers' representative of the Contractor's commitments under this clause, and post copies of the notice in conspicuous places available to employees and applicants for employment.

(6) The Contractor shall comply with Executive Order 11246, as amended, and the rules, regulations, and orders of the Secretary of Labor.

(7) The Contractor shall furnish to the contracting agency all information required by Executive Order 11246, as amended, and by the rules, regulations, and orders of the Secretary of Labor. The Contractor shall also file Standard Form 100 (EEO-1), or any successor form, as prescribed in 41 CFR part 60-1. Unless the Contractor has filed within the 12 months preceding the date of contract award, the Contractor shall, within 30 days after contract award, apply to either the regional Office of Federal Contract Compliance Programs (OFCCP) or the local office of the Equal Employment Opportunity Commission for the necessary forms.

(8) The Contractor shall permit access to its premises, during normal business hours, by the contracting agency or the OFCCP for the purpose of conducting on-site compliance evaluations and complaint investigations. The Contractor shall permit the Government to inspect and copy any books, accounts, records (including computerized records), and other material that may be relevant to the matter under investigation and pertinent to compliance with Executive Order 11246, as amended, and rules and regulations that implement the Executive Order.

(9) If the OFCCP determines that the Contractor is not in compliance with this clause or any rule, regulation, or order of the Secretary of Labor, this contract may be canceled, terminated, or suspended in whole or in part and the Contractor may be declared ineligible for further Government contracts, under the procedures authorized in Executive Order 11246, as amended. In addition, sanctions may be imposed and remedies invoked against the Contractor as provided in Executive Order 11246, as amended; in the rules, regulations, and orders of the Secretary of Labor; or as otherwise provided by law.

(10) The Contractor shall include the terms and conditions of subparagraphs (b)(1) through (11) of this clause in every subcontract or purchase order that is not exempted by the rules, regulations, or orders of the Secretary of Labor issued under Executive Order 11246, as amended, so that these terms and conditions will be binding upon each subcontractor or vendor.

(11) The Contractor shall take such action with respect to any subcontract or purchase order as the contracting officer may direct as a means of enforcing these terms and conditions, including sanctions for noncompliance; provided, that if the Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of any direction, the Contractor may request the United States to enter into the litigation to protect the interests of the United States.

(c) Notwithstanding any other clause in this contract, disputes relative to this clause will be governed by the procedures in 41 CFR 60-1.1.

(End of clause)

52.222-35 AFFIRMATIVE ACTION FOR DISABLED VETERANS AND VETERANS OF THE VIETNAM ERA (APR 1998)

(a)) Definitions. As used in this clause--

All employment openings includes all positions except executive and top management, those positions that will be filled from within the contractor's organization, and positions lasting 3 days or less. This term includes full-time employment, temporary employment of more than 3 days' duration, and part-time employment.

Appropriate office of the State employment service system means the local office of the Federal-State national system of public employment offices with assigned responsibility to serve the area where the employment opening is to be filled, including the District of Columbia, Guam, the Commonwealth of Puerto Rico, and the Virgin Islands.

Positions that will be filled from within the Contractor's organization means employment openings for which no consideration will be given to persons outside the Contractor's organization (including any affiliates, subsidiaries, and parent companies) and includes any openings that the Contractor proposes to fill from regularly established “recall” lists. The exception does not apply to a particular opening once an employer decides to consider applicants outside of its organization.

Veteran of the Vietnam era means a person who--

(1) Served on active duty for a period of mo re than 180 days, any part of which occurred between August 5, 1964, and May 7, 1975, and was discharged or released therefrom with other than a dishonorable discharge; or

(2) Was discharged or released from active duty for a service-connected disability if any part of such active duty was performed between August 5, 1964, and May 7, 1975.

(b) General. (1) Regarding any position for which the employee or applicant for employment is qualified, the Contractor shall not discriminate against the individual because the individual is a disabled veteran or a veteran of the Vietnam era. The Contractor agrees to take affirmative action to employ, advance in employment, and otherwise treat qualified disabled veterans and veterans of the Vietnam era without discrimination based upon their disability or veterans' status in all employment practices such as --

(i) Employment;

(ii) Upgrading;

(iii) Demotion or transfer;

(iv) Recruitment;

(v) Advertising;

(vi) Layoff or termination;

(vii) Rates of pay or other forms of compensation; and

(viii) Selection for training, including apprenticeship.

(2) The Contractor agrees to comply with the rules, regulations, and relevant orders of the Secretary of Labor (Secretary) issued under the Vietnam Era Veterans' Readjustment Assistance Act of 1972 (the Act), as amended.

(c) Listing openings. (1) The Contractor agrees to list all employment openings existing at contract award or occurring during contract performance, at an appropriate office of the State emp loyment service system in the locality where the opening occurs. These openings include those occurring at any Contractor facility, including one not connected with performing this contract. An independent corporate affiliate is exempt from this requirement.

(2) State and local government agencies holding Federal contracts of $10,000 or more shall also list all their employment openings with the appropriate office of the State employment service.

(3) The listing of employment openings with the State emp loyment service system is required at least concurrently with using any other recruitment source or effort and involves the obligations of placing a bona fide job order, including accepting referrals of veterans and nonveterans. This listing does not require hiring any particular job applicant or hiring from any particular group of job applicants and is not intended to relieve the Contractor from any requirements of Executive orders or regulations concerning nondiscrimination in employment.

(4) Whenever the Contractor becomes contractually bound to the listing terms of this clause, it shall advise the State employment service system, in each State where it has establishments, of the name and location of each hiring location in the State. As long as the Contractor is contractually bound to these terms and has so advised the State system, it need not advise the State system of subsequent contracts. The Contractor may advise the State system when it is no longer bound by this contract clause.

(d) Applicability. This clause does not apply to the listing of employment openings that occur and are filled outside the 50 States, the District of Columbia, the Commonwealth of Puerto Rico, Guam, and the Virgin Islands.

(e) Postings. (1) The Contractor agrees to post employment notices stating (i) the Contractor's obligation under the law to take affirmative action to employ and advance in employment qualified disabled veterans and veterans of the Vietnam era, and (ii) the rights of applicants and employees.

(2) These notices shall be posted in conspicuous places that are available to employees and applicants for employment. They shall be in a form prescribed by the Deputy Assistant Secretary for Federal Contract Compliance Programs, Department of Labor (Deputy Assistant Secretary), and provided by or through the Contracting Officer.

(3) The Contractor shall notify each labor union or representative of workers with which it has a collective bargaining agreement or other contract understanding, that the Contractor is bound by the terms of the Act, and is committed to take affirmative action to employ, and advance in employment, qualified disabled veterans and veterans of the Vietnam Era.

(f) Noncompliance. If the Contractor does not comply with the requirements of this clause, appropriate actions may be taken under the rules, regulations, and relevant orders of the Secretary issued pursuant to the Act.

(g) Subcontracts. The Contractor shall include the terms of this clause in every subcontract or purchase order of $10,000 or more unless exempted by rules, regulations, or orders of the Secretary. The Contractor shall act as specified by the Deputy Assistant Secretary to enforce the terms, including action for noncompliance.

(End of clause)

52.222-36 AFFIRMATIVE ACTION FOR WORKERS WITH DISABILITIES (JUN 1998)

(a) General. (1) Regarding any position for which the employee or applicant for employment is qualified, the Contractor shall not discriminate against any employee or applicant because of physical or mental disability. The Contractor agrees to take affirmative action to employ, advance in employment, and otherwise treat qualified

individuals with disabilities without discrimination based upon their physical or mental disability in all employment practices such as--

(i) Recruitment, advertising, and job application procedures;

(ii) Hiring, upgrading, promotion, award of tenure, demotion, transfer, layoff, termination, right of return from layoff, and rehiring;

(iii) Rates of pay or any other form of compensation and changes in compensation;

(iv) Job assignments, job classifications, organizational structures, position descriptions, lines of progression, and seniority lists;

(v) Leaves of absence, sick leave, or any other leave;

(vi) Fringe benefits available by virtue of employment, whether or not administered by the Contractor;

(vii) Selection and financial support for training, including apprenticeships, professional meetings, conferences, and other related activities, and selection for leaves of absence to pursue training;

(viii) Activities sponsored by the Contractor, including social or recreational programs; and

(ix) Any other term, condition, or privilege of employment.

(2) The Contractor agrees to comply with the rules, regulations, and relevant orders of the Secretary of Labor (Secretary) issued under the Rehabilitation Act of 1973 (29 U.S.C. 793) (the Act), as amended.

(b) Postings. (1) The Contractor agrees to post employment notices stating--

(i) The Contractor's obligation under the law to take affirmative action to employ and advance in employment qualified individuals with disabilities; and

(ii) The rights of applicants and employees.

(2) These notices shall be posted in conspicuous places that are available to employees and applicants for employment. The Contractor shall ensure that applicants and employees with disabilities are informed of the contents of the notice (e.g., the Contractor may have the notice read to a visually disabled individual, or may lower the posted notice so that it might be read by a person in a wheelchair). The notices shall be in a form prescribed by the Deputy Assistant Secretary for Federal Contract Compliance of the U.S. Department of Labor (Deputy Assistant Secretary) and shall be provided by or through the Contracting Officer.

(3) The Contractor shall notify each labor union or representative of workers with which it has a collective bargaining agreement or other contract understanding, that the Contractor is bound by the terms of Section 503 of the Act and is committed to take affirmative action to employ, and advance in employment, qualified individuals with physical or mental disabilities.

(c) Noncompliance. If the Contractor does not comply with the requirements of this clause, appropriate actions may be taken under the rules, regulations, and relevant orders of the Secretary issued pursuant to the Act.

(d) Subcontracts. The Contractor shall include the terms of this clause in every subcontract or purchase order in excess of $10,000 unless exempted by rules, regulations, or orders of the Secretary. The Contractor shall act as specified by the Deputy Assistant Secretary to enforce the terms, including action for noncompliance.

(End of clause)

52.222-37 EMPLOYMENT REPORTS ON DISABLED VETERANS AND VETERANS OF THE VIETNAM ERA (JAN 1999)

(a) Unless the Contractor is a State or local government agency, the Contractor shall report at least annually, as required by the Secretary of Labor, on--

(1) The number of disabled veterans and the number of veterans of the Vietnam era in the workforce of the contractor by job category and hiring location; and

(2) The total number of new employees hired during the period covered by the report, and of that total, the number of disabled veterans, and the number of veterans of the Vietnam era.

(b) The above items shall be reported by completing the form entitled "Federal Contractor Veterans' Employment Report VETS-100."

(c) Reports shall be submitted no later than September 30 of each year beginning September 30, 1988.

(d) The employment activity report required by paragraph (a)(2) of this clause shall reflect total hires during the most recent 12-month period as of the ending date selected for the employment profile report required by paragraph (a)(1) of this clause. Contractors may select an ending date: (1) As of the end of any pay period during the period January through March 1st of the year the report is due, or (2) as of December 31, if the contractor has previous written approval from the Equal Employment Opportunity Commission to do so for purposes of submitting the Employer Information Report EEO-1 (Standard Form 100).

(e) The count of veterans reported according to paragraph (a) of this clause shall be based on voluntary disclosure. Each Contractor subject to the reporting requirements at 38 U.S.C. 4212 shall invite all disabled veterans and veterans of the Vietnam era who wish to benefit under the affirmative action program at 38 U.S.C. 4212 to identify themselves to the Contractor. The invitation shall state that the information is voluntarily provided; that the information will be kept confidential; that disclosure or refusal to provide the information will not subject the applicant or employee to any adverse treatment; and that the information will be used only in accordance with the regulations promulgated under 38 U.S.C. 4212.

(f) Subcontracts. The Contractor shall include the terms of this clause in every subcontract or purchase order of $10,000 or more unless exempted by rules, regulations, or orders of the Secretary.

(End of clause)

52.223-14 TOXIC CHEMICAL RELEASE REPORTING (OCT 2000)

(a) Unless otherwise exempt, the Contractor, as owner or operator of a facility used in the performance of this contract, shall file by July 1 for the prior calendar year an annual Toxic Chemical Release Inventory Form (Form R) as described in sections 313(a) and (g) of the Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA) (42 U.S.C. 11023(a) and (g)), and section 6607 of the Pollution Prevention Act of 1990 (PPA) (42 U.S.C. 13106). The Contractor shall file, for each facility subject to the Form R filing and reporting requirements, the annual Form R throughout the life of the contract.

(b) A Contractor owned or operated facility used in the performance of this contract is exempt from the requirement to file an annual Form R if--

(1) The facility does not manufacture, process, or otherwise use any toxic chemicals listed under section 313(c) of EPCRA, 42 U.S.C. 11023(c);

(2) The facility does not have 10 or more full-time employees as specified in section 313(b)(1)(A) of EPCRA, 42 U.S.C. 11023(b)(1)(A);

(3) The facility does not meet the reporting thresholds of toxic chemicals established under of EPCRA, 42 U.S.C. 11023(f) (including the alternate thresholds at 40 CFR 372.27, provided an appropriate certification form has been filed with EPA);

(4) The facility does not fall within Standard Industrial Classification Code (SIC) major groups 20 through 39 or their corresponding North American Industry Classification System (NAICS) sectors 31 through 33; or

(5) The facility is not located within any State of the United States, the District of Columbia, the Commonwealth of Puerto Rico, Guam, American Samoa, the United States Virgin Islands, the Northern Mariana Islands, or any other territory or possession over which the United States has jurisdiction.

(c) If the Contractor has certified to an exemption in accordance with one or more of the criteria in paragraph (b) of this clause, and after award of the contract circumstances change so that any of its owned or operated facilities used in the performance of this contract is no longer exempt--

(1) The Contractor shall notify the Contracting Officer; and

(2) The Contractor, as owner or operator of a facility used in the performance of this contract that is no longer exempt, shall (i) submit a Toxic Chemical Release Inventory Form (Form R) on or before July 1 for the prior calendar year during which the facility becomes eligible; and (ii) continue to file the annual Form R for the life of the contract for such facility.

(d) The Contracting Officer may terminate this contract or take other action as appropriate, if the Contractor fails to comply accurately and fully with the EPCRA and PPA toxic chemical release filing and reporting requirements.

(e) Except for acquisitions of commercial items, as defined in FAR Part 2, the Contractor shall--

(1) For competitive subcontracts expected to exceed $100,000 (including all options), include a solicitation provision substantially the same as the provision at FAR 52.223-13, Certification of Toxic Chemical Release Reporting; and

(2) Include in any resultant subcontract exceeding $100,000 (including all options), the substance of this clause, except this paragraph (e).

52.225-13 RESTRICTIONS ON CERTAIN FOREIGN PURCHASES (JUL 2000)

(a) The Contractor shall not acquire, for use in the performance of this contract, any supplies or services originating from sources within, or that were located in or transported from or through, countries whose products are banned from importation into the United States under regulations of the Office of Foreign Assets Control, Department of the Treasury. Those countries are Cuba, Iran, Iraq, Libya, North Korea, Sudan, the territory of Afghanistan controlled by the Taliban, and Serbia (excluding the territory of Kosovo).

(b) The Contractor shall not acquire for use in the performance of this contract any supplies or services from entities controlled by the government of Iraq.

(c) The Contractor shall insert this clause, including this paragraph (c), in all subcontracts.

(End of clause)

52.226-1 UTILIZATION OF INDIAN ORGANIZATIONS AND INDIAN-OWNED ECONOMIC ENTERPRISES (JUN 2000)

(a) Definitions. As used in this clause:

"Indian" means any person who is a member of any Indian tribe, band, group, pueblo or community that is recognized by the Federal Government as eligible for services from the Bureau of Indian Affairs (BIA) in accordance with 25 U.S.C. 1452(c) and any ``Native" as defined in the Alaska Native Claims Settlement Act (43 U.S.C. 1601).

"Indian organization" means the governing body of any Indian tribe or entity established or recognized by the governing body of an Indian tribe for the purposes of 25 U.S.C., chapter 17.

"Indian-owned economic enterprise" means any Indian-owned (as determined by the Secretary of the Interior) commercial, industrial, or business activity established or organized for the purpose of profit, provided that Indian ownership constitutea not less than 51 percent of the enterprise.

"Indian tribe" means any Indian tribe, band, group, pueblo or community, including native villages and native groups (including corporations organized by Kenai, Juneau, Sitka, and Kodiak) as defined in the Alaska Native Claims Settlement Act, that is recognized by the Federal Government as eligible for services from BIA in accordance with 25 U.S.C. 1542(c).

"Interested party" means a prime contractor or an actual or prospective offeror whose direct economic interest would be affected by the award of a subcontract or by the failure to award a subcontract.

(b) The Contractor shall use its best efforts to give Indian organizations and Indian-owned economic enterprises (25 U.S.C. 1544) the maximum practicable opportunity to participate in the subcontracts it awards to the fullest extent consistent with efficient performance of its contract.

(1) The Contracting Officer and the Contractor, acting in good faith, may rely on the representation of an Indian organization or Indian-owned economic enterprise as to its eligibility, unless an interested party challenges its status or the Contracting Officer has independent reason to question that status. In the event of a challenge to the representation of a subcontractor, the Contracting Officer will refer the matter to the U.S. Department of the Interior, Bureau of Indian Affairs (BIA), Attn: Chief, Division of Contracting and Grants Administration, 1849 C Street, NW., MS 2626-MIB, Washington, DC 20240-4000.

The BIA will determine the eligibility and notify the Contracting Officer. No incentive payment will be made within 50 working days of subcontract award or while a challenge is pending. If a subcontractor is determined to be an ineligible participant, no incentive payment will be made under the Indian Incentive Program.

(2) The Contractor may request an adjustment under the Indian Incentive Program to the following:

(i) The estimated cost of a cost-type contract.

(ii) The target cost of a cost-plus-incentive-fee prime contract.

(iii) The target cost and ceiling price of a fixed-price incentive prime contract.

(iv) The price of a firm-fixed-price prime contract.

(3) The amount of the adjustment to the prime contract is 5 percent of the estimated cost, target cost, or firm-fixed-price included in the subcontract initially awarded to the Indian organization or Indian-owned economic enterprise.

(4) The Contractor has the burden of proving the amount claimed and must assert its request for an adjustment prior to completion of contract performance.

(c) The Contracting Officer, subject to the terms and conditions of the contract and the availability of funds, will authorize an incentive payment of 5 percent of the amount paid to the subcontractor. The Contracting Officer will seek funding in accordance with agency procedures.

(End of clause)

52.227-1 AUTHORIZATION AND CONSENT (JUL 1995)

(a) The Government authorizes and consents to all use and manufacture, in performing this contract or any subcontract at any tier, of any invention described in and covered by a United States patent (1) embodied in the structure or composition of any article the delivery of which is accepted by the Government under this contract or (2) used in machinery, tools, or methods whose use necessarily results from compliance by the Contractor or a subcontractor with (i) specifications or written provisions forming a part of this contract or (ii) specific written instructions given by the Contracting Officer directing the manner of performance. The entire liability to the Government for infringement of a patent of the United States shall be determined solely by the provisions of the indemnity clause, if any, included in this contract or any subcontract hereunder (including any lower-tier subcontract), and the Government assumes liability for all other infringement to the extent of the authorization and consent hereinabove granted.

(b) The Contractor agrees to include, and require inclusion of, this clause, suitably modified to identify the parties, in all subcontracts at any tier for supplies or services (including construction, architect-engineer services, and materials, supplies, models, samples, and design or testing services expected to exceed the simplified acquisition threshold (however, omission of this clause from any subcontract, including those at or below the simplified acquisition threshold, does not affect this authorization and consent.)

52.227-2 NOTICE AND ASSISTANCE REGARDING PATENT AND COPYRIGHT INFRINGEMENT (AUG 1996)

(a) The Contractor shall report to the Contracting Officer, promptly and in reasonable written detail, each notice or claim of patent or copyright infringement based on the performance of this contract of which the Contractor has knowledge.

(b) In the event of any claim or suit against the Government on account of any alleged patent or copyright infringement arising out of the performance of this contract or out of the use of any supplies furnished or work or services performed under this contract, the Contractor shall furnish to the Government, when requested by the Contracting Officer, all evidence and information in possession of the Contractor pertaining to such suit or claim. Such evidence and information shall be furnished at the expense of the Government except where the Contractor has agreed to indemnify the Government.

(c) The Contractor agrees to include, and require inclusion of, this clause in all subcontracts at any tier for supplies or services (including construction and architect-engineer subcontracts and those for material, supplies, models, samples, or design or testing services) expected to exceed the simplified acquisition threshold at (FAR) 2.101.to exceed the dollar amount set forth in 13.000 of the Federal Acquisition Regulation (FAR).

(End of clause)

52.227-3 PATENT INDEMNITY (APR 1984)

(a) The Contractor shall indemnify the Government and its officers, agents, and employees against liability, including costs, for infringement of any United States patent (except a patent issued upon an application that is now or may hereafter be withheld from issue pursuant to a Secrecy Order under 35 U.S.C. 181) arising out of the manufacture or delivery of supplies, the performance of services, or the construction, alteration, modification, or repair of real property (hereinafter referred to as "construction work") under this contract, or out of the use or disposal by or for the account of the Government of such supplies or construction work.

(b) This indemnity shall not apply unless the Contractor shall have been informed as soon as practicable by the Government of the suit or action alleging such infringement and shall have been given such opportunity as is

afforded by applicable laws, rules, or regulations to participate in its defense. Further, this indemnity shall not apply to (1) an infringement resulting from compliance with specific written instructions of the Contracting Officer directing a change in the supplies to be delivered or in the materials or equipment to be used, or directing a manner of performance of the contract not normally used by the Contractor, (2) an infringement resulting from addition to or change in supplies or components furnished or construction work performed that was made subsequent to delivery or performance, or (3) a claimed infringement that is unreasonably settled without the consent of the Contractor, unless required by final decree of a court of competent jurisdiction.

(End of clause)

52.229-4 FEDERAL, STATE, AND LOCAL TAXES (NONCOMPETITIVE CONTRACT) (JAN 1991)

(a) "Contract date," as used in this clause, means the effective date of this contract and, for any modification to this contract, the effective date of the modification.

"All applicable Federal, State, and local taxes and duties," as used in this clause, means all taxes and duties, in effect on the contract date, that the taxing authority is imposing and collecting on the transactions or property covered by this contract.

"After-imposed tax," as used in this clause, means any new or increased Federal, State, or local tax or duty, or tax that was excluded on the contract date but whose exclusion was later revoked or amount of exemption reduced during the contract period, other than an excepted tax, on the transactions or property covered by this contract that the Contractor is required to pay or bear as the result of legislative, judicial, or administrative action taking effect after the contract date.

"After-relieved tax," as used in this clause, means any amount of Federal, State, or local tax or duty, other than an excepted tax, that would otherwise have been payable on the transactions or property covered by this contract, but which the Contractor is not required to pay or bear, or for which the Contractor obtains a refund or drawback, as the result of legislative, judicial, or administrative action taking effect after the contract date.

"Excepted tax," as used in this clause, means social security or other employment taxes, net income and franchise taxes, excess profits taxes, capital stock taxes, transportation taxes, unemployment compensation taxes, and property taxes. "Excepted tax" does not include gross income taxes levied on or measured by sales or receipts from sales, property taxes assessed on completed supplies covered by this contract, or any tax assessed on the Contractor's possession of, interest in, or use of property, title to which is in the Government.

(b) Unless otherwise provided in this contract, the contract price includes all applicable Federal, State, and local taxes and duties.

(c) The contract price shall be increased by the amount of any after-imposed tax, or of any tax or duty specifically excluded from the contract price by a term or condition of this contract that the Contractor is required to pay or bear, including any interest or penalty, if the Contractor states in writing that the contract price does not include any contingency for such tax and if liability for such tax, interest, or penalty was not incurred through the Contractor's fault, negligence, or failure to follow instructions of the Contracting Officer.

(d) The contract price shall be decreased by the amount of any after-relieved tax. The Government shall be entitled to interest received by the Contractor incident to a refund of taxes to the extent that such interest was earned after the Contractor was paid by the Government for such taxes. The Government shall be entitled to repayment of any penalty refunded to the Contractor to the extent that the penalty was paid by the Government.

(e) The contract price shall be decreased by the amount of any Federal, State, or local tax, other than an excepted tax, that was included in the contract price and that the Contractor is required to pay or bear, or does not obtain a refund of, through the Contractor's fault, negligence, or failure to follow instructions of the Contracting Officer.

(f) No adjustment shall be made in the contract price under this clause unless the amount of the adjustment exceeds $250.

(g) The Contractor shall promptly notify the Contracting Officer of all matters relating to Federal, State, and local taxes and duties that reasonably may be expected to result in either an increase or decrease in the contract price and shall take appropriate action as the Contracting Officer directs. The contract price shall be equitably adjusted to cover the costs of action taken by the Contractor at the direction of the Contracting Officer, including any interest, penalty, and reasonable attorneys' fees.

(h) The Government shall furnish evidence appropriate to establish exemption from any Federal, State, or local tax when (1) the Contractor requests such exemption and states in writing that it applies to a tax excluded from the contract price and (2) a reasonable basis exists to sustain the exemption.

(End of clause)

52.230-2 COST ACCOUNTING STANDARDS (APR 1998)

(a) Unless the contract is exempt under 48 CFR 9903.201-1 and 9903.201-2, the provisions of 48 CFR Part 9903 are incorporated herein by reference and the Contractor, in connection with this contract, shall--

(1) (CAS-covered Contracts Only) By submission of a Disclosure Statement, disclose in writing the Contractor's cost accounting practices as required by 48 CFR 9903.202-1 through 9903.202-5, including methods of distinguishing direct costs from indirect costs and the basis used for allocating indirect costs. The practices disclosed for this contract shall be the same as the practices currently disclosed and applied on all other contracts and subcontracts being performed by the Contractor and which contain a Cost Accounting Standards (CAS) clause. If the Contractor has notified the Contracting Officer that the Disclosure Statement contains trade secrets and commercial or financial information which is privileged and confidential, the Disclosure Statement shall be protected and shall not be released outside of the Government.

(2) Follow consistently the Contractor's cost accounting practices in accumulating and reporting contract performance cost data concerning this contract. If any change in cost accounting practices is made for the purposes of any contract or subcontract subject to CAS requirements, the change must be applied prospectively to this contract and the Disclosure Statement must be amended accordingly. If the contract price or cost allowance of this contract is affected by such changes, adjustment shall be made in accordance with subparagraph (a)(4) or (a)(5) of this clause, as appropriate.

(3) Comply with all CAS, including any modifications and interpretations indicated thereto contained in 48 CFR Part 9904, in effect on the date of award of this contract or, if the Contractor has submitted cost or pricing data, on the date of final agreement on price as shown on the Contractor's signed certificate of current cost or pricing data. The Contractor shall also comply with any CAS (or modifications to CAS) which hereafter become applicable to a contract or subcontract of the Contractor. Such compliance shall be required prospectively from the date of applicability to such contract or subcontract.

(4)(i) Agree to an equitable adjustment as provided in the Changes clause of this contract if the contract cost is affected by a change which, pursuant to subparagraph (a)(3) of this clause, the Contractor is required to make to the Contractor's established cost accounting practices.

(ii) Negotiate with the Contracting Officer to determine the terms and conditions under which a change may be made to a cost accounting practice, other than a change made under other provisions of subparagraph (a)(4) of this clause; provided that no agreement may be made under this provision that will increase costs paid by the United States.

(iii) When the parties agree to a change to a cost accounting practice, other than a change under subdivision (a)(4)(i) of this clause, negotiate an equitable adjustment as provided in the Changes clause of this contract.

(5) Agree to an adjustment of the contract price or cost allowance, as appropriate, if the Contractor or a subcontractor fails to comply with an applicable Cost Accounting Standard, or to follow any cost accounting practice consistently and such failure results in any increased costs paid by the United States. Such adjustment shall

provide for recovery of the increased costs to the United States, together with interest thereon computed at the annual rate established under section 6621 of the Internal Revenue Code of 1986 (26 U.S.C. 6621) for such period, from the time the payment by the United States was made to the time the adjustment is effected. In no case shall the Government recover costs greater than the increased cost to the Government, in the aggregate, on the relevant contracts subject to the price adjustment, unless the Contractor made a change in its cost accounting practices of which it was aware or should have been aware at the time of price negotiations and which it failed to disclose to the Government.

(b) If the parties fail to agree whether the Contractor or a subcontractor has complied with an applicable CAS in 48 CFR 9904 or a CAS rule or regulation in 48 CFR 9903 and as to any cost adjustment demanded by the United States, such failure to agree will constitute a dispute under the Contract Disputes Act (41 U.S.C. 601).

(c) The Contractor shall permit any authorized representatives of the Government to examine and make copies of any documents, papers, or records relating to compliance with the requirements of this clause.

(d) The Contractor shall include in all negotiated subcontracts which the Contractor enters into, the substance of this clause, except paragraph (b), and shall require such inclusion in all other subcontracts, of any tier, including the obligation to comply with all CAS in effect on the subcontractor's award date or if the subcontractor has submitted cost or pricing data, on the date of final agreement on price as shown on the subcontractor's signed Certificate of Current Cost or Pricing Data. If the subcontract is awarded to a business unit which pursuant to 48 CFR 9903.201-2 is subject to other types of CAS coverage, the substance of the applicable clause set forth in subsection 30.201-4 of the Federal Acquisition Regulation shall be inserted. This requirement shall apply only to negotiated subcontracts in excess of $500,000, except that the requirement shall not apply to negotiated subcontracts otherwise exempt from the requirement to include a CAS clause as specified in 48 CFR 9903.201-1.

52.232-1 PAYMENTS (APR 1984)

The Government shall pay the Contractor, upon the submission of proper invoices or vouchers, the prices stipulated in this contract for supplies delivered and accepted or services rendered and accepted, less any deductions provided in this contract. Unless otherwise specified in this contract, payment shall be made on partial deliveries accepted by the Government if--

(a) The amount due on the deliveries warrants it; or

(b) The Contractor requests it and the amount due on the deliveries is at least $1,000 or 50 percent of the total contract price.

52.232-8 DISCOUNTS FOR PROMPT PAYMENT (MAY 1997)

(a) Discounts for prompt payment will not be considered in the evaluation of offers. However, any offered discount will form a part of the award, and will be taken if payment is made within the discount period indicated in the offer by the offeror. As an alternative to offering a prompt payment discount in conjunction with the offer, offerors awarded contracts may include prompt payment discounts on individual invoices.

(b) In connection with any discount offered for prompt payment, time shall be computed from the date of the invoice. If the Contractor has not placed a date on the invoice, the due date shall be calculated from the date the designated billing office receives a proper invoice, provided the agency annotates such invoice with the date of receipt at the time of receipt. For the purpose of computing the discount earned, payment shall be considered to have been made on the date that appears on the payment check or, for an electronic funds transfer, the specified payment date. When the discount date falls on a Saturday, Sunday, or legal holiday when Federal Government offices are closed and Government business is not expected to be conducted, payment may be made on the following business day.

52.232-9 LIMITATION ON WITHHOLDING OF PAYMENTS (APR 1984)

If more than one clause or Schedule term of this contract authorizes the temporary withholding of amounts otherwise payable to the Contractor for supplies delivered or services performed, the total of the amounts withheld at any one time shall not exceed the greatest amount that may be withheld under any one clause or Schedule term at that time; provided, that this limitation shall not apply to--

(a) Withholdings pursuant to any clause relating to wages or hours of employees;

(b) Withholdings not specifically provided for by this contract;

(c) The recovery of overpayments; and

(d) Any other withholding for which the Contracting Officer determines that this limitation is inappropriate.

52.232-11 EXTRAS (APR 1984)

Except as otherwise provided in this contract, no payment for extras shall be made unless such extras and the price therefore have been authorized in writing by the Contracting Officer.

52.232-17 INTEREST (JUNE 1996)

(a) Except as otherwise provided in this contract under a Price Reduction for Defective Cost or Pricing Data clause or a Cost Accounting Standards clause, all amounts that become payable by the Contractor to the Government under this contract (net of any applicable tax credit under the Internal Revenue Code (26 U.S.C. 1481)) shall bear simple interest from the date due until paid unless paid within 30 days of becoming due. The interest rate shall be the interest rate established by the Secretary of the Treasury as provided in Section 12 of the Contract Disputes Act of 1978 (Public Law 95-563), which is applicable to the period in which the amount becomes due, as provided in paragraph (b) of this clause, and then at the rate applicable for each six-month period as fixed by the Secretary until the amount is paid. reproduce, prepare derivative works, distribute copies to the public, and (b) Amounts shall be due at the earliest of the following dates:

(1) The date fixed under this contract.

(2) The date of the first written demand for payment consistent with this contract, including any demand resulting from a default termination.

(3) The date the Government transmits to the Contractor a proposed supplemental agreement to confirm completed negotiations establishing the amount of debt.

(4) If this contract provides for revision of prices, the date of written notice to the Contractor stating the amount of refund payable in connection with a pricing proposal or a negotiated pricing agreement not confirmed by contract modification.

(c) The interest charge made under this clause may be reduced under the procedures prescribed in 32.614-2 of the Federal Acquisition Regulation in effect on the date of this contract.

52.232-23 ASSIGNMENT OF CLAIMS (JAN 1986)

(a) The Contractor, under the Assignment of Claims Act, as amended, 31 U.S.C. 3727, 41 U.S.C. 15 (hereafter referred to as "the Act"), may assign its rights to be paid amounts due or to become due as a result of the performance of this contract to a bank, trust company, or other financing institution, including any Federal lending

agency. The assignee under such an assignment may thereafter further assign or reassign its right under the original assignment to any type of financing institution described in the preceding sentence.

(b) Any assignment or reassignment authorized under the Act and this clause shall cover all unpaid amounts payable under this contract, and shall not be made to more than one party, except that an assignment or reassignment may be made to one party as agent or trustee for two or more parties participating in the financing of this contract.

(c) The Contractor shall not furnish or disclose to any assignee under this contract any classified document (including this contract) or information related to work under this contract until the Contracting Officer authorizes such action in writing.

52.232-25 PROMPT PAYMENT (MAY 2001)

Notwithstanding any other payment clause in this contract, the Government will make invoice payments and contract financing payments under the terms and conditions specified in this clause. Payment shall be considered as being made on the day a check is dated or the date of an electronic funds transfer. Definitions of pertinent terms are set forth in sections 2.101 and 32.902 of the Federal Acquisition Regulation. All days referred to in this clause are calendar days, unless otherwise specified. (However, see subparagraph (a)(4) of this clause concerning payments due on Saturdays, Sundays, and legal holidays.)

(a) Invoice payments. (1) Due date--(i) Except as indicated in subparagraph (a)(2) and paragraph (c) of this clause, the due date for making invoice payments by the designated payment office shall be the later of the following two events:

(A) The 30th day after the designated billing office has received a proper invoice from the Contractor (except as provided in subdivision (a)(1)(ii) of this clause).

(B) The 30th day after Government acceptance of supplies delivered or services performed by the Contractor. On a final invoice where the payment amount is subject to contract settlement actions, acceptance shall be deemed to have occurred on the effective date of the contract settlement.

(ii) If the designated billing office fails to annotate the invoice with the actual date of receipt at the time of receipt, the invoice payment due date shall be the 30th day after the date of the Contractor's invoice; provided a proper invoice is received and there is no disagreement over quantity, quality, or Contractor compliance with contract requirements.

(2) Certain food products and other payments. (i) Due dates on Contractor invoices for meat, meat food products, or fish; perishable agricultural commodities; and dairy products, edible fats or oils, and food products prepared from edible fats or oils are--

(A) For meat or meat food products, as defined in section 2(a)(3) of the Packers and Stockyard Act of 1921 (7 U.S.C. 182(3)), and as further defined in Pub. L. 98-181, including any edible fresh or frozen poultry meat, any perishable poultry meat food product, fresh eggs, and any perishable egg product, as close as possible to, but not later than, the 7th day after product delivery.

(B) For fresh or frozen fish, as defined in section 204(3) of the Fish and Seafood Promotion Act of 1986 (16 U.S.C. 4003(3)), as close as possible to, but not later than, the 7th day after product delivery.

(C) For perishable agricultural commodities, as defined in section 1(4) of the Perishable Agricultural Commodities Act of 1930 (7 U.S.C. 499a(4)), as close as possible to, but not later than, the 10th day after product delivery, unless another date is specified in the contract.

(D) For dairy products, as defined in section 111(e) of the Dairy Production Stabilization Act of 1983 (7 U.S.C. 4502(e)), edible fats or oils, and food products prepared from edible fats or oils, as close as possible to, but not later

than, the 10th day after the date on which a proper invoice has been received. Liquid milk, cheese, certain processed cheese products, butter, yogurt, ice cream, mayonnaise, salad dressings, and other similar products, fall within this classification. Nothing in the Act limits this classification to refrigerated products. When questions arise regarding the proper classification of a specific product, prevailing industry practices will be followed in specifying a contract payment due date. The burden of proof that a classification of a specific product is, in fact, prevailing industry practice is upon the Contractor making the representation.

(ii) If the contract does not require submission of an invoice for payment (e.g., periodic lease payments), the due date will be as specified in the contract.

(3) Contractor's invoice. The Contractor shall prepare and submit invoices to the designated billing office specified in the contract. A proper invoice must include the items listed in subdivisions (a)(3)(i) through (a)(3)(viii) of this clause. If the invoice does not comply with these requirements, it shall be returned within 7 days after the date the designated billing office received the invoice (3 days for meat, meat food products, or fish; 5 days for perishable agricultural commodities, edible fats or oils, and food products prepared from edible fats or oils), with a statement of the reasons why it is not a proper invoice. Untimely notification will be taken into account in computing any interest penalty owed the Contractor in the manner described in subparagraph (a)(5) of this clause.

(i) Name and address of the Contractor.

(ii) Invoice date. (The Contractor is encouraged to date invoices as close as possible to the date of the mailing or transmission.)

(iii) Contract number or other authorization for supplies delivered or services performed (including order number and contract line item number).

(iv) Description, quantity, unit of measure, unit price, and extended price of supplies delivered or services performed.

(v) Shipping and payment terms (e.g., shipment number and date of shipment, prompt payment discount terms). Bill of lading number and weight of shipment will be shown for shipments on Government bills of lading.

(vi) Name and address of Contractor official to whom payment is to be sent (must be the same as that in the contract or in a proper notice of assignment).

(vii) Name (where practicable), title, phone number, and mailing address of person to be notified in the event of a defective invoice.

(viii) Any other information or documentation required by the contract (such as evidence of shipment).

(ix) While not required, the Contractor is strongly encouraged to assign an identification number to each invoice.

(4) Interest penalty. An interest penalty shall be paid automatically by the designated payment office, without request from the Contractor, if payment is not made by the due date and the conditions listed in subdivisions (a)(4)(i) through (a)(4)(iii) of this clause are met, if applicable. However, when the due date falls on a Saturday, Sunday, or legal holiday when Federal Government offices are closed and Government business is not expected to be conducted, payment may be made on the following business day without incurring a late payment interest penalty.

(i) A proper invoice was received by the designated billing office.

(ii) A receiving report or other Government documentation authorizing payment was processed, and there was no disagreement over quantity, quality, or Contractor compliance with any contract term or condition.

(iii) In the case of a final invoice for any balance of funds due the Contractor for supplies delivered or services performed, the amount was not subject to further contract settlement actions between the Government and the

Contractor.

(5) Computing penalty amount. The interest penalty shall be at the rate established by the Secretary of the Treasury under section 12 of the Contract Disputes Act of 1978 (41 U.S.C. 611) that is in effect on the day after the due date, except where the interest penalty is prescribed by other governmental authority (e.g., tariffs). This rate is referred to as the "Renegotiation Board Interest Rate," and it is published in the Federal Register semiannually on or about January 1 and July 1. The interest penalty shall accrue daily on the invoice principal payment amount approved by the Government until the payment date of such approved principal amount; and will be compounded in 30-day increments inclusive from the first day after the due date through the payment date. That is, interest accrued at the end of any 30-day period will be added to the approved invoice principal payment amount and will be subject to interest penalties if not paid in the succeeding 30-day period. If the designated billing office failed to notify the Contractor of a defective invoice within the periods prescribed in subparagraph (a)(3) of this clause, the due date on the corrected invoice will be adjusted by subtracting from such date the number of days taken beyond the prescribed notification of defects period. Any interest penalty owed the Contractor will be based on this adjusted due date. Adjustments will be made by the designated payment office for errors in calculating interest penalties.

(i) For the sole purpose of computing an interest penalty that might be due the Contractor, Government acceptance shall be deemed to have occurred constructively on the 7th day (unless otherwise specified in this contract) after the Contractor delivered the supplies or performed the services in accordance with the terms and conditions of the contract, unless there is a disagreement over quantity, quality, or Contractor compliance with a contract provision. In the event that actual acceptance occurs within the constructive acceptance period, the determination of an interest penalty shall be based on the actual date of acceptance. The constructive acceptance requirement does not, however, compel Government officials to accept supplies or services, perform contract administration functions, or make payment prior to fulfilling their responsibilities.

(ii) The following periods of time will not be included in the determination of an interest penalty:

(A) The period taken to notify the Contractor of defects in invoices submitted to the Government, but this may not exceed 7 days (3 days for meat, meat food products, or fish; 5 days for perishable agricultural commodities, dairy products, edible fats or oils, and food products prepared from edible fats or oils).

(B) The period between the defects notice and resubmission of the corrected invoice by the Contractor.

(C) For incorrect electronic funds transfer (EFT) information, in accordance with the EFT clause of this contract.

(iii) Interest penalties will not continue to accrue after the filing of a claim for such penalties under the clause at 52.233-1, Disputes, or for more than 1 year. Interest penalties of less than $1 need not be paid.

(iv) Interest penalties are not required on payment delays due to disagreement between the Government and the Contractor over the payment amount or other issues involving contract compliance or on amounts temporarily withheld or retained in accordance with the terms of the contract. Claims involving disputes, and any interest that may be payable, will be resolved in accordance with the clause at 52.233-1, Disputes.

(6) Prompt payment discounts. An interest penalty also shall be paid automatically by the designated payment office, without request from the Contractor, if a discount for prompt payment is taken improperly. The interest penalty will be calculated as described in subparagraph (a)(5) of this clause on the amount of discount taken for the period beginning with the first day after the end of the discount period through the date when the Contractor is paid.

(7) Additional interest penalty. (i) If this contract was awarded on or after October 1, 1989, a penalty amount, calculated in accordance with subdivision (a)(7)(iii) of this clause, shall be paid in addition to the interest penalty amount if the Contractor--

(A) Is owed an interest penalty of $1 or more;

(B) Is not paid the interest penalty within 10 days after the date the invoice amount is paid; and

(C) Makes a written demand to the designated payment office for additional penalty payment, in accordance with subdivision (a)(7)(ii) of this clause, postmarked not later than 40 days after the invoice amount is paid.

(ii)(A) Contractors shall support written demands for additional penalty payments with the following data. No additional data shall be required. Contractors shall--

(1) Specifically assert that late payment interest is due under a specific invoice, and request payment of all overdue late payment interest penalty and such additional penalty as may be required;

(2) Attach a copy of the invoice on which the unpaid late payment interest was due; and

(3) State that payment of the principal has been received, including the date of receipt.

(B) Demands must be postmarked on or before the 40th day after payment was made, except that--

(1) If the postmark is illegible or nonexistent, the demand must have been received and annotated with the date of receipt by the designated payment office on or before the 40th day after payment was made; or

(2) If the postmark is illegible or nonexistent and the designated payment office fails to make the required annotation, the demand's validity will be determined by the date the Contractor has placed on the demand; provided such date is no later than the 40th day after payment was made.

(iii)(A) The additional penalty shall be equal to 100 percent of any original late payment interest penalty, except--

(1) The additional penalty shall not exceed $5,000;

(2) The additional penalty shall never be less than $25; and

(3) No additional penalty is owed if the amount of the underlying interest penalty is less than $1.

(B) If the interest penalty ceases to accrue in accordance with the limits stated in subdivision (a)(5)(iii) of this clause, the amount of the additional penalty shall be calculated on the amount of interest penalty that would have accrued in the absence of these limits, subject to the overall limits on the additional penalty specified in subdivision (a)(7)(iii)(A) of this clause.

(C) For determining the maximum and minimum additional penalties, the test shall be the interest penalty due on each separate payment made for each separate contract. The maximum and minimum additional penalty shall not be based upon individual invoices unless the invoices are paid separately. Where payments are consolidated for disbursing purposes, the maximum and minimum additional penalty determination shall be made separately for each contract therein.

(D) The additional penalty does not apply to payments regulated by other Government regulations (e.g., payments under utility contracts subject to tariffs and regulation).

(b) Contract financing payments. (1) Due dates for recurring financing payments. If this contract provides for contract financing, requests for payment shall be submitted to the designated billing office as specified in this contract or as directed by the Contracting Officer. Contract financing payments shall be made on the [insert day as prescribed by Agency head; if not prescribed, insert 30th day] day after receipt of a proper contract financing request by the designated billing office. In the event that an audit or other review of a specific financing request is required to ensure compliance with the terms and conditions of the contract, the designated payment office is not compelled to make payment by the due date specified.

(2) Due dates for other contract financing. For advance payments, loans, or other arrangements that do not involve recurring submissions of contract financing requests, payment shall be made in accordance with the corresponding contract terms or as directed by the Contracting Officer.

(3) Interest penalty not applicable. Contract financing payments shall not be assessed an interest penalty for payment delays.

(c) Fast payment procedure due dates. If this contract contains the clause at 52.213-1, Fast Payment Procedure, payments will be made within 15 days after the date of receipt of the invoice.

52.232-33 PAYMENT BY ELECTRONIC FUNDS TRANSFER—CENTRAL CONTRACTOR REGISTRATION (MAY 1999)

(a) Method of payment. (1) All payments by the Government under this contract shall be made by electronic funds transfer (EFT), except as provided in paragraph (a)(2) of this clause. As used in this clause, the term “EFT” refers to the funds transfer and may also include the payment information transfer.

(2) In the event the Government is unable to release one or more payments by EFT, the Contractor agrees to either--

(i) Accept payment by check or some other mutually agreeable method of payment; or

(ii) Request the Government to extend the payment due date until such time as the Government can make payment by EFT (but see paragraph (d) of this clause).

(b) Contractor's EFT information. The Government shall make payment to the Contractor using the EFT information contained in the Central Contractor Registration (CCR) database. In the event that the EFT information changes, the Contractor shall be responsible for providing the updated information to the CCR database.

(c) Mechanisms for EFT payment. The Government may make payment by EFT through either the Automated Clearing House (ACH) network, subject to the rules of the National Automated Clearing House Association, or the Fedwire Transfer System. The rules governing Federal payments through the ACH are contained in 31 CFR part 210.

(d) Suspension of payment. If the Contractor's EFT information in the CCR database is incorrect, then the Government need not make payment to the Contractor under this contract until correct EFT information is entered into the CCR database; and any invoice or contract financing request shall be deemed not to be a proper invoice for the purpose of prompt payment under this contract. The prompt payment terms of the contract regarding notice of an improper invoice and delays in accrual of interest penalties apply.

(e) Contractor EFT arrangements. If the Contractor has identified multiple payment receiving points (i.e., more than one remittance address and/or EFT information set) in the CCR database, and the Contractor has not notified the Government of the payment receiving point applicable to this contract, the Government shall make payment to the first payment receiving point (EFT information set or remittance address as applicable) listed in the CCR database.

(f) Liability for uncompleted or erroneous transfers. (1) If an uncompleted or erroneous transfer occurs because the Government used the Contractor's EFT information incorrectly, the Government remains responsible for--

(i) Making a correct payment;

(ii) Paying any prompt payment penalty due; and

(iii) Recovering any erroneously directed funds.

(2) If an uncompleted or erroneous transfer occurs because the Contractor's EFT information was incorrect, or was revised within 30 days of Government release of the EFT payment transaction instruction to the Federal Reserve System, and--

(i) If the funds are no longer under the control of the payment office, the Government is deemed to have made payment and the Contractor is responsible for recovery of any erroneously directed funds; or

(ii) If the funds remain under the control of the payment office, the Government shall not make payment, and the provisions of paragraph (d) of this clause shall apply.

(g) EFT and prompt payment. A payment shall be deemed to have been made in a timely manner in accordance with the prompt payment terms of this contract if, in the EFT payment transaction instruction released to the Federal Reserve System, the date specified for settlement of the payment is on or before the prompt payment due date, provided the specified payment date is a valid date under the rules of the Federal Reserve System.

(h) EFT and assignment of claims. If the Contractor assigns the proceeds of this contract as provided for in the assignment of claims terms of this contract, the Contractor shall require as a condition of any such assignment, that the assignee shall register in the CCR database and shall be paid by EFT in accordance with the terms of this clause. In all respects, the requirements of this clause shall apply to the assignee as if it were the Contractor. EFT information that shows the ultimate recipient of the transfer to be other than the Contractor, in the absence of a proper assignment of claims acceptable to the Government, is incorrect EFT information within the meaning of paragraph (d) of this clause.

(i) Liability for change of EFT information by financial agent. The Government is not liable for errors resulting from changes to EFT information made by the Contractor's financial agent.

(j) Payment information. The payment or disbursing office shall forward to the Contractor available payment information that is suitable for transmission as of the date of release of the EFT instruction to the Federal Reserve System. The Government may request the Contractor to designate a desired format and method(s) for delivery of payment information from a list of formats and methods the payment office is capable of executing. However, the Government does not guarantee that any particular format or method of delivery is available at any particular payment office and retains the latitude to use the format and delivery method most convenient to the Government. If the Government makes payment by check in accordance with paragraph (a) of this clause, the Government shall mail the payment information to the remittance address contained in the CCR database.

(End of Clause)

52.233-1 DISPUTES. (DEC 1998)

(a) This contract is subject to the Contract Disputes Act of 1978, as amended (41 U.S.C. 601-613).

(b) Except as provided in the Act, all disputes arising under or relating to this contract shall be resolved under this clause.

(c) "Claim," as used in this clause, means a written demand or written assertion by one of the contracting parties seeking, as a matter of right, the payment of money in a sum certain, the adjustment or interpretation of contract terms, or other relief arising under or relating to this contract. A claim arising under a contract, unlike a claim relating to that contract, is a claim that can be resolved under a contract clause that provides for the relief sought by the claimant. However, a written demand or written assertion by the Contractor seeking the payment of money exceeding $100,000 is not a claim under the Act until certified as required by subparagraph (d)(2) of this clause. A voucher, invoice, or other routine request for payment that is not in dispute when submitted is not a claim under the Act. The submission may be converted to a claim under the Act, by complying with the submission and certification requirements of this clause, if it is disputed either as to liability or amount or is not acted upon in a reasonable time.

(d)(1) A claim by the Contractor shall be made in writing and, unless otherwise stated in this contract, submitted within 6 years after accrual of the claim to the Contracting Officer for a written decision. A claim by the Government against the Contractor shall be subject to a written decision by the Contracting Officer.

(2)(i) The contractors shall provide the certification specified in subparagraph (d)(2)(iii) of this clause when submitting any claim -

(A) Exceeding $100,000; or

(B) Regardless of the amount claimed, when using -

(1) Arbitration conducted pursuant to 5 U.S.C. 575-580; or

(2) Any other alternative means of dispute resolution (ADR) technique that the agency elects to handle in accordance with the Administrative Dispute Resolution Act (ADRA).

(ii) The certification requirement does not apply to issues in controversy that have not been submitted as all or part of a claim.

(iii) The certification shall state as follows: "I certify that the claim is made in good faith; that the supporting data are accurate and complete to the best of my knowledge and belief; that the amount requested accurately reflects the contract adjustment for which the Contractor believes the Government is liable; and that I am duly authorized to certify the claim on behalf of the Contractor.

(3) The certification may be executed by any person duly authorized to bind the Contractor with respect to the claim.

(e) For Contractor claims of $100,000 or less, the Contracting Officer must, if requested in writing by the Contractor, render a decision within 60 days of the request. For Contractor-certified claims over $100,000, the Contracting Officer must, within 60 days, decide the claim or notify the Contractor of the date by which the decision will be made.

(f) The Contracting Officer's decision shall be final unless the Contractor appeals or files a suit as provided in the Act.

(g) If the claim by the Contractor is submitted to the Contracting Officer or a claim by the Government is presented to the Contractor, the parties, by mutual consent, may agree to use alternative disput resolution (ADR). If the Contractor refuses an offer for ADR, the Contractor shall inform the Contracting Officer, in writing, of the Contractor's specific reasons for rejecting the request.

(h) The Government shall pay interest on the amount found due and unpaid from (1) the date the Contracting Officer receives the claim (certified, if required); or (2) the date that payment otherwise would be due, if that date is later, until the date of payment. With regard to claims having defective certifications, as defined in (FAR) 48 CFR 33.201, interest shall be paid from the date that the Contracting Officer initially receives the claim. Simple interest on claims shall be paid at the rate, fixed by the Secretary of the Treasury as provided in the Act, which is applicable to the period during which the Contracting Officer receives the claim and then at the rate applicable for each 6-month period as fixed by the Treasury Secretary during the pendency of the claim.

(i) The Contractor shall proceed diligently with performance of this contract, pending final resolution of any request for relief, claim, appeal, or action arising under the contract, and comply with any decision of the Contracting Officer.

(End of clause)

52.233-3 PROTEST AFTER AWARD (AUG. 1996)

(a) Upon receipt of a notice of protest (as defined in FAR 33.101) or a determination that a protest is likely (see FAR 33.102(d)), the Contracting Officer may, by written order to the Contractor, direct the Contractor to stop performance of the work called for by this contract. The order shall be specifically identified as a stop-work order issued under this clause. Upon receipt of the order, the Contractor shall immediately comply with its terms and take all reasonable steps to minimize the incurrence of costs allocable to the work covered by the order during the period of work stoppage. Upon receipt of the final decision in the protest, the Contracting Officer shall either--

(1) Cancel the stop-work order; or

(2) Terminate the work covered by the order as provided in the Default, or the Termination for Convenience of the

Government, clause of this contract.

(b) If a stop-work order issued under this clause is canceled either before or after a final decision in the protest, the Contractor shall resume work. The Contracting Officer shall make an equitable adjustment in the delivery schedule or contract price, or both, and the contract shall be modified, in writing, accordingly, if--

(1) The stop-work order results in an increase in the time required for, or in the Contractor's cost properly allocable to, the performance of any part of this contract; and

(2) The Contractor asserts its right to an adjustment within 30 days after the end of the period of work stoppage; provided, that if the Contracting Officer decides the facts justify the action, the Contracting Officer may receive and act upon a proposal at any time before final payment under this contract.

(c) If a stop-work order is not canceled and the work covered by the order is terminated for the convenience of the Government, the Contracting Officer shall allow reasonable costs resulting from the stop-work order in arriving at the termination settlement.

(d) If a stop-work order is not canceled and the work covered by the order is terminated for default, the Contracting Officer shall allow, by equitable adjustment or otherwise, reasonable costs resulting from the stop-work order.

(e) The Government's rights to terminate this contract at any time are not affected by action taken under this clause.

(f) If, as the result of the Contractor's intentional or negligent misstatement, misrepresentation, or miscertification, a protest related to this contract is sustained, and the Government pays costs, as provided in FAR 33.102(b)(2) or 33.104(h)(1), the Government may require the Contractor to reimburse the Government the amount of such costs. In addition to any other remedy available, and pursuant to the requirements of Subpart 32.6, the Government may collect this debt by offsetting the amount against any payment due the Contractor under any contract between the Contractor and the Government.

52.242-13 BANKRUPTCY (JUL 1995)

In the event the Contractor enters into proceedings relating to bankruptcy, whether voluntary or involuntary, the Contractor agrees to furnish, by certified mail or electronic commerce method authorized by the contract, written notification of the bankruptcy to the Contracting Officer responsible for administering the contract. This notification shall be furnished within five days of the initiation of the proceedings relating to bankruptcy filing. This notification shall include the date on which the bankruptcy petition was filed, the identity of the court in which the bankruptcy petition was filed, and a listing of Government contract numbers and contracting offices for all Government contracts against which final payment has not been made. This obligation remains in effect until final payment under this contract.

(End of clause)

52.243-1 CHANGES--FIXED-PRICE (AUG 1987)

(a) The Contracting Officer may at any time, by written order, and without notice to the sureties, if any, make changes within the general scope of this contract in any one or more of the following:

(1) Drawings, designs, or specifications when the supplies to be furnished are to be specially manufactured for the Government in accordance with the drawings, designs, or specifications.

(2) Method of shipment or packing.

(3) Place of delivery.

(b) If any such change causes an increase or decrease in the cost of, or the time required for, performance of any part of the work under this contract, whether or not changed by the order, the Contracting Officer shall make an equitable adjustment in the contract price, the delivery schedule, or both, and shall modify the contract.

(c) The Contractor must assert its right to an adjustment under this clause within 30 days from the date of receipt of the written order. However, if the Contracting Officer decides that the facts justify it, the Contracting Officer may receive and act upon a proposal submitted before final payment of the contract.

(d) If the Contractor's proposal includes the cost of property made obsolete or excess by the change, the Contracting Officer shall have the right to prescribe the manner of the disposition of the property.

(e) Failure to agree to any adjustment shall be a dispute under the Disputes clause. However, nothing in this clause shall excuse the Contractor from proceeding with the contract as changed.

52.244-5 COMPETITION IN SUBCONTRACTING (DEC 1996)

(a) The Contractor shall select subcontractors (including suppliers) on a competitive basis to the maximum practical extent consistent with the objectives and requirements of the contract.

(b) If the Contractor is an approved mentor under the Department of Defense Pilot Mentor-Protege Program (Pub. L. 101–510, section 831 as amended), the Contractor may award subcontracts under this contract on a noncompetitive basis to its proteges.

52.244-6 SUBCONTRACTS FOR COMMERCIAL ITEMS (MAY 2001)

(a) Definitions. As used this clause--

"Commercial item", has the meaning contained in the clause at 52.202-1, Definitions.

"Subcontract", includes a transfer of commercial items between divisions, subsidiaries, or affiliates of the Contractor or subcontractor at any tier.

(b) To the maximum extent practicable, the Contractor shall incorporate, and require its subcontractors at all tiers to incorporate, commercial items or nondevelopmental items as components of items to be supplied under this contract.

(c)(1) The following clauses shall be flowed down to subcontracts for commercial items:

(i) 52.219-8, Utilization of Small Business Concerns (OCT 2000) (15 U.S.C. 637(d)(2) and (3)), in all subcontracts that offer further subcontracting opportunities. If the subcontract (except subcontracts to small business concerns) exceeds $500,000 ($1,000,000 for construction of any public facility), the subcontractor must include 52.219-8 in lower tier subcontracts that offer subcontracting opportunities.

(ii) 52.222-26, Equal Opportunity (FEB 1999) (E.O. 11246).

(iii) 52.222-35, Affirmative Action for Disabled Veterans and Veterans of the Vietnam Era (APR 1998) (38 U.S.C. 4212(a)).

(iv) 52.222-36, Affirmative Action for Workers with Disabilities (JUN 1998) (29 U.S.C. 793).

(v) 52.247-64, Preference for Privately Owned U.S.-Flagged Commercial Vessels (JUN 2000) (46 U.S.C. Appx 1241) (flowdown not required for subcontracts awarded beginning May 1, 1996).

(2) While not required, the Contractor may flow down to subcontracts for commercial items a minimal number of additional clauses necessary to satisfy its contractual obligations.

(d) The Contractor shall include the terms of this clause, including this paragraph (d), in subcontracts awarded under this contract.

52.246-24 LIMITATION OF LIABILITY HIGH-VALUE ITEMS (FEB 1997)

(a) Except as provided in paragraphs (b) through (e) below, and notwithstanding any other provision of this contract, the Contractor shall not be liable for loss of or damage to property of the Government (including the supplies delivered under this contract) that (1) occurs after Government acceptance of the supplies delivered under this contract, and (2) results from any defects or deficiencies in the supplies.

(b) The limitation of liability under paragraph (a) above shall not apply when a defect or deficiency in, or the Government's acceptance of, the supplies results from willful misconduct or lack of good faith on the part of any of the Contractor's managerial personnel. The term "Contractor's managerial personnel," as used in this clause, means the Contractor's directors, officers, and any of the Contractor's managers, superintendents, or equivalent representatives wb ho have supervision or direction of--

(1) All or substantially all of the Contractor's business;

(2) All or substantially all of the Contractor's operations at any one plant, laboratory, or separate location at which the contract is being performed; or

(3) A separate and complete major industrial operation connected with the performance of this contract.

(c) If the Contractor carries insurance, or has established a reserve for self-insurance, covering liability for loss or damage suffered by the Government through purchase or use of the supplies required to be delivered under this contract, the Contractor shall be liable to the Government, to the extent of such insurance or reserve, for loss of or damage to property of the Government occurring after Government acceptance of, and resulting from any defects or deficiencies in, the supplies delivered under this contract.

(d)(1) This clause does not diminish the Contractor's obligations, to the extent that they arise otherwise under this contract, relating to correction, repair, replacement, or other relief for any defect or deficiency in supplies delivered under this contract.

(2) Unless this is a cost-reimbursement contract, if loss or damage occurs and correction, repair, or replacement is not feasible or desired by the Government, the Contractor shall, as determined by the Contracting Officer--

(i) Pay the Government the amount it would have cost the Contractor to make correction, repair, or replacement before the loss or damage occurred; (ii) Provide other equitable relief.

(e) This clause shall not limit or otherwise affect the Government's rights under clauses, if included in this contract, that cover--

(1) Warranty of technical data;

(2) Ground and flight risks or aircraft flight risks; or

(3) Government property.

52.246-25 LIMITATION OF LIABILITY--SERVICES (FEB 1997)

(a) Except as provided in paragraphs (b) and (c) below, and except to the extent that the Contractor is expressly responsible under this contract for deficiencies in the services required to be performed under it (including any materials furnished in conjunction with those services), the Contractor shall not be liable for loss of or damage to

property of the Government that (1) occurs after Government acceptance of services performed under this contract, and (2) results from any defects or deficiencies in the services performed or materials furnished.

(b) The limitation of liability under paragraph (a) above shall not apply when a defect or deficiency in, or the Government's acceptance of, services performed or materials furnished results from willful misconduct or lack of good faith on the part of any of the Contractor's managerial personnel. The term "Contractor's managerial personnel," as used in this clause, means the Contractor's directors, officers, and any of the Contractor's managers, superintendents, or equivalent representatives who have supervision or direction of--

(1) All or substantially all of the Contractor's business;

(2) All or substantially all of the Contractor's operations at any one plant, laboratory, or separate location at which the contract is being performed; or

(3) A separate and complete major industrial operation connected with the performance of this contract.

(c) If the Contractor carries insurance, or has established a reserve for self-insurance, covering liability for loss or damage suffered by the Government through the Contractor's performance of services or furnishing of materials under this contract, the Contractor shall be liable to the Government, to the extent of such insurance or reserve, for loss of or damage to property of the Government occurring after Government acceptance of, and resulting from any defects and deficiencies in, services performed or materials furnished under this contract.

52.248-1 VALUE ENGINEERING (FEB 2000)

(a) General. The Contractor is encouraged to develop, prepare, and submit value engineering change proposals (VECP's) voluntarily. The Contractor shall share in any net acquisition savings realized from accepted VECP's, in accordance with the incentive sharing rates in paragraph (f) below.

(b) Definitions. "Acquisition savings," as used in this clause, means savings resulting from the application of a VECP to contracts awarded by the same contracting office or its successor for essentially the same unit. Acquisition savings include--

(1) Instant contract savings, which are the net cost reductions on this, the instant contract, and which are equal to the instant unit cost reduction multiplied by the number of instant contract units affected by the VECP, less the Contractor's allowable development and implementation costs;

(2) Concurrent contract savings, which are net reductions in the prices of other contracts that are definitized and ongoing at the time the VECP is accepted; and

(3) Future contract savings, which are the product of the future unit cost reduction multiplied by the number of future contract units in the sharing base. On an instant contract, future contract savings include savings on increases in quantities after VECP acceptance that are due to contract modifications, exercise of options, additional orders, and funding of subsequent year requirements on a multiyear contract.

"Collateral costs," as used in this clause, means agency cost of operation, maintenance, logistic support, or Government-furnished property.

"Collateral savings," as used in this clause, means those measurable net reductions resulting from a VECP in the agency's overall projected collateral costs, exclusive of acquisition savings, whether or not the acquisition cost changes.

"Contracting office" includes any contracting office that the acquisition is transferred to, such as another branch of the agency or another agency's office that is performing a joint acquisition action.

"Contractor's development and implementation costs," as used in this clause, means those costs the Contractor incurs on a VECP specifically in developing, testing, preparing, and submitting the VECP, as well as those costs the Contractor incurs to make the contractual changes required by Government acceptance of a VECP.

"Future unit cost reduction," as used in this clause, means the instant unit cost reduction adjusted as the Contracting Officer considers necessary for projected learning or changes in quantity during the sharing period. It is calculated at the time the VECP is accepted and applies either (1) throughout the sharing period, unless the Contracting Officer decides that recalculation is necessary because conditions are significantly different from those previously anticipated or (2) to the calculation of a lump-sum payment, which cannot later be revised.

"Government costs," as used in this clause, means those agency costs that result directly from developing and implementing the VECP, such as any net increases in the cost of testing, operations, maintenance, and logistics support. The term does not include the normal administrative costs of processing the VECP or any increase in this contract's cost or price resulting from negative instant contract savings.

"Instant contract," as used in this clause, means this contract, under which the VECP is submitted. It does not include increases in quantities after acceptance of the VECP that are due to contract modifications, exercise of options, or additional orders. If this is a multiyear contract, the term does not include quantities funded after VECP acceptance. If this contract is a fixed-price contract with prospective price redetermination, the term refers to the period for which firm prices have been established.

"Instant unit cost reduction" means the amount of the decrease in unit cost of performance (without deducting any Contractor's development or implementation costs) resulting from using the VECP on this, the instant contract. If this is a service contract, the instant unit cost reduction is normally equal to the number of hours per line-item task saved by using the VECP on this contract, multiplied by the appropriate contract labor rate.

"Negative instant contract savings" means the increase in the cost or price of this contract when the acceptance of a VECP results in an excess of the Contractor's allowable development and implementation costs over the product of the instant unit cost reduction multiplied by the number of instant contract units affected.

"Net acquisition savings" means total acquisition savings, including instant, concurrent, and future contract savings, less Government costs.

"Sharing base," as used in this clause, means the number of affected end items on contracts of the contracting office accepting the VECP.

Sharing period, as used in this clause, means the period beginning with acceptance of the first unit incorporating the VECP and ending at a calendar date or event determined by the contracting officer for each VECP.

"Unit," as used in this clause, means the item or task to which the Contracting Officer and the Contractor agree the VECP applies.

"Value engineering change proposal (VECP)" means a proposal that--

(1) Requires a change to this, the instant contract, to implement; and

(2) Results in reducing the overall projected cost to the agency without impairing essential functions or characteristics; provided, that it does not involve a change--

(i) In deliverable end item quantities only;

(ii) In research and development (R&D) end items or R&D test quantities that is due solely to results of previous testing under this contract; or

(iii) To the contract type only.

(c) VECP preparation. As a minimum, the Contractor shall include in each VECP the information described in subparagraphs (1) through (8) below. If the proposed change is affected by contractually required configuration management or similar procedures, the instructions in those procedures relating to format, identification, and priority assignment shall govern VECP preparation. The VECP shall include the following:

(1) A description of the difference between the existing contract requirement and the proposed requirement, the comparative advantages and disadvantages of each, a justification when an item's function or characteristics are being altered, the effect of the change on the end item's performance, and any pertinent objective test data.

(2) A list and analysis of the contract requirements that must be changed if the VECP is accepted, including any suggested specification revisions.

(3) Identification of the unit to which the VECP applies.

(4) A separate, detailed cost estimate for (i) the affected portions of the existing contract requirement and (ii) the VECP. The cost reduction associated with the VECP shall take into account the Contractor's allowable development and implementation costs, including any amount attributable to subcontracts under the Subcontracts paragraph of this clause, below.

(5) A description and estimate of costs the Government may incur in implementing the VECP, such as test and evaluation and operating and support costs.

(6) A prediction of any effects the proposed change would have on collateral costs to the agency.

(7) A statement of the time by which a contract modification accepting the VECP must be issued in order to achieve the maximum cost reduction, noting any effect on the contract completion time or delivery schedule.

(8) Identification of any previous submissions of the VECP, including the dates submitted, the agencies and contract numbers involved, and previous Government actions, if known.

(d) Submission. The Contractor shall submit VECP's to the Contracting Officer, unless this contract states otherwise. If this contract is administered by other than the contracting office, the Contractor shall submit a copy of the VECP simultaneously to the Contracting Officer and to the Administrative Contracting Officer.

(e) Government action. (1) The Contracting Officer will notify the Contractor of the status of the VECP within 45 calendar days after the contracting office receives it. If additional time is required, the Contracting Officer will notify the Contractor within the 45-day period and provide the reason for the delay and the expected date of the decision. The Government will process VECP's expeditiously; however, it shall not be liable for any delay in acting upon a VECP.

(2) If the VECP is not accepted, the Contracting Officer will notify the Contractor in writing, explaining the reasons for rejection. The Contractor may withdraw any VECP, in whole or in part, at any time before it is accepted by the Government. The Contracting Officer may require that the Contractor provide written notification before undertaking significant expenditures for VECP effort.

(3) Any VECP may be accepted, in whole or in part, by the Contracting Officer's award of a modification to this contract citing this clause and made either before or within a reasonable time after contract performance is completed. Until such a contract modification applies a VECP to this contract, the Contractor shall perform in accordance with the existing contract. The decision to accept or reject all or part of any VECP is a unilateral decision made solely at the discretion of the Contracting Officer.

(f) Sharing rates. If a VECP is accepted, the Contractor shall share in net acquisition savings according to the percentages shown in the table below. The percentage paid the Contractor depends upon (1) this contract's type (fixed-price, incentive, or cost-reimbursement), (2) the sharing arrangement specified in paragraph (a) above (incentive, program requirement, or a combination as delineated in the Schedule), and (3) the source of the savings (the instant contract, or concurrent and future contracts), as follows:

Government/Contractor Shares of Net Acquisition Savings
[Figures in percent]

Sharing arrangement				
Contract type	Incentive (voluntary)		Program requirement (mandatory)	
	Concurrent and contract rate	Instant future contract rate	Concurrent and contract rate	Instant future contract rate
Fixed-price (includes fixed-price-award-fee; excludes other fixed-price incentive contracts).....	\1\ 50/50	\1\ 50/50	75/25	75/25
Incentive (fixed-price or cost) (other than award fee).....	(\2\)	\1\ 50/50	(\2\)	75/25
Cost-reimbursement (includes cost-plus-award-fee; excludes other cost-type incentive contracts).....	\3\ 75/25	\3\ 75/25	85/15	85/15

\1\ The contracting officer may increase the contractor's sharing rate to as high as 75 percent for each VECP. (See 48.102(g) (1) through (7).)

\2\ Same sharing arrangement as the contract's profit or fee adjustment formula.

\3\ The contracting officer may increase the contractor's sharing rate to as high as 50 percent for each VECP. (See 48.102(g) (1) through (7).

(g) Calculating net acquisition savings.

(1) Acquisition savings are realized when (i) the cost or price is reduced on the instant contract, (ii) reductions are negotiated in concurrent contracts, (iii) future contracts are awarded, or (iv) agreement is reached on a lump-sum payment for future contract savings (see subparagraph (i)(4) below). Net acquisition savings are first realized, and the Contractor shall be paid a share, when Government costs and any negative instant contract savings have been fully offset against acquisition savings.

(2) Except in incentive contracts, Government costs and any price or cost increases resulting from negative instant contract savings shall be offset against acquisition savings each time such savings are realized until they are fully offset. Then, the Contractor's share is calculated by multiplying net acquisition savings by the appropriate Contractor's percentage sharing rate (see paragraph (f) above). Additional Contractor shares of net acquisition savings shall be paid to the Contractor at the time realized.

(3) If this is an incentive contract, recovery of Government costs on the instant contract shall be deferred and offset against concurrent and future contract savings. The Contractor shall share through the contract incentive structure in savings on the instant contract items affected. Any negative instant contract savings shall be added to the target cost or to the target price and ceiling price, and the amount shall be offset against concurrent and future contract savings.

(4) If the Government does not receive and accept all items on which it paid the Contractor's share, the Contractor shall reimburse the Government for the proportionate share of these payments.

(h) Contract adjustment. The modification accepting the VECP (or a subsequent modification issued as soon as possible after any negotiations are completed) shall--

(1) Reduce the contract price or estimated cost by the amount of instant contract savings, unless this is an incentive contract;

(2) When the amount of instant contract savings is negative, increase the contract price, target price and ceiling price, target cost, or estimated cost by that amount;

(3) Specify the Contractor's dollar share per unit on future contracts, or provide the lump-sum payment;

(4) Specify the amount of any Government costs or negative instant contract savings to be offset in determining net acquisition savings realized from concurrent or future contract savings; and

(5) Provide the Contractor's share of any net acquisition savings under the instant contract in accordance with the following:

(i) Fixed-price contracts--add to contract price.

(ii) Cost-reimbursement contracts--add to contract fee.

(i) Concurrent and future contract savings.

(1) Payments of the Contractor's share of concurrent and future contract savings shall be made by a modification to the instant contract in accordance with subparagraph (h)(5) above. For incentive contracts, shares shall be added as a separate firm-fixed-price line item on the instant contract. The Contractor shall maintain records adequate to identify the first delivered unit for 3 years after final payment under this contract.

(2) The Contracting Officer shall calculate the Contractor's share of concurrent contract savings by (i) subtracting from the reduction in price negotiated on the concurrent contract any Government costs or negative instant contract savings not yet offset and (ii) multiplying the result by the Contractor's sharing rate.

(3) The Contracting Officer shall calculate the Contractor's share of future contract savings by (i) multiplying the future unit cost reduction by the number of future contract units scheduled for delivery during the sharing period, (ii) subtracting any Government costs or negative instant contract savings not yet offset, and (iii) multiplying the result by the Contractor's sharing rate.

(4) When the Government wishes and the Contractor agrees, the Contractor's share of future contract savings may be paid in a single lump sum rather than in a series of payments over time as future contracts are awarded. Under this alternate procedure, the future contract savings may be calculated when the VECP is accepted, on the basis of the Contracting Officer's forecast of the number of units that will be delivered during the sharing period. The Contractor's share shall be included in a modification to this contract (see subparagraph (h)(3) above) and shall not be subject to subsequent adjustment.

(5) Alternate no-cost settlement method. When, in accordance with subsection 48.104-4 of the Federal Acquisition Regulation, the Government and the Contractor mutually agree to use the no-cost settlement method, the following applies:

(i) The Contractor will keep all the savings on the instant contract and on its concurrent contracts only.

(ii) The Government will keep all the savings resulting from concurrent contracts placed on other sources, savings from all future contracts, and all collateral savings.

(j) Collateral savings. If a VECP is accepted, the Contracting Officer will increase the instant contract amount, as specified in paragraph (h)(5) of this clause, by a rate from 20 to 100 percent, as determined by the Contracting Officer, of any projected collateral savings determined to be realized in a typical year of use after subtracting any Government costs not previously offset. However, the Contractor's share of collateral savings will not exceed the contract's firm-fixed-price, target price, target cost, or estimated cost, at the time the VECP is accepted, or $100,000, whichever is greater. The Contracting Officer will be the sole determiner of the amount of collateral savings.

(k) Relationship to other incentives. Only those benefits of an accepted VECP not rewardable under performance, design-to-cost (production unit cost, operating and support costs, reliability and maintainability), or similar

incentives shall be rewarded under this clause. However, the targets of such incentives affected by the VECP shall not be adjusted because of VECP acceptance. If this contract specifies targets but provides no incentive to surpass them, the value engineering sharing shall apply only to the amount of achievement better than target.

(l) Subcontracts. The Contractor shall include an appropriate value engineering clause in any subcontract of $100,000 or more and may include one in subcontracts of lesser value. In calculating any adjustment in this contract's price for instant contract savings (or negative instant contract savings), the Contractor's allowable development and implementation costs shall include any subcontractor's allowable development and implementation costs, and any value engineering incentive payments to a subcontractor, clearly resulting from a VECP accepted by the Government under this contract. The Contractor may choose any arrangement for subcontractor value engineering incentive payments; provided, that the payments shall not reduce the Government's share of concurrent or future contract savings or collateral savings.

(m) Data. The Contractor may restrict the Government's right to use any part of a VECP or the supporting data by marking the following legend on the affected parts:

"These data, furnished under the Value Engineering clause of contract . . . . . , shall not be disclosed outside the Government or duplicated, used, or disclosed, in whole or in part, for any purpose other than to evaluate a value engineering change proposal submitted under the clause. This restriction does not limit the Government's right to use information contained in these data if it has been obtained or is otherwise available from the Contractor or from another source without limitations."

If a VECP is accepted, the Contractor hereby grants the Government unlimited rights in the VECP and supporting data, except that, with respect to data qualifying and submitted as limited rights technical data, the Government shall have the rights specified in the contract modification implementing the VECP and shall appropriately mark the data. (The terms "unlimited rights" and "limited rights" are defined in Part 27 of the Federal Acquisition Regulation.)

(End of clause)

52.249-2 TERMINATION FOR CONVENIENCE OF THE GOVERNMENT (FIXED-PRICE) (SEP 1996)

(a) The Government may terminate performance of work under this contract in whole or, from time to time, in part if the Contracting Officer determines that a termination is in the Government's interest. The Contracting Officer shall terminate by delivering to the Contractor a Notice of Termination specifying the extent of termination and the effective date.

(b) After receipt of a Notice of Termination, and except as directed by the Contracting Officer, the Contractor shall immediately proceed with the following obligations, regardless of any delay in determining or adjusting any amounts due under this clause:

(1) Stop work as specified in the notice.

(2) Place no further subcontracts or orders (referred to as subcontracts in this clause) for materials, services, or facilities, except as necessary to complete the continued portion of the contract.

(3) Terminate all subcontracts to the extent they relate to the work terminated.

(4) Assign to the Government, as directed by the Contracting Officer, all right, title, and interest of the Contractor under the subcontracts terminated, in which case the Government shall have the right to settle or to pay any termination settlement proposal arising out of those terminations.

(5) With approval or ratification to the extent required by the Contracting Officer, settle all outstanding liabilities and termination settlement proposals arising from the termination of subcontracts; the approval or ratification will be final for purposes of this clause.

(6) As directed by the Contracting Officer, transfer title and deliver to the Government (i) the fabricated or unfabricated parts, work in process, completed work, supplies, and other material produced or acquired for the work terminated, and (ii) the completed or partially completed plans, drawings, information, and other property that, if the contract had been completed, would be required to be furnished to the Government.

(7) Complete performance of the work not terminated.

(8) Take any action that may be necessary, or that the Contracting Officer may direct, for the protection and preservation of the property related to this contract that is in the possession of the Contractor and in which the Government has or may acquire an interest.

(9) Use its best efforts to sell, as directed or authorized by the Contracting Officer, any property of the types referred to in subparagraph (b)(6) of this clause; provided, however, that the Contractor (i) is not required to extend credit to any purchaser and (ii) may acquire the property under the conditions prescribed by, and at prices approved by, the Contracting Officer. The proceeds of any transfer or disposition will be applied to reduce any payments to be made by the Government under this contract, credited to the price or cost of the work, or paid in any other manner directed by the Contracting Officer.

(c) The Contractor shall submit complete termination inventory schedules no later than 120 days from the effective date of termination, unless extended in writing by the Contracting Officer upon written request of the Contractor within this 120-day period.

(d) After expiration of the plant clearance period as defined in Subpart 45.6 of the Federal Acquisition Regulation, the Contractor may submit to the Contracting Officer a list, certified as to quantity and quality, of termination inventory not previously disposed of, excluding items authorized for disposition by the Contracting Officer. The Contractor may request the Government to remove those items or enter into an agreement for their storage. Within 15 days, the Government will accept title to those items and remove them or enter into a storage agreement. The Contracting Officer may verify the list upon removal of the items, or if stored, within 45 days from submission of the list, and shall correct the list, as necessary, before final settlement.

(e) After termination, the Contractor shall submit a final termination settlement proposal to the Contracting Officer in the form and with the certification prescribed by the Contracting Officer. The Contractor shall submit the proposal promptly, but no later than 1 year from the effective date of termination, unless extended in writing by the Contracting Officer upon written request of the Contractor within this 1-year period. However, if the Contracting Officer determines that the facts justify it, a termination settlement proposal may be received and acted on after 1 year or any extension. If the Contractor fails to submit the proposal within the time allowed, the Contracting Officer may determine, on the basis of information available, the amount, if any, due the Contractor because of the termination and shall pay the amount determined.

(f) Subject to paragraph (e) of this clause, the Contractor and the Contracting Officer may agree upon the whole or any part of the amount to be paid or remaining to be paid because of the termination. The amount may include a reasonable allowance for profit on work done. However, the agreed amount, whether under this paragraph (g) or paragraph (g) of this clause, exclusive of costs shown in subparagraph (g)(3) of this clause, may not exceed the total contract price as reduced by (1) the amount of payments previously made and (2) the contract price of work not terminated. The contract shall be modified, and the Contractor paid the agreed amount. Paragraph (g) of this clause shall not limit, restrict, or affect the amount that may be agreed upon to be paid under this paragraph.

(g) If the Contractor and the Contracting Officer fail to agree on the whole amount to be paid because of the termination of work, the Contracting Officer shall pay the Contractor the amounts determined by the Contracting Officer as follows, but without duplication of any amounts agreed on under paragraph (f) of this clause:

(1) The contract price for completed supplies or services accepted by the Government (or sold or acquired under subparagraph (b)(9) of this clause) not previously paid for, adjusted for any saving of freight and other charges.

(2) The total of--

(i) The costs incurred in the performance of the work terminated, including initial costs and preparatory expense allocable thereto, but excluding any costs attributable to supplies or services paid or to be paid under subparagraph (f)(1) of this clause;

(ii) The cost of settling and paying termination settlement proposals under terminated subcontracts that are properly chargeable to the terminated portion of the contract if not included in subdivision (g)(2)(i) of this clause; and

(iii) A sum, as profit on subdivision (g)(2)(i) of this clause, determined by the Contracting Officer under 49.202 of the Federal Acquisition Regulation, in effect on the date of this contract, to be fair and reasonable; however, if it appears that the Contractor would have sustained a loss on the entire contract had it been completed, the Contracting Officer shall allow no profit under this subdivision (iii) and shall reduce the settlement to reflect the indicated rate of loss.

(3) The reasonable costs of settlement of the work terminated, including--

(i) Accounting, legal, clerical, and other expenses reasonably necessary for the preparation of termination settlement proposals and supporting data;

(ii) The termination and settlement of subcontracts (excluding the amounts of such settlements); and

(iii) Storage, transportation, and other costs incurred, reasonably necessary for the preservation, protection, or disposition of the termination inventory.

(h) Except for normal spoilage, and except to the extent that the Government expressly assumed the risk of loss, the Contracting Officer shall exclude from the amounts payable to the Contractor under paragraph (g) of this clause, the fair value, as determined by the Contracting Officer, of property that is destroyed, lost, stolen, or damaged so as to become undeliverable to the Government or to a buyer.

(i) The cost principles and procedures of Part 31 of the Federal Acquisition Regulation, in effect on the date of this contract, shall govern all costs claimed, agreed to, or determined under this clause.

(j) The Contractor shall have the right of appeal, under the Disputes clause, from any determination made by the Contracting Officer under paragraph (e), (g), or (l) of this clause, except that if the Contractor failed to submit the termination settlement proposal or request for equitable adjustment within the time provided in paragraph (e) or (l), respectively, and failed to request a time extension, there is no right of appeal.

(k) In arriving at the amount due the Contractor under this clause, there shall be deducted--

(1) All unliquidated advance or other payments to the Contractor under the terminated portion of this contract;

(2) Any claim which the Government has against the Contractor under this contract; and

(3) The agreed price for, or the proceeds of sale of, materials, supplies, or other things acquired by the Contractor or sold under the provisions of this clause and not recovered by or credited to the Government.

(l) If the termination is partial, the Contractor may file a proposal with the Contracting Officer for an equitable adjustment of the price(s) of the continued portion of the contract. The Contracting Officer shall make any equitable adjustment agreed upon. Any proposal by the Contractor for an equitable adjustment under this clause shall be requested within 90 days from the effective date of termination unless extended in writing by the Contracting Officer.

(m)(1) The Government may, under the terms and conditions it prescribes, make partial payments and payments against costs incurred by the Contractor for the terminated portion of the contract, if the Contracting Officer believes the total of these payments will not exceed the amount to which the Contractor will be entitled.

(2) If the total payments exceed the amount finally determined to be due, the Contractor shall repay the excess to the Government upon demand, together with interest computed at the rate established by the Secretary of the Treasury under 50 U.S.C. App. 1215(b)(2). Interest shall be computed for the period from the date the excess payment is received by the Contractor to the date the excess is repaid. Interest shall not be charged on any excess payment due to a reduction in the Contractor's termination settlement proposal because of retention or other disposition of termination inventory until 10 days after the date of the retention or disposition, or a later date determined by the Contracting Officer because of the circumstances.

(n) Unless otherwise provided in this contract or by statute, the Contractor shall maintain all records and documents relating to the terminated portion of this contract for 3 years after final settlement. This includes all books and other evidence bearing on the Contractor's costs and expenses under this contract. The Contractor shall make these records and documents available to the Government, at the Contractor's office, at all reasonable times, without any direct charge. If approved by the Contracting Officer, photographs, microphotographs, or other authentic reproductions may be maintained instead of original records and documents.

52.249-8 DEFAULT (FIXED-PRICE SUPPLY AND SERVICE) (APR 1984)

(a)(1) The Government may, subject to paragraphs (c) and (d) of this clause, by written notice of default to the Contractor, terminate this contract in whole or in part if the Contractor fails to--

(i) Deliver the supplies or to perform the services within the time specified in this contract or any extension;

(ii) Make progress, so as to endanger performance of this contract (but see subparagraph (a)(2) of this clause); or

(iii) Perform any of the other provisions of this contract (but see subparagraph (a)(2) below).

(2) The Government's right to terminate this contract under subdivisions (a)(1)(ii) and (1)(iii) of this clause, may be exercised if the Contractor does not cure such failure within 10 days (or more if authorized in writing by the Contracting Officer) after receipt of the notice from the Contracting Officer specifying the failure.

(b) If the Government terminates this contract in whole or in part, it may acquire, under the terms and in the manner the Contracting Officer considers appropriate, supplies or services similar to those terminated, and the Contractor will be liable to the Government for any excess costs for those supplies or services. However, the Contractor shall continue the work not terminated.

(c) Except for defaults of subcontractors at any tier, the Contractor shall not be liable for any excess costs if the failure to perform the contract arises from causes beyond the control and without the fault or negligence of the Contractor. Examples of such causes include (1) acts of God or of the public enemy, (2) acts of the Government in either its sovereign or contractual capacity, (3) fires, (4) floods, (5) epidemics, (6) quarantine restrictions, (7) strikes, (8) freight embargoes, and (9) unusually severe weather. In each instance the failure to perform must be beyond the control and without the fault or negligence of the Contractor.

(d) If the failure to perform is caused by the default of a subcontractor at any tier, and if the cause of the default is beyond the control of both the Contractor and subcontractor, and without the fault or negligence of either, the Contractor shall not be liable for any excess costs for failure to perform, unless the subcontracted supplies or services were obtainable from other sources in sufficient time for the Contractor to meet the required delivery schedule.

(e) If this contract is terminated for default, the Government may require the Contractor to transfer title and deliver to the Government, as directed by the Contracting Officer, any (1) completed supplies, and (2) partially completed supplies and materials, parts, tools, dies, jigs, fixtures, plans, drawings, information, and contract rights (collectively referred to as "manufacturing materials" in this clause) that the Contractor has specifically produced or acquired for the terminated portion of this contract. Upon direction of the Contracting Officer, the Contractor shall also protect and preserve property in its possession in which the Government has an interest.

(f) The Government shall pay contract price for completed supplies delivered and accepted. The Contractor and Contracting Officer shall agree on the amount of payment for manufacturing materials delivered and accepted and for the protection and preservation of the property. Failure to agree will be a dispute under the Disputes clause. The Government may withhold from these amounts any sum the Contracting Officer determines to be necessary to protect the Government against loss because of outstanding liens or claims of former lien holders.

(g) If, after termination, it is determined that the Contractor was not in default, or that the default was excusable, the rights and obligations of the parties s hall be the same as if the termination had been issued for the convenience of the Government.

(h) The rights and remedies of the Government in this clause are in addition to any other rights and remedies provided by law or under this contract.

52.253-1 COMPUTER GENERATED FORMS (JAN 1991)

(a) Any data required to be submitted on a Standard or Optional Form prescribed by the Federal Acquisition Regulation (FAR) may be submitted on a computer generated version of the form, provided there is no change to the name, content, or sequence of the data elements on the form, and provided the form carries the Standard or Optional Form number and edition date.

(b) Unless prohibited by agency regulations, any data required to be submitted on an agency unique form prescribed by an agency supplement to the FAR may be submitted on a computer generated version of the form provided there is no change to the name, content, or sequence of the data elements on the form and provided the form carries the agency form number and edition date.

(c) If the Contractor submits a computer generated version of a form that is different than the required form, then the rights and obligations of the parties will be determined based on the content of the required form.

252.201-7000 CONTRACTING OFFICER'S REPRESENTATIVE (DEC 1991)

(a) "Definition. Contracting officer's representative" means an individual designated in accordance with subsection 201.602-2 of the Defense Federal Acquisition Regulation Supplement and authorized in writing by the contracting officer to perform specific technical or administrative functions.

(b) If the Contracting Officer designates a contracting officer's representative (COR), the Contractor will receive a copy of the written designation. It will specify the extent of the COR's authority to act on behalf of the contracting officer. The COR is not authorized to make any commitments or changes that will affect price, quality, quantity, delivery, or any other term or condition of the contract.

(End of clause)

252.203-7001 PROHIBITION ON PERSONS CONVICTED OF FRAUD OR OTHER DEFENSE-CONTRACT-RELATED FELONIES (MAR 1999)

(a) Definitions. As used in this clause—

(1) “Arising out of a contract with the DoD” means any act in connection with—

(i) Attempting to obtain;

(ii) Obtaining, or

(iii) Performing a contract or first-tier subcontract of any agency, department, or component of the Department of Defense (DoD).

(2) "Conviction of fraud or any other felony" means any conviction for fraud or a felony in violation of state or Federal criminal statutes, whether entered on a verdict or plea, including a plea of *nolo contendere*, for which sentence has been imposed.

(3) "Date of conviction" means the date judgment was entered against the individual.

(b) Any individual who is convicted after September 29, 1988, of fraud or any other felony arising out of a contract with the DoD is prohibited from serving--

(1) In a management or supervisory capacity on any DoD contract or first-tier subcontract;

(2) On the board of directors of any DoD contractor or first-tier subcontractor;

(3) As a consultant, agent, or representative for any DoD contractor or first-tier subcontractor; or

(4) In any other capacity with the authority to influence, advise, or control the decisions of any DoD contractor or subcontractor with regard to any DoD contract or first-tier subcontract.

(c) Unless waived, the prohibition in paragraph (b) of this clause applies for not less than 5 years from the date of conviction.

(d) 10 U.S.C. 2408 provides that a defense contractor or first-tier subcontractor shall be subject to a criminal penalty of not more than $500,000 if convicted of knowingly—

(1) Employing a person under a prohibition specified in paragraph (b) of this clause; or

(2) Allowing such a person to serve on the board of directors of the contractor or first-tier subcontractor.

(e) In addition to the criminal penalties contained in 10 U.S.C. 2408, the Government may consider other available remedies, such as—

(1) Suspension or debarment;

(2) Cancellation of the contract at no cost to the Government; or

(3) Termination of the contract for default.

(f) The Contractor may submit written requests for waiver of the prohibition in paragraph (b) of this clause to the Contracting Officer. Requests shall clearly identify—

(1) The person involved;

(2) The nature of the conviction and resultant sentence or punishment imposed;

(3) The reasons for the requested waiver; and

(4) An explanation of why a waiver is in the interest of national security.

(g) The Contractor agrees to include the substance of this clause, appropriately modified to reflect the identity and relationship of the parties, in all first-tier subcontracts exceeding the simplified acquisition threshold in Part 2 of the Federal Acquisition Regulation, except those for commercial items or components.

(h) Pursuant to 10 U.S.C. 2408(c), defense contractors and subcontractors may obtain information as to whether a particular person has been convicted of fraud or any other felony arising out of a contract with the DoD by contacting The Office of Justice Programs, The Denial of Federal Benefits Office, U.S. Department of Justice, telephone (202) 616-3507.

(End of clause)

252.204-7003 CONTROL OF GOVERNMENT PERSONNEL WORK PRODUCT (APR 1992)

The Contractor's procedures for protecting against unauthorized disclosure of information shall not require Department of Defense employees or members of the Armed Forces to relinquish control of their work products, whether classified or not, to the contractor.

(End of clause)

252.204-7004 REQUIRED CENTRAL CONTRACTOR REGISTRATION.(MAR 2000)

(a) Definitions.

As used in this clause--

(1) Central Contractor Registration (CCR) database means the primary DoD repository for contractor information required for the conduct of business with DoD.

(2) Data Universal Numbering System (DUNS) number means the 9-digit number assigned by Dun and Bradstreet Information Services to identify unique business entities.

(3) Data Universal Numbering System +4 (DUNS+4) number means the DUNS number assigned by Dun and Bradstreet plus a 4-digit suffix that may be assigned by a parent (controlling) business concern. This 4-digit suffix may be assigned at the discretion of the parent business concern for such purposes as identifying subunits or affiliates of the parent business concern.

(4) Registered in the CCR database means that all mandatory information, including the DUNS number or the DUNS+4 number, if applicable, and the corresponding Commercial and Government Entity (CAGE) code, is in the CCR database; the DUNS number and the CAGE code have been validated; and all edits have been successfully completed.

(b)(1) By submission of an offer, the offeror acknowledges the requirement that a prospective awardee must be registered in the CCR database prior to award, during performance, and through final payment of any contract resulting from this solicitation, except for awards to foreign vendors for work to be performed outside the United States.

(2) The offeror shall provide its DUNS or, if applicable, its DUNS+4 number with its offer, which will be used by the Contracting Officer to verify that the offeror is registered in the CCR database.

(3) Lack of registration in the CCR database will make an offeror ineligible for award.

(4) DoD has established a goal of registering an applicant in the CCR database within 48 hours after receipt of a complete and accurate application via the Internet. However, registration of an applicant submitting an application through a method other than the Internet may take up to 30 days. Therefore, offerors that are not registered should consider applying for registration immediately upon receipt of this solicitation.

(c) The Contractor is responsible for the accuracy and completeness of the data within the CCR, and for any liability resulting from the Government's reliance on inaccurate or incomplete data. To remain registered in the CCR

database after the initial registration, the Contractor is required to confirm on an annual basis that its information in the CCR database is accurate and complete.

(d) Offerors and contractors may obtain information on registration and annual confirmation requirements by calling 1-888-227-2423, or via the Internet at http://www.ccr2000.com.

(End of clause)

252.205-7000 PROVISION OF INFORMATION TO COOPERATIVE AGREEMENT HOLDERS (DEC 1991)

(a) Definition.

"Cooperative agreement holder" means a State or local government; a private, nonprofit organization; a tribal organization (as defined in section 4(c) of the Indian Self-Determination and Education Assistance Act (Pub. L. 93-268; 25 U.S.C. 450 (c))); or an economic enterprise (as defined in section 3(e) of the Indian Financing Act of 1974 (Pub. L. 93-362; 25 U.S.C. 1452(e))) whether such economic enterprise is organized for profit or nonprofit purposes; which has an agreement with the Defense Logistics Agency to furnish procurement technical assistance to business entities.

(b) The Contractor shall provide cooperative agreement holders, upon their request, with a list of those appropriate employees or offices responsible for entering into subcontracts under defense contracts. The list shall include the business address, telephone number, and area of responsibility of each employee or office.

(c) The Contractor need not provide the listing to a particular cooperative agreement holder more frequently than once a year.

(End of clause)

252.209-7000 ACQUISITION FROM SUBCONTRACTORS SUBJECT TO ONSITE INSPECTION UNDER THE INTERMEDIATE-RANGE NUCLEAR FORCES (INF) TREATY (NOV 1995)

(a) The Contractor shall not deny consideration for a subcontract award under this contract to a potential subcontractor subject to on-site inspection under the INF Treaty, or a similar treaty, solely or in part because of the actual or potential presence of Soviet inspectors at the subcontractor's facility, unless the decision is approved by the Contracting Officer.

(b) The Contractor shall incorporate this clause, including this paragraph (b), in all solicitations and contracts exceeding the simplified acquisition threshold in part 13 of the Federal Acquisition Regulation, except those for commercial items.

252.209-7004 SUBCONTRACTING WITH FIRMS THAT ARE OWNED OR CONTROLLED BY THE GOVERNMENT OF A TERRORIST COUNTRY (MAR 1998)

(a) Unless the Government determines that there is a compelling reason to do so, the Contractor shall not enter into any subcontract in excess of $25,000 with a firm, or subsidiary of a firm, that is identified, on the List of Parties Excluded from Federal Procurement and Nonprocurement Programs, as being ineligible for the award of Defense contracts or subcontracts because it is owned or controlled by the government of a terrorist country.

(b) A corporate officer or a designee of the Contractor shall notify the Contracting Officer, in writing, before entering into a subcontract with a party that is identified, on the List of Parties Excluded from Federal Procurement and Nonprocurement Programs, as being ineligible for the award of Defense contracts or subcontracts because it is owned or controlled by the government of a terrorist country. The notice must include the name of the proposed

subcontractor notwithstanding its inclusion on the List of Parties Excluded From Federal Procurement and Nonprocurement Programs.

252.215-7000 PRICING ADJUSTMENTS (DEC 1991)

The term "pricing adjustment," as used in paragraph (a) of the clauses entitled "Price Reduction for Defective Cost or Pricing Data - Modifications," "Subcontractor Cost or Pricing Data," and "Subcontractor Cost or Pricing Data - Modifications," means the aggregate increases and/or decreases in cost plus applicable profits.

252.215-7002 COST ESTIMATING SYSTEM REQUIREMENTS (OCT 1998)

(a) "Definition."

"Estimating system" means the Contractor's policies, procedures, and practices for generating estimates of costs and other data included in proposals submitted to customers in the expectation of receiving contract awards. Estimating system includes the Contractor's --

(1) Organizational structure;

(2) Established lines of authority, duties, and responsibilities;

(3) Internal controls and managerial reviews;

(4) Flow of work, coordination, and communication; and

(5) Estimating methods, techniques, accumulation of historical costs, and other analyses used to generate cost estimates.1997

(b) "General."

(1) The Contractor shall establish, maintain, and comply with an estimating system that is consistently applied and produces reliable, verifiable, supportable, and documented cost estimates that are an acceptable basis for negotiation of fair and reasonable prices.

(2) The system should be --

(i) Consistent and integrated with the Contractor's related management systems; and

(ii) Subject to applicable financial control systems.

(c) "Applicability". Paragraphs (d) and (e) of this clause apply if the Contractor is a large business and either --

(1) In its fiscal year preceding award of this contract, received Department of Defense (DoD) prime contracts or subcontracts, totaling $50 million or more for which certified cost or pricing data were required; or

(2) In its fiscal year preceding award of this contract --

(i) Received DoD prime contracts or subcontracts totaling $10 million or more (but less than $50 million) for which certified cost or pricing data were required; and

(ii) Was notified in writing by the Contracting Officer that paragraphs (d) and (e) of this clause apply.

(d) "System requirements."

(1) The Contractor shall disclose its estimating system to the Administrative Contracting Officer (ACO) in writing. If the Contractor wishes the Government to protect the information as privileged or confidential, the Contractor must mark the documents with the appropriate legends before submission.

(2) An estimating system disclosure is adequate when the Contractor has provided the ACO with documentation that--

(i) Accurately describes those policies, procedures, and practices that the Contractor currently uses in preparing cost proposals; and

(ii) Provides sufficient detail for the Government to reasonably make an informed judgment regarding the acceptability of the Contractor's estimating practices.

(3) The Contractor shall --

(i) Comply with its disclosed estimating system; and

(ii) Disclose significant changes to the cost estimating system to the ACO on a timely basis.

(e) "Estimating system deficiencies."

(1) The Contractor shall respond to a written report from the Government that identifies deficiencies in the Contractor's estimating system as follows:

(i) If the Contractor agrees with the report findings and recommendations, the Contractor shall --

(A) Within 30 days, state its agreement in writing; and

(B) Within 60 days, correct the deficiencies or submit a corrective action plan showing proposed milestones and actions leading to elimination of the deficiencies.

(ii) If the Contractor disagrees with the report, the Contractor shall, within 30 days, state its rationale for disagreeing.

(2) The ACO will evaluate the Contractor's response and notify the Contractor of the determination concerning remaining deficiencies and/or the adequacy of any proposed or completed corrective action.

252.219-7003 SMALL, SMALL DISADVANTAGED AND WOMEN-OWNED SMALL BUSINESS SUBCONTRACTING PLAN (DOD CONTRACTS) (APR. 1996)

This clause supplements the Federal Acquisition Regulation 52.219-9, Small, Small Disadvantaged and Women-Owned Small Business Subcontracting Plan, clause of this contract.

(a) *Definitions. Historically black colleges and universities,* as used in this clause, means institutions determined by the Secretary of Education to meet the requirements of 34 CFR 608.2. The term also means any nonprofit research institution that was an integral part of such a college or university before November 14, 1986.

Minority institutions, as used in this clause, means institutions meeting the requirements of section 1046(3) of the Higher Education Act of 1965 (20 U.S.C. 1135d-5(3)). The term also includes Hispanic-serving institutions as defined in section 316(b)(1) of such Act (20 U.S.C. 1059c(b)(1)).

(b) Except for company or division-wide commercial items subcontracting plans, the term *small disadvantaged business,* when used in the FAR 52.219-9 clause, includes historically black colleges and universities and minority institutions, in addition to small disadvantaged business concerns.

(c) Work under the contract or its subcontracts shall be credited toward meeting the small disadvantaged business concern goal required by paragraph (d) of the FAR 52.219-9 clause when:

(1) It is performed on Indian lands or in joint venture with an Indian tribe or a tribally-owned corporation, and

(2) It meets the requirements of 10 U.S.C. 2323a.

(d) Subcontracts awarded to workshops approved by the Committee for Purchase from People Who are Blind or Severely Disabled (41 U.S.C. 46-48), may be counted toward the Contractor's small business subcontracting goal.

(e) A mentor firm, under the Pilot Mentor-Protege Program established under Section 831 of Pub. L. 101-510, as amended, may count toward its small disadvantaged business goal, subcontracts awarded--

(f) The master plan approval referred to in paragraph (f) of the FAR 52.219-9 clause is approval by the Contractor's cognizant contract administration activity.

(g) In those subcontracting plans which specifically identify small, small disadvantaged, and women-owned small businesses, the Contractor shall notify the Administrative Contracting Officer of any substitutions of firms that are not small, small dis advantaged, or women-owned small businesses for the firms listed in the subcontracting plan. Notifications shall be in writing and shall occur within a reasonable period of time after award of the subcontract. Contractor-specified formats shall be acceptable.

(End of clause)

252.225-7001 BUY AMERICAN ACT AND BALANCE OF PAYMENTS PROGRAM (MAR 1998)

(a) Definitions.

As used in this clause--

(1) Components means those articles, materials, and supplies directly incorporated into end products.

(2) Domestic end product means--

(i) An unmanufactured end product that has been mined or produced in the United States; or

(ii) An end product manufactured in the United States if the cost of its qualifying country components and its components that are mined, produced, or manufactured in the United States exceeds 50 percent of the cost of all its components. The cost of components shall include transportation costs to the place of incorporation into the end product and U.S. duty (whether or not a duty-free entry certificate may be issued). A component shall be considered to have been mined, produced, or manufactured in the United States (regardless of its source in fact) if the end product in which it is incorporated is manufactured in the United States and the component is of a class or kind--

(A) Determined to be not mined, produced, or manufactured in the United States in sufficient and reasonably available commercial quantities and of a satisfactory quality; or

(B) That the Secretary concerned determines would be inconsistent with the public interest to apply the restrictions of the Buy American Act.

(3) End product means those articles, materials, and supplies to be acquired for public use under the contract. For this contract, the end products are the line items to be delivered to the Government (including supplies to be acquired by the Government for public use in connection with service contracts, but excluding installation and other services to be performed after delivery).

(4) Nonqualifying country end product means an end product that is neither a domestic end product nor a qualifying country end product.

(5) Qualifying country means any country set forth in subsection 225.872-1 of the Defense Federal Acquisition Regulation Supplement.

(6) Qualifying country component means an item mined, produced, or manufactured in a qualifying country.

(7) Qualifying country end product means--

(i) An unmanufactured end product mined or produced in a qualifying country; or

(ii) An end product manufactured in a qualifying country if the cost of the components mined, produced, or manufactured in the qualifying country and its components mined, produced, or manufactured in the United States exceeds 50 percent of the cost of all its components.

(b) This clause implements the Buy American Act (41 U.S.C. Section 10a-d) in a manner that will encourage a favorable international balance of payments by providing a preference to domestic end products over other end products, except for end products which are qualifying country end products.

(c) The Contractor agrees that it will deliver only domestic end products unless, in its offer, it specified delivery of other end products in the Buy American Act--Balance of Payments Program Certificate provision of the solicitation. An offer certifying that a qualifying country end product will be supplied requires the Contractor to deliver a qualifying country end product or a domestic end product.

(d) The offered price of qualifying country end products should not include custom fees or duty. The offered price of nonqualifying country end products, and products manufactured in the United States that contain nonqualifying country components, must include all applicable duty. The award price will not include duty for end products or components that are to be accorded duty-free entry. Generally, when the Buy American Act is applicable, each nonqualifying country offer is adjusted for the purpose of evaluation by adding 50 percent of the offer, inclusive of duty.

252.225-7002 QUALIFYING COUNTRY SOURCES AS SUBCONTRACTORS (DEC 1991)

Subject to the restrictions in section 225.872 of the Defense FAR Supplement, the Contractor shall not preclude qualifying country sources and U.S. sources from competing for subcontracts under this contract.

(End of clause)

252.225-7007 BUY AMERICAN ACT--TRADE AGREEMENTS--BALANCE OF PAYMENTS PROGRAM (SEP 2001)

(a) Definitions. As used in this clause--

(1) Caribbean Basin country means--

Antigua and Barbuda
Aruba
Bahamas
Barbados
Belize
British Virgin Islands
Costa Rica
Dominica
El Salvador
Grenada
Guatemala
Guyana

Haiti
Iceland
Jamaica
Montserrat
Netherlands Antilles
Nicaragua
St. Kitts-Nevis
St. Lucia
St. Vincent and the Grenadines
Trinidad and Tobago

(2) Caribbean Basin country end product--

(i) Means an article that--

(A) Is wholly the growth, product, or manufacture of a Caribbean Basin country; or

(B) In the case of an article that consists in whole or in part of materials from another country or instrumentality, has been substantially transformed in a Caribbean Basin country into a new and different article of commerce with a name, character, or use distinct from that of the article or articles from which it was so transformed. The term refers to a product offered for purchase under a supply contract, but for purposes of calculating the value of the end product includes services (except transportation services) incidental to its supply, provided that the value of those incidental services does not exceed the value of the product itself; and

(ii) Excludes products, other than petroleum and any product derived from petroleum, that are not granted duty-free treatment under the Caribbean Basin Economic Recovery Act (19 U.S.C. 2703(b)). These exclusions presently consist of--

(A) Textiles, apparel articles, footwear, handbags, luggage, flat goods, work gloves, leather wearing apparel, and handloomed, handmade, or folklore articles that are not granted duty-free status in the Harmonized Tariff Schedule of the United States (HTSUS);

(B) Tuna, prepared or preserved in any manner in airtight containers; and

(C) Watches and watch parts (including cases, bracelets, and straps) of whatever type including, but not limited to, mechanical, quartz digital, or quartz analog, if such watches or watch parts contain any material that is the product of any country to which the HTSUS column 2 rates of duty (HTSUS General Note 3(b)) apply.

(3) Components means those articles, materials, and supplies directly incorporated into end products.

(4) Designated country means--

Aruba
Austria
Bangladesh
Belgium
Benin
Bhutan
Botswana
Burkina Faso
Burundi
Canada
Cape Verde
Central; African Republic
Chad
Comoros

Denmark
Djibouti
Equatorial Guinea
Finland
France
Gambia
Germany
Greece
Guinea
Guinea-Bissau
Haiti
Hong Kong
Ireland
Israel
Italy
Japan
Kiribati
Lesotho
Liechtenstein
Luxembourg
Malawi
Maldives
Mali
Mozambique
Nepal
Netherlands
Niger
Norway
Portugal
Republic of Korea
Rwanda
Sao Tome and Principe
Sierra Leone
Singapore
Somalia
Spain
Sweden
Switzerland
Tanzania U.R.
Togo
Tuvalu
Uganda
United Kingdom
Vanuatu
Western Samoa
Yemen

(5) Designated country end product means an article that--

(i) Is wholly the growth, product, or manufacture of the designated country; or

(ii) In the case of an article that consists in whole or in part of materials from another country or instrumentality, has been substantially transformed in a designated country into a new and different article of commerce with a name, character, or use distinct from that of the article or articles from which it was so transformed. The term refers to a product offered for purchase under a supply contract, but for purposes of calculating the value of the end product

includes services (except transportation services) incidental to its supply, provided that the value of those incidental services does not exceed the value of the product itself.

(6) Domestic end product means--

(i) An unmanufactured end product that has been mined or produced in the United States; or

(ii) An end product manufactured in the United States if the cost of its qualifying country components and its components that are mined, produced, or manufactured in the United States exceeds 50 percent of the cost of all its components. The cost of components shall include transportation costs to the place of incorporation into the end product and U.S. duty (whether or not a duty-free entry certification may be issued). A component shall be considered to have been mined, produced, or manufactured in the United States (regardless of its source in fact) if the end product in which it is incorporated is manufactured in the United States and the component is of a class or kind--

(A) Determined to be not mined, produced, or manufactured in the United States in sufficient and reasonably available commercial quantities and of a satisfactory quality; or

(B) That the Secretary concerned determines would be inconsistent with the public interest to apply the restrictions of the Buy American Act.

(7) End product means those articles, materials, and supplies to be acquired for public use under the contract. For this contract, the end products are the line items to be delivered to the Government (including supplies to be acquired by the Government for public use in connection with service contracts, but excluding installation and other services to be performed after delivery).

(8) NAFTA country end product means an article that--

(i) Is wholly the growth, product, or manufacture of the NAFTA country; or

(ii) In the case of an article that consists in whole or in part of materials from another country or instrumentality, has been substantially transformed in a NAFTA country into a new and different article of commerce with a name, character, or use distinct from that of the article or articles from which it was so transformed. The term refers to a product offered for purchase under a supply contract, but for purposes of calculating the value of the end product includes services (except transportation services) incidental to its supply, provided that the value of those incidental services does not exceed the value of the product itself.

(9) Nondesignated country end product means any end product that is not a U.S. made end product or a designated country end product.

(10) North American Free Trade Agreement (NAFTA) country means Canada or Mexico.

(11) Qualifying country means any country set forth in subsection 225.872-1 of the Defense Federal Acquisition Regulation Supplement.

(12) Qualifying country component means an item mined, produced, or manufactured in a qualifying country.

(13) Qualifying country end product means--

(i) An unmanufactured end product mined or produced in a qualifying country; or

(ii) An end product manufactured in a qualifying country if the cost of the components mined, produced, or manufactured in the qualifying country and its components mined, produced or manufactured in the United States exceeds 50 percent of the cost of all its components.

(14) United States means the United States, its possessions, Puerto Rico, and any other place subject to its jurisdiction, but does not include leased bases or trust territories.

U.S. made end product means an article that—

(i) Is wholly the growth, product, or manufacture of the United States; or

(ii) In the case of an article that consists in whole or in part of materials from another country or instrumentality, has been substantially transformed in the United States into a new and different article of commerce with a name, character, or use distinct from that of the article or articles from which it was so transformed.

(b) Unless otherwise specified, the Trade Agreements Act of 1979 (19 U.S.C. 2501 et seq.), the North American Free Trade Agreement Implementation Act of 1993 (19 U.S.C. 3301 note), and the Caribbean Basin Initiative apply to all items in the Schedule.

(c)(1) The Contractor agrees to deliver under this contract only domestic end products unless, in its offer, it specified delivery of U.S. made, qualifying country, designated country, Caribbean Basin country, NAFTA country, or other nondesignated country end products in the Buy American Act--Trade Agreements--Balance of Payments Program Certificate provision of the solicitation.

(2) The Contractor may not supply a nondesignated country end product unless--

(i) It is a qualifying country end product, a Caribbean Basin country end product, or a NAFTA country end product;

(ii) The Contracting Officer has determined that offers of U.S. made end products or qualifying, designated, NAFTA, or Caribbean Basin country end products from responsive, responsible offerors are either not received or are insufficient to fill the Government's requirements; or

(iii) A national interest waiver has been granted under section 302 of the Trade Agreements Act of 1979.

(d) The offered price of qualifying country end products and the offered price of designated country end products, NAFTA country end products, and Caribbean Basin country end products, for line items subject to the Trade Agreements Act or the North American Free Trade Agreement Implementation Act, should not include custom fees or duty. The offered price of end products listed in paragraph (c)(2)(vi) of the Buy American Act--Trade Agreements--Balance of Payments Program Certificate provision of the solicitation, or the offered price of U.S. made end products that contain nonqualifying country components, must include all applicable duty. The award price will not include duty for end products or components that are to be accorded duty-free entry. Generally, each offer of a U.S. made end product that does not meet the definition of ``domestic end product'' is adjusted for the purpose of evaluation by adding 50 percent of the offered price, inclusive of duty.

(e) The HTSUS is available on the Internet at http://www.customs.ustreas.gov/impoexpo/impoexpo.htm. The following sections of the HTSUS provide information regarding duty-free status of articles specified in paragraph (a)(2)(ii)(A) of this clause.

(1) General Note 3(c), Products Eligible for Special Tariff Treatment.

(2) General Note 17, Products of Countries Designated as Beneficiary Countries Under the United States-Caribbean Basin Trade Partnership Act of 2000.

(3) Section XXII, Chapter 98, Subchapter II, Articles Exported and Returned, Advanced or Improved Abroad, U.S. Note 7(b).

(4) Section XXII, Chapter 98, Subchapter XX, Goods Eligible for Special Tariff Benefits Under the United States-Caribbean Basin Trade Partnership Act.

(End of clause)

252.225-7012 PREFERENCE FOR CERTAIN DOMESTIC COMMODITIES (AUG 2000)

(a) The Contractor agrees to deliver under this contract only such of the following articles that have been grown, reprocessed, reused, or produced in the United States, its possessions, or Puerto Rico --

(1) Food;

(2) Clothing;

(3) Tents, tarpaulins, or covers;

(4) Cotton and other natural fiber products;

(5) Woven silk or woven silk blends;

(6) Spun silk yarn for cartridge cloth;

(7) Synthetic fabric, and coated synthetic fabric, including all textile fibers and yarns that are for use in such fabrics;

(8) Canvas products;

(9) Wool (whether in the form of fiber or yarn or contained in fabrics, materials, or manufactured articles); or

(10) Any item of individual equipment (Federal supply Classification 8465) manufactured from or containing such fibers, yarns, fabrics, or materials.

(b) This clause does not apply --

(1) To supplies listed in FAR section 25.104(a), or other supplies for which the Government has determined that a satisfactory quality and sufficient quantity cannot be acquired as and when needed at U.S. market prices;

(2) To foods which have been manufactured or processed in the United States, its possessions, or Puerto Rico;

(3) To chemical warfare protective clothing produced in the countries listed in subsection 225.872-1 of the Defense FAR Supplement; or

(4) To fibers and yarns that are for use in synthetic fabric or coated synthetic fabric (but does apply to the synthetic or coated synthetic fabric itself), if --

(i) The fabric is to be used as a component of an end item that is not a textile product. Examples of textile products, made in whole or in part of fabric, include--

(a) Draperies, floor coverings, furnishings, and bedding (Federal Supply Group 72, Household and Commercial Furnishings and Appliances);

(B) Items made in whole or in part of fabric in Federal Supply Group 83, Textile/leather/furs/apparel/ findings/tents/flags, or Federal Supply Group 84, Clothing, Individual Equipment and Insignia;

(C) Upholstered seats (whether for household, office, or other use); and

(D) Parachutes (Federal Supply Class 1670); or

(ii) The fibers and yarns are para-aramid fibers and yarns manufactured in the Netherlands.

(End of clause)

252.225-7026 REPORTING OF CONTRACT PERFORMANCE OUTSIDE THE UNITED STATES (JUN 2000)

(a) Reporting criteria.

Reporting under this clause is required for--

(1) Offers exceeding $10 million, if the Offeror is aware at the time the offer is submitted that it or its first-tier subcontractor intends to perform any part of the contract that exceeds $500,000 outside the United States and Canada, if that part could be performed inside the United States or Canada;

(2) Contracts exceeding $10 million, when any part that exceeds $500,000 could be performed inside the United States or Canada, but will be performed outside the United States and Canada. If the information was submitted with the offer, it need not be resubmitted unless it changes; and

(3) Contracts exceeding $500,000, when any part that exceeds the simplified acquisition threshold in Part 2 of the Federal Acquisition Regulation will be performed outside the United States, unless a foreign place of performance is--

(i) The principal place of performance; and

(ii) Indicated by the Offeror's entry in the Place of Performance provision of the solicitation.

(b) Submission of reports.

(1) The Offeror shall submit reports required by paragraph (a)(1) of this clause with its offer.

(2) The Contractor shall submit reports required by paragraph (a)(2) of this clause to the Contracting Officer as soon as the information is known, with a copy to the addressee in paragraph (b)(3) of this clause. With respect to performance by a first-tier subcontractor, this information shall be reported, to the maximum extent practicable, at least 30 days before award of the subcontract.

(3) The Contractor shall submit reports required by paragraph (a)(3) of this clause within 10 days of the end of each Government quarter to—Deputy Director of Defense Procurement (Foreign Contracting) OUSD(AT&L)DP(FC) Washington, DC 20301-3060

(4) The Offeror/Contractor shall submit reports on DD Form 2139, Report of Contract Performance Outside the United States. Computer-generated reports are acceptable, provided the report contains all information required by DD Form 2139. Copies of DD Form 2139 may be obtained from the Contracting Officer.

(c) Flowdown requirements. (1) The Contractor shall include a clause substantially the same as this one in all first-tier subcontracts exceeding $500,000, except subcontracts for commercial items, construction, ores, natural gases, utilities, petroleum products and crudes, timber (logs), or subsistence.

(2) The Contractor shall provide the prime contract number to subcontractors for reporting purposes.

(d) Information required.

(1) Information to be reported on the part of this contract performed outside the United States (or outside the United States and Canada for reports required by paragraphs (a)(1) and (a)(2) of this clause) includes that for--

(i) Subcontracts;

(ii) Purchases; and

(iii) Intracompany transfers when transfers originate in a foreign location.

(End of clause)

252.225-7031 SECONDARY ARAB BOYCOTT OF ISRAEL (JUN 1992)

(a) Definitions. As used in this clause--

(1) "Foreign person" means any person other than a United States person as defined in Section 16(2) of the Export Administration Act of 1979 (50 U.S.C. App. Sec 2415).

(2) "United States person" is defined in Section 16(2) of the Export Administration Act of 1979 and means any United States resident or national (other than an individual resident outside the United States and employed by other than a United States person), any domestic concern (including any permanent domestic establishment of any foreign concern), and any foreign subsidiary or affiliate (including any permanent foreign establishment) of any domestic concern which is controlled in fact by such domestic concerns, as determined under regulations of the President.

(b) Certification. By submitting this offer, the Offeror, if a foreign person, company or entity, certifies that it--

(1) Does not comply with the Secondary Arab Boycott of Israel; and

(2) Is not taking or knowingly agreeing to take any action, with respect to the Secondary Boycott of Israel by Arab countries, which 50 U.S.C. App. Sec 2407(a) prohibits a United States person from taking.

(End of clause)

252.225-7037 DUTY-FREE ENTRY--ELIGIBLE END PRODUCTS (AUG 2000)

(a) Definition. Eligible end product, as used in this clause, means--

(1) Designated country end product, Caribbean Basin country end product, or NAFTA country end product, as defined in the Trade Agreements clause of this contract;

(2) NAFTA country end product, as defined in the Buy American Act--North American Free Trade Agreement Implementation Act--Balance of Payments Program clause of this contract; or

(3) Canadian end product, as defined in Alternate I of the Buy American Act--North American Free Trade Agreement Implementation Act--Balance of Payments Program clause of this contract.

(b) The requirements of this clause apply to this contract and subcontracts, including purchase orders, that involve delivery of eligible end products to be accorded duty-free entry whether placed--

(1) Directly with a foreign concern as a prime contract; or

(2) As a subcontract or purchase order under a contract with a domestic concern.

(c) Except as otherwise approved by the Contracting Officer, no amount is or will be included in the contract price for duty for eligible end products.

(d) The Contractor warrants that--

(1) All eligible end products, for which duty-free entry is to be claimed under this clause, are intended to be delivered to the Government; and

(2) The Contractor will pay any applicable duty to the extent that such eligible end products, or any portion thereof (if not scrap or salvage) are diverted to nongovernmental use, other than as a result of a competitive sale made, directed, or authorized by the Contracting Officer.

(e) The Government agrees to execute duty-free certificates and to afford such assistance as appropriate to obtain the duty-free entry of eligible end products for which the shipping documents bear the notation specified in paragraph (f) of this clause, except as the Contractor may otherwise agree. (f) All shipping documents submitted to Customs, covering eligible end products for which duty-free entry certificates are to be issued under this clause, shall--

(1) Consign the shipments to the appropriate--

(i) Military department in care of the Contractor, including the Contractor's delivery address; or

(ii) Military installation; and

(2) Include the following information—

(i) Prime contract number, and delivery order if applicable;

(ii) Number of the subcontract/purchase order for foreign supplies if applicable;

(iii) Identification of carrier;

(iv)(A) For direct shipments to a U.S. military installation, the notation: UNITED STATES GOVERNMENT, DEPARTMENT OF DEFENSE Duty-Free Entry to be claimed pursuant to Section XXII, Chapter 98, Subchapter VIII, Item 9808.00.30 of the Harmonized Tariff Schedule of the United States. Upon arrival of shipment at the appropriate port of entry, District Director of Customs, please release shipment under 19 CFR part 142, and notify Commander, Defense Contract Management (DCM) New York, ATTN: Customs Team, DCMDN-GNIC, 207 New York Avenue, Building 120, Staten Island, New York 10305-5013, for execution of Customs Forms 7501, 7501A, or 7506 and any required duty-free entry certificates.

(B) In cases where the shipment will be consigned to other than a military installation, e.g., a domestic contractor's plant, the shipping document notation shall be altered to insert the name and address of the contractor, agent or broker who will notify Commander, DCM, New York, for execution of the duty-free certificate. (Note: In those instances where the shipment will be consigned to a contractor's plant and no duty-free entry certificate is required, the contractor or its agent shall claim duty-free entry under NAFTA or other trade agreement and shall comply with the U.S. Customs Service requirements. No notification to Commander, CDM, NewYork, is required.

(v) Gross weight in pounds (if freight is based on space tonnage, state cubic feet in addition to gross shipping weight);

(vi) Estimated value in U.S. dollars; and

(vii) Activity Address Number of the contract administration office actually administering the prime contract, e.g., for DCM Dayton, S3605A.

(g) Preparation of customs forms. (1) Except for shipments consigned to a military installation, the Contractor shall prepare, or authorize an agent to prepare, any customs forms required for the entry of eligible end products in connection with DoD contracts into the United States, its possessions, or Puerto Rico. The completed customs forms shall be submitted to the District Director of Customs with a copy to DCM New Yoek for execution of any required duty-free entry certificates. Shipments consigned directly to a military installation will be released in accordance with 10.101 and 10.102 of the U.S. Customs regulations.

(2) For shipments containing both supplies that are to be accorded duty-free entry and supplies that are not, the Contractor shall identify on the customs forms those items that are eligible for duty-free entry.

(h) The Contractor agrees--

(1) To prepare (if this contract is placed directly with a foreign supplier), or to instruct the foreign supplier to prepare, a sufficient number of copies, of the bill of lading (or other shipping document) so that at least two of the copies accompanying the shipment will be available for use by the District Director of Customs at the port of entry;

(2) To consign the shipment as specified in paragraph (f) of this clause; and

(3) To mark the exterior of all packages as follows:

(i) “UNITED STATES GOVERNMENT, DEPARTMENT OF DEFENSE;” and

(ii) The activity address number of the contract administration office actually administering the prime contract.

(i) The Contractor agrees to notify the Contracting Officer administering the prime contract in writing of any purchase under the contract of eligible end products to be accorded duty-free entry that are to be imported into the United States for delivery to the Government or for incorporation in end items to be delivered to the Government. The notice shall be furnished to the contract administration office immediately upon award to the supplier of the eligible end products. The notice shall contain--

(1) Prime contractor's name, address, and CAGE code;

(2) Prime contract number, and delivery order number if applicable;

(3) Total dollar value of the prime contract or delivery order;

(4) Expiration date of the prime contract or delivery order;

(5) Foreign supplier's name and address;

(6) Number of the subcontract/purchase order for eligible end products;

(7) Total dollar value of the subcontract for eligible end products;

(8) Expiration date of the subcontract for eligible end products;

(9) List of items purchased;

(10) An agreement by the Contractor that any applicable duty shall be paid by the Contractor to the extent that such eligible end products are diverted to nongovernmental use other than as a result of a competitive sale made, directed, or authorized by the Contracting Officer; and

(11) The scheduled delivery date(s).

252.227-7013 RIGHTS IN TECHNICAL DATA--NONCOMMERCIAL ITEMS. (NOV 1995)

(a) Definitions. As used in this clause:

(1) Computer data base means a collection of data recorded in a form capable of being processed by a computer. The term does not include computer software.

(2) Computer program means a set of instructions, rules, or routines recorded in a form that is capable of causing a computer to perform a specific operation or series of operations.

(3) Computer software means computer programs, source code, source code listings, object code listings, design details, algorithms, processes, flow charts, formulae and related material that would enable the software to be

reproduced, recreated, or recompiled. Computer software does not include computer data bases or computer software documentation.

(4) Computer software documentation means owner's manuals, user's manuals, installation instructions, operating instructions, and other similar items, regardless of storage medium, that explain the capabilities of the computer software or provide instructions for using the software.

(5) Detailed manufacturing or process data means technical data that describe the steps, sequences, and conditions of manufacturing, processing or assembly used by the manufacturer to produce an item or component or to perform a process.

(6) Developed means that an item, component, or process exists and is workable. Thus, the item or component must have been constructed or the process practiced. Workability is generally established when the item, component, or process has been analyzed or tested sufficiently to demonstrate to reasonable people skilled in the applicable art that there is a high probability that it will operate as intended. Whether, how much, and what type of analysis or testing is required to establish workability depends on the nature of the item, component, or process, and the state of the art. To be considered "developed," the item, component, or process need not be at the stage where it could be offered for sale or sold on the commercial market, nor must the item, component, or process be actually reduced to practice within the meaning of Title 35 of the United States Code.

(7) Developed exclusively at private expense means development was accomplished entirely with costs charged to indirect cost pools, costs not allocated to a government contract, or any combination thereof.

(i) Private expense determinations should be made at the lowest practicable level.

(ii) Under fixed-price contracts, when total costs are greater than the firm-fixed-price or ceiling price of the contract, the additional development costs necessary to complete development shall not be considered when determining whether development was at government, private, or mixed expense.

(8) Developed exclusively with government funds means development was not accomplished exclusively or partially at private expense.

(9) Developed with mixed funding means development was accomplished partially with costs charged to indirect cost pools and/or costs not allocated to a government contract, and partially with costs charged directly to a government contract.

(10) Form, fit, and function data means technical data that describes the required overall physical, functional, and performance characteristics (along with the qualification requirements, if applicable) of an item, component, or process to the extent necessary to permit identification of physically and functionally interchangeable items.

(11) Government purpose means any activity in which the United States Government is a party, including cooperative agreements with international or multi-national defense organizations, or sales or transfers by the United States Government to foreign governments or international organizations. Government purposes include competitive procurement, but do not include the rights to use, modify, reproduce, release, perform, display, or disclose technical data for commercial purposes or authorize others to do so.

(12) Government purpose rights means the rights to--

(i) Use, modify, reproduce, release, perform, display, or disclose technical data within the Government without restriction; and

(ii) Release or disclose technical data outside the Government and authorize persons to whom release or disclosure has been made to use, modify, reproduce, release, perform, display, or disclose that data for United States government purposes.

(13) Limited rights means the rights to use, modify, reproduce, release, perform, display, or disclose technical data, in whole or in part, within the Government. The Government may not, without the written permission of the party asserting limited rights, release or disclose the technical data outside the Government, use the technical data for manufacture, or authorize the technical data to be used by another party, except that the Government may reproduce, release or disclose such data or authorize the use or reproduction of the data by persons outside the Government if reproduction, release, disclosure, or use is --

(i) Necessary for emergency repair and overhaul; or

(ii) A release or disclosure of technical data (other than detailed manufacturing or process data) to, or use of such data by, a foreign government that is in the interest of the Government and is required for evaluational or informational purposes;

(iii) Subject to a prohibition on the further reproduction, release, disclosure, or use of the technical data; and

(iv) The contractor or subcontractor asserting the restriction is notified of such reproduction, release, disclosure, or use.

(14) Technical data means recorded information, regardless of the form or method of the recording, of a scientific or technical nature (including computer software documentation). The term does not include computer software or data incidental to contract administration, such as financial and/or management information.

(15) Unlimited rights means rights to use, modify, reproduce, perform, display, release, or disclose technical data in whole or in part, in any manner, and for any purpose whatsoever, and to have or authorize others to do so.

(b) Rights in technical data. The Contractor grants or shall obtain for the Government the following royalty free, world-wide, nonexclusive, irrevocable license rights in technical data other than computer software documentation (see the Rights in Noncommercial Computer Software and Noncommercial Computer Software Documentation clause of this contract for rights in computer software documentation):

(1) Unlimited rights.

The Government shall have unlimited rights in technical data that are --

(i) Data pertaining to an item, component, or process which has been or will be developed exclusively with Government funds;

(ii) Studies, analyses, test data, or similar data produced for this contract, when the study, analysis, test, or similar work was specified as an element of performance;

(iii) Created exclusively with Government funds in the performance of a contract that does not require the development, manufacture, construction, or production of items, components, or processes;

(iv) Form, fit, and function data;

(v) Necessary for installation, operation, maintenance, or training purposes (other than detailed manufacturing or process data);

(vi) Corrections or changes to technical data furnished to the Contractor by the Government;

(vii) Otherwise publicly available or have been released or disclosed by the Contractor or subcontractor without restrictions on further use, release or disclosure, other than a release or disclosure resulting from the sale, transfer, or other assignment of interest in the technical data to another party or the sale or transfer of some or all of a business entity or its assets to another party;

(viii) Data in which the Government has obtained unlimited rights under another Government contract or as a result of negotiations; or

(ix) Data furnished to the Government, under this or any other Government contract or subcontract thereunder, with--

(A) Government purpose license rights or limited rights and the restrictive condition(s) has/have expired; or

(B) Government purpose rights and the Contractor's exclusive right to use such data for commercial purposes has expired.

(2) Government purpose rights.

(i) The Government shall have government purpose rights for a five-year period, or such other period as may be negotiated, in technical data--

(A) That pertain to items, components, or processes developed with mixed funding except when the Government is entitled to unlimited rights in such data as provided in paragraphs (b)(ii) and (b)(iv) through (b)(ix) of this clause; or

(B) Created with mixed funding in the performance of a contract that does not require the development, manufacture, construction, or production of items, components, or processes.

(ii) The five-year period, or such other period as may have been negotiated, shall commence upon execution of the contract, subcontract, letter contract (or similar contractual instrument), contract modification, or option exercise that required development of the items, components, or processes or creation of the data described in paragraph (b)(2)(i)(B) of this clause. Upon expiration of the five-year or other negotiated period, the Government shall have unlimited rights in the technical data.

(iii) The Government shall not release or disclose technical data in which it has government purpose rights unless-

(A) Prior to release or disclosure, the intended recipient is subject to the non-disclosure agreement at 227.7103-7 of the Defense Federal Acquisition Regulation Supplement (DFARS); or

(B) The recipient is a Government contractor receiving access to the data for performance of a Government contract that contains the clause at DFARS 252.227-7025, Limitations on the Use or Disclosure of Government-Furnished Information Marked with Restrictive Legends.

(iv) The Contractor has the exclusive right, including the right to license others, to use technical data in which the Government has obtained government purpose rights under this contract for any commercial purpose during the time period specified in the government purpose rights legend prescribed in paragraph (f)(2) of this clause.

(3) Limited rights.

(i) Except as provided in paragraphs (b)(1)(ii) and (b)(1)(iv) through (b)(1)(ix) of this clause, the Government shall have limited rights in technical data--

(A) Pertaining to items, components, or processes developed exclusively at private expense and marked with the limited rights legend prescribed in paragraph (f) of this clause; or

(B) Created exclusively at private expense in the performance of a contract that does not require the development, manufacture, construction, or production of items, components, or processes.

(ii) The Government shall require a recipient of limited rights data for emergency repair or overhaul to destroy the data and all copies in its possession promptly following completion of the emergency repair/overhaul and to notify the Contractor that the data have been destroyed.

(iii) The Contractor, its subcontractors, and suppliers are not required to provide the Government additional rights to use, modify, reproduce, release, perform, display, or disclose technical data furnished to the Government with limited rights. However, if the Government desires to obtain additional rights in technical data in which it has limited rights, the Contractor agrees to promptly enter into negotiations with the Contracting Officer to determine whether there are acceptable terms for transferring such rights. All technical data in which the Contractor has granted the Government additional rights shall be listed or described in a license agreement made part of the contract. The license shall enumerate the additional rights granted the Government in such data.

(4) Specifically negotiated license rights.

The standard license rights granted to the Government under paragraphs (b)(1) through (b)(3) of this clause, including the period during which the Government shall have government purpose rights in technical data, may be modified by mutual agreement to provide such rights as the parties consider appropriate but shall not provide the Government lesser rights than are enumerated in paragraph (a)(13) of this clause. Any rights so negotiated shall be identified in a license agreement made part of this contract.

(5) Prior government rights.

Technical data that will be delivered, furnished, or otherwise provided to the Government under this contract, in which the Government has previously obtained rights shall be delivered, furnished, or provided with the pre-existing rights, unless--

(i) The parties have agreed otherwise; or

(ii) Any restrictions on the Government's rights to use, modify, reproduce, release, perform, display, or disclose the data have expired or no longer apply.

(6) Release from liability.

The Contractor agrees to release the Government from liability for any release or disclosure of technical data made in accordance with paragraph (a)(13) or (b)(2)(iii) of this clause, in accordance with the terms of a license negotiated under paragraph (b)(4) of this clause, or by others to whom the recipient has released or disclosed the data and to seek relief solely from the party who has improperly used, modified, reproduced, released, performed, displayed, or disclosed Contractor data marked with restrictive legends.

(c) Contractor rights in technical data. All rights not granted to the Government are retained by the Contractor.

(d) Third party copyrighted data. The Contractor shall not, without the written approval of the Contracting Officer, incorporate any copyrighted data in the technical data to be delivered under this contract unless the Contractor is the copyright owner or has obtained for the Government the license rights necessary to perfect a license or licenses in the deliverable data of the appropriate scope set forth in paragraph (b) of this clause, and has affixed a statement of the license or licenses obtained on behalf of the Government and other persons to the data transmittal document.

(e) Identification and delivery of data to be furnished with restrictions on use, release, or disclosure. (1) This paragraph does not apply to restrictions based solely on copyright.

(2) Except as provided in paragraph (e)(3) of this clause, technical data that the Contractor asserts should be furnished to the Government with restrictions on use, release, or disclosure are identified in an attachment to this contract (the Attachment). The Contractor shall not deliver any data with restrictive markings unless the data are listed on the Attachment.

(3) In addition to the assertions made in the Attachment, other assertions may be identified after award when based on new information or inadvertent omissions unless the inadvertent omissions would have materially affected the source selection decision. Such identification and assertion shall be submitted to the Contracting Officer as soon as practicable prior to the scheduled date for delivery of the data, in the following format, and signed by an official

authorized to contractually obligate the Contractor: Identification and Assertion of Restrictions on the Government's Use, Release, or Disclosure of Technical Data.

The Contractor asserts for itself, or the persons identified below, that the Government's rights to use, release, or disclose the following technical data should be restricted--

Technical data to be Furnished With Restrictions \1/	Basis for Assertion \2/	Asserted Rights Category \3/	Name of Person Asserting Restrictions \4/
(LIST)	(LIST)	(LIST)	(LIST)

\1/ If the assertion is applicable to items, components or processes developed at private expense, identify both the data and each such items, component, or process.

\2/ Generally, the development of an item, component, or process at private expense, either exclusively or partially, is the only basis for asserting restrictions on the Government's rights to use, release, or disclose technical data pertaining to such items, components, or processes. Indicate whether development was exclusively or partially at private expense. If development was not at private expense, enter the specific reason for asserting that the Government's rights should be restricted.

\3/ Enter asserted rights category (e.g., government purpose license rights from a prior contract, rights in SBIR data generated under another contract, limited or government purpose rights under this or a prior contract, or specifically negotiated licenses).

\4/ Corporation, individual, or other person, as appropriate.
Date _____

Printed Name and Title _____

_____

Signature _____

(End of identification and assertion)

(4) When requested by the Contracting Officer, the Contractor shall provide sufficient information to enable the Contracting Officer to evaluate the Contractor's assertions. The Contracting Officer reserves the right to add the Contractor's assertions to the Attachment and validate any listed assertion, at a later date, in accordance with the procedures of the Validation of Restrictive Markings on Technical Data clause of this contract.

(f) Marking requirements. The Contractor, and its subcontractors or suppliers, may only assert restrictions on the Government's rights to use, modify, reproduce, release, perform, display, or disclose technical data to be delivered under this contract by marking the deliverable data subject to restriction. Except as provided in paragraph (f)(5) of this clause, only the following legends are authorized under this contract: the government purpose rights legend at paragraph (f)(2) of this clause; the limited rights legend at paragraph (f)(3) of this clause; or the special license rights legend at paragraph (f)(4) of this clause; and/or a notice of copyright as prescribed under 17 U.S.C. 401 or 402.

(1) General marking instructions. The Contractor, or its subcontractors or suppliers, shall conspicuously and legibly mark the appropriate legend on all technical data that qualify for such markings. The authorized legends shall be placed on the transmittal document or storage container and, for printed material, each page of the printed material containing technical data for which restrictions are asserted. When only portions of a page of printed material are subject to the asserted restrictions, such portions shall be identified by circling, underscoring, with a note, or other appropriate identifier. Technical data transmitted directly from one computer or computer terminal to another shall

contain a notice of asserted restrictions. Reproductions of technical data or any portions thereof subject to asserted restrictions shall also reproduce the asserted restrictions.

(2) Government purpose rights markings. Data delivered or otherwise furnished to the Government purpose rights shall be marked as follows:

Government Purpose Rights

Contract No. _____

Contractor Name _____

Contractor Address _____

_____

Expiration Date _____

The Government's rights to use, modify, reproduce, release, perform, display, or disclose these technical data are restricted by paragraph (b)(2) of the Rights in Technical Data--Noncommercial Items clause contained in the above identified contract. No restrictions apply after the expiration date shown above. Any reproduction of technical data or portions thereof marked with this legend must also reproduce the markings.

(End of legend)

(3) Limited rights markings. Data delivered or otherwise furnished to the Government with limited rights shall be marked with the following legend:

Limited Rights

Contract No. _____

Contractor Name _____

Contractor Address _____

_____

The Government's rights to use, modify, reproduce, release, perform, display, or disclose these technical data are restricted by paragraph (b)(3) of the Rights in Technical Data--Noncommercial Items clause contained in the above identified contract. Any reproduction of technical data or portions thereof marked with this legend must also reproduce the markings. Any person, other than the Government, who has been provided access to such data must promptly notify the above named Contractor.

(End of legend)

(4) Special license rights markings. (i) Data in which the Government's rights stem from a specifically negotiated license shall be marked with the following legend:

Special License Rights

The Government's rights to use, modify, reproduce, release, perform, display, or disclose these data are restricted by Contract No. _____ (Insert contract number) _____, License No. _____ (Insert license identifier) _____. Any reproduction of technical data or portions thereof marked with this legend must also reproduce the markings.

(End of legend)

(ii) For purposes of this clause, special licenses do not include government purpose license rights acquired under a prior contract (see paragraph (b)(5) of this clause).

(5) Pre-existing data markings. If the terms of a prior contract or license permitted the Contractor to restrict the Government's rights to use, modify, reproduce, release, perform, display, or disclose technical data deliverable under this contract, and those restrictions are still applicable, the Contractor may mark such data with the appropriate restrictive legend for which the data qualified under the prior contract or license. The marking procedures in paragraph (f)(1) of this clause shall be followed.

(g) Contractor procedures and records. Throughout performance of this contract, the Contractor and its subcontractors or suppliersthat will deliver technical data with other than unlimited rights, shall--

(1) Have, maintain, and follow written procedures sufficient to assure that restrictive markings are used only when authorized by the terms of this clause; and

(2) Maintain records sufficient to justify the validity of any restrictive markings on technical data delivered under this contract.

(h) Removal of unjustified and nonconforming markings. (1) Unjustified technical data markings. The rights and obligations of the parties regarding the validation of restrictive markings on technical data furnished or to be furnished under this contract are contained in the Validation of Restrictive Markings on Technical Data clause of this contract. Notwithstanding any provision of this contract concerning inspection and acceptance, the Government may ignore or, at the Contractor's expense, correct or strike a marking if, in accordance with the procedures in the Validation of Restrictive Markings on Technical Data clause of this contract, a restrictive marking is determined to be unjustified.

(2) Nonconforming technical data markings. A nonconforming marking is a marking placed on technical data delivered or otherwise furnished to the Government under this contract that is not in the format authorized by this contract. Correction of nonconforming markings is not subject to the validation of Restrictive Markings on Technical Data clause of this contract. If the Contracting Officer notifies the Contractor of a nonconforming marking and the Contractor fails to remove or correct such marking within sixty (60) days, the Government may ignore or, at the Contractor's expense, remove or correct any nonconforming marking.

(i) Relation to patents. Nothing contained in this clause shall imply a license to the Government under any patent or be construed as affecting the scope of any license or other right otherwise granted to the Government under any patent.

(j) Limitation on charges for rights in technical data. (1) The Contractor shall not charge to this contract any cost, including, but not limited to, license fees, royalties, or similar charges, for rights in technical data to be delivered under this contract when--

(i) The Government has acquired, by any means, the same or greater rights in the data; or

(ii) The data are available to the public without restrictions.

(2) The limitation in paragraph (j)(1) of this clause--

(i) Includes costs charged by a subcontractor or supplier, at any tier, or costs incurred by the Contractor to acquire rights in subcontractor or supplier technical data, if the subcontractor or supplier has been paid for such rights under any other Government contract or under a license conveying the rights to the Government; and

(ii) Does not include the reasonable costs of reproducing, handling, or mailing the documents or other media in which the technical data will be delivered.

(k) Applicability to subcontractors or suppliers. (1) The Contractor shall ensure that the rights afforded its subcontractors and suppliers under 10 U.S.C. 2320, 10 U.S.C. 2321, and the identification, assertion, and delivery processes of paragraph (e) of this clause are recognized and protected.

(2) Whenever any technical data for noncommercial items is to be obtained from a subcontractor or supplier for delivery to the Government under this contract, the Contractor shall use this same clause in the subcontract or other contractual instrument, and require its subcontractors or suppliers to do so, without alteration, except to identify the parties. No other clause shall be used to enlarge or diminish the Government's, the Contractor's, or a higher-tier subcontractor's or supplier's rights in a subcontractor's or supplier's technical data.

(3) Technical data required to be delivered by a subcontractor or supplier shall normally be delivered to the next higher-tier contractor, subcontractor, or supplier. However, when there is a requirement in the prime contract for data which may be submitted with other than unlimited rights by a subcontractor or supplier, then said subcontractor or supplier may fulfill its requirement by submitting such data directly to the Government, rather than through a higher-tier contractor, subcontractor, or supplier.

(4) The Contractor and higher-tier subcontractors or suppliers shall not use their power to award contracts as economic leverage to obtain rights in technical data from their subcontractors or suppliers. (5) In no event shall the Contractor use its obligation to recognize and protect subcontractor or supplier rights in technical data as an excuse for failing to satisfy its contractual obligations to the Government.

(End of clause)

252.227-7014 RIGHTS IN NONCOMMERCIAL COMPUTER SOFTWARE AND NONCOMMERCIAL COMPUTER SOFTWARE DOCUMENTATION. (JUN 1995)

(a) Definitions. As used in this clause:

(1) Commercial computer software means software developed or regularly used for nongovernmental purposes which--

(i) Has been sold, leased, or licensed to the public;

(ii) Has been offered for sale, lease, or license to the public;

(iii) Has not been offered, sold, leased, or licensed to the public but will be available for commercial sale, lease, or license in time to satisfy the delivery requirements of this contract; or

(iv) Satisfies a criterion expressed in paragraph (a)(1) (i), (ii), or (iii) of this clause and would require only minor modification to meet the requirements of this contract.

(2) Computer database means a collection of recorded data in a form capable of being processed by a computer. The term does not include computer software.

(3) Computer program means a set of instructions, rules, or routines, recorded in a form that is capable of causing a computer to perform a specific operation or series of operations.

(4) Computer software means computer programs, source code, source code listings, object code listings, design details, algorithms, processes, flow charts, formulae, and related material that would enable the software to be reproduced, recreated, or recompiled. Computer software does not include computer databases or computer software documentation.

(5) Computer software documentation means owner's manuals, user's manuals, installation instructions, operating instructions, and other similar items, regardless of storage medium, that explain the capabilities of the computer software or provide instructions for using the software.

(6) Developed means that--

(i) A computer program has been successfully operated in a computer and tested to the extent sufficient to demonstrate to reasonable persons skilled in the art that the program can reasonably be expected to perform its intended purpose;

(ii) Computer software, other than computer programs, has been tested or analyzed to the extent sufficient to demonstrate to reasonable persons skilled in the art that the software can reasonably be expected to perform its intended purpose; or

(iii) Computer software documentation required to be delivered under a contract has been written, in any medium, in sufficient detail to comply with requirements under that contract.

(7) Developed exclusively at private expense means development was accomplished entirely with costs charged to indirect cost pools, costs not allocated to a government contract, or any combination thereof.

(i) Private expense determinations should be made at the lowest practicable level.

(ii) Under fixed-price contracts, when total costs are greater than the firm-fixed-price or ceiling price of the contract, the additional development costs necessary to complete development shall not be considered when determining whether development was at government, private, or mixed expense.

(8) Developed exclusively with government funds means development was not accomplished exclusively or partially at private expense.

(9) Developed with mixed funding means development was accomplished partially with costs charged to indirect cost pools and/or costs not allocated to a government contract, and partially with costs charged directly to a government contract.

(10) Government purpose means any activity in which the United States Government is a party, including cooperative agreements with international or multi-national defense organizations or sales or transfers by the United States Government to foreign governments or international organizations. Government purposes include competitive procurement, but do not include the rights to use, modify, reproduce, release, perform, display, or disclose computer software or computer software documentation for commercial purposes or authorize others to do so.

(11) Government purpose rights means the rights to--

(i) Use, modify, reproduce, release, perform, display, or disclose computer software or computer software documentation within the Government without restriction; and

(ii) Release or disclose computer software or computer software documentation outside the Government and authorize persons to whom release or disclosure has been made to use, modify, reproduce, release, perform, display, or disclose the software or documentation for United States government purposes.

(12) Minor modification means a modification that does not significantly alter the nongovernmental function or purpose of the software or is of the type customarily provided in the commercial marketplace.

(13) Noncommercial computer software means software that does not qualify as commercial computer software under paragraph (a)(1) of this clause.

(14) Restricted rights apply only to noncommercial computer software and mean the Government's rights to--

(i) Use a computer program with one computer at one time. The program may not be accessed by more than one terminal or central processing unit or time shared unless otherwise permitted by this contract;

(ii) Transfer a computer program to another Government agency without the further permission of the Contractor if the transferor destroys all copies of the program and related computer software documentation in its possession and notifies the licensor of the transfer. Transferred programs remain subject to the provisions of this clause;

(iii) Make the minimum number of copies of the computer software required for safekeeping (archive), backup, or modification purposes;

(iv) Modify computer software provided that the Government may--

(A) Use the modified software only as provided in paragraphs (a)(14) (i) and (iii) of this clause; and

(B) Not release or disclose the modified software except as provided in paragraphs (a)(14) (ii), (v) and (vi) of this clause;

(v) Permit contractors or subcontractors performing service contracts (see 37.101 of the Federal Acquisition Regulation) in support of this or a related contract to use computer software to diagnose and correct deficiencies in a computer program, to modify computer software to enable a computer program to be combined with, adapted to, or merged with other computer programs or when necessary to respond to urgent tactical situations, provided that--

(A) The Government notifies the party which has granted restricted rights that a release or disclosure to particular contractors or subcontractors was made;

(B) Such contractors or subcontractors are subject to the use and non-disclosure agreement at 227.7103-7 of the Defense Federal Acquisition Regulation Supplement (DFARS) or are Government contractors receiving access to the software for performance of a Government contract that contains the clause at DFARS 252.227-7025, Limitations on the Use or Disclosure of Government-Furnished Information Marked with Restrictive Legends;

(C) The Government shall not permit the recipient to decompile, disassemble, or reverse engineer the software, or use software decompiled, disassembled, or reverse engineered by the Government pursuant to paragraph (a)(14)(iv) of this clause, for any other purpose; and

(D) Such use is subject to the limitation in paragraph (a)(14)(i) of this clause; and

(vi) Permit contractors or subcontractors performing emergency repairs or overhaul of items or components of items procured under this or a related contract to use the computer software when necessary to perform the repairs or overhaul, or to modify the computer software to reflect the repairs or overhaul made, provided that--

(A) The intended recipient is subject to the use and nondisclosure agreement at DFARS 227.7103-7 or is a Government contractor receiving access to the software for performance of a Government contract that contains the clause at DFARS 252.227-7025, Limitations on the Use or Disclosure of Government-Furnished Information Marked with Restrictive Legends; and

(B) The Government shall not permit the recipient to decompile, disassemble, or reverse engineer the software, or use software decompiled, disassembled, or reverse engineered by the Government pursuant to paragraph (a)(14)(iv) of this clause, for any other purpose.

(15) Unlimited rights means rights to use, modify, reproduce, release, perform, display, or disclose computer software or computer software documentation in whole or in part, in any manner and for any purpose whatsoever, and to have or authorize others to do so.

(b) Rights in computer software or computer software documentation. The Contractor grants or shall obtain for the Government the following royalty free, world-wide, nonexclusive, irrevocable license rights in noncommercial computer software or computer software documentation. All rights not granted to the Government are retained by the Contractor.

(1) Unlimited rights. The Government shall have unlimited rights in--

(i) Computer software developed exclusively with Government funds;

(ii) Computer software documentation required to be delivered under this contract;

(iii) Corrections or changes to computer software or computer software documentation furnished to the Contractor by the Government;

(iv) Computer software or computer software documentation that is otherwise publicly available or has been released or disclosed by the Contractor or subcontractor without restriction on further use, release or disclosure, other than a release or disclosure resulting from the sale, transfer, or other assignment of interest in the software to another party or the sale or transfer of some or all of a business entity or its assets to another party;

(v) Computer software or computer software documentation obtained with unlimited rights under another Government contract or as a result of negotiations; or

(vi) Computer software or computer software documentation furnished to the Government, under this or any other Government contract or subcontract thereunder with--

(A) Restricted rights in computer software, limited rights in technical data, or government purpose license rights and the restrictive conditions have expired; or

(B) Government purpose rights and the Contractor's exclusive right to use such software or documentation for commercial purposes has expired.

(2) Government purpose rights. (i) Except as provided in paragraph (b)(1) of this clause, the Government shall have government purpose rights in computer software development with mixed funding.

(ii) Government purpose rights shall remain in effect for a period of five years unless a different period has been negotiated. Upon expiration of the five-year or other negotiated period, the Government shall have unlimited rights in the computer software or computer software documentation. The government purpose rights period shall commence upon execution of the contract, subcontract, letter contract (or similar contractual instrument), contract modification, or option exercise that required development of the computer software.

(iii) The Government shall not release or disclose computer software in which it has government purpose rights to any other person unless--

(A) Prior to release or disclosure, the intended recipient is subject to the use and non-disclosure agreement at DFARS 227.7103-7; or

(B) The recipient is a Government contractor receiving access to the software or documentation for performance of a Government contract that contains the clause at DFARS 252.227-7025, Limitations on the Use or Disclosure of Government Furnished Information Marked with Restrictive Legends.

(3) Restricted rights. (i) The Government shall have restricted rights in noncommercial computer software required to be delivered or otherwise provided to the Government under this contract that were developed exclusively at private expense.

(ii) The Contractor, its subcontractors, or suppliers are not required to provide the Government additional rights in noncommercial computer software delivered or otherwise provided to the Government with restricted rights. However, if the Government desires to obtain additional rights in such software, the Contractor agrees to promptly enter into negotiations with the Contracting Officer to determine whether there are acceptable terms for transferring such rights. All noncommercial computer software in which the Contractor has granted the Government additional rights shall be listed or described in a license agreement made part of the contract (see paragraph (b)(4) of this clause). The license shall enumerate the additional rights granted the Government.

(4) Specifically negotiated license rights. (i) The standard license rights granted to the Government under paragraphs (b)(1) through (b)(3) of this clause, including the period during which the Government shall have government purpose rights in computer software, may be modified by mutual agreement to provide such rights as the parties consider appropriate but shall not provide the Government lesser rights in computer software than are enumerated in paragraph (a)(14) of this clause or lesser rights in computer software documentation than are enumerated in paragraph (a)(13) of the Rights in Technical Data--Noncommercial Items clause of this contract.

(ii) Any rights so negotiated shall be identified in a license agreement made part of this contract.

(5) Prior government rights. Computer software or computer software documentation that will be delivered, furnished, or otherwise provided to the Government under this contract, in which the Government has previously obtained rights shall be delivered, furnished, or provided with the pre-existing rights, unless--

(i) The parties have agreed otherwise; or

(ii) Any restrictions on the Government's rights to use, modify, reproduce, release, perform, display, or disclose the data have expired or no longer apply.

(6) Release from liability. The Contractor agrees to release the Government from liability for any release or disclosure of computer software made in accordance with paragraph (a)(14) or (b)(2)(iii) of this clause, in accordance with the terms of a license negotiated under paragraph (b)(4) of this clause, or by others to whom the recipient has released or disclosed the software, and to seek relief solely from the party who has improperly used, modified, reproduced, released, performed, displayed, or disclosed Contractor software marked with restrictive legends.

(c) Rights in derivative computer software or computer software documentation. The Government shall retain its rights in the unchanged portions of any computer software or computer software documentation delivered under this contract that the Contractor uses to prepare, or includes in, derivative computer software or computer software documentation.

(d) Third party copyrighted computer software or computer software documentation. The Contractor shall not, without the written approval of the Contracting Officer, incorporate any copyrighted computer software or computer software documentation in the software or documentation to be delivered under this contract unless the Contractor is the copyright owner or has obtained for the Government the license rights necessary to perfect a license or licenses in the deliverable software or documentation of the appropriate scope set forth in paragraph (b) of this clause, and prior to delivery of such--

(1) Computer software, has provided a statement of the license rights obtained in a form acceptable to the Contracting Officer; or

(2) Computer software documentation, has affixed to the transmittal document a statement of the license rights obtained.

(e) Identification and delivery of computer software and computer software documentation to be furnished with restrictions on use, release, or disclosure. (1) This paragraph does not apply to restrictions based solely on copyright.

(2) Except as provided in paragraph (e)(3) of this clause, computer software that the Contractor asserts should be furnished to the Government with restrictions on use, release, or disclosure is identified in an attachment to this contract (the Attachment). The Contractor shall not deliver any software with restrictive markings unless the software is listed on the Attachment.

(3) In addition to the assertions made in the Attachment, other assertions may be identified after award when based on new information or inadvertent omissions unless the inadvertent omissions would have materially affected the source selection decision. Such identification and assertion shall be submitted to the Contracting Officer as soon as practicable prior to the scheduled data for delivery of the software, in the following format, and signed by an official authorized to contractually obligate the Contractor: Identification and Assertion of Restrictions on the Government's

Use, Release, or Disclosure of Computer Software.

The Contractor asserts for itself, or the persons identified below, that the Government's rights to use, release, or disclose the following computer software should be restricted:

Computer Software to be Furnished With Restrictions *	Basis for Assertion **	Asserted Rights Category ***	Name of Person Asserting Restrictions ****
_____	_____	_____	_____

* Generally, development at private expense, either exclusively or partially, is the only basis for asserting restrictions on the Government's rights to use, release, or disclose comp uter software.

** Indicate whether development was exclusively or partially at private expense. If development was not a private expense, enter the specific reason for asserting that the Government's rights should be restricted.

*** Enter asserted rights category (e.g., restricted or government purpose rights in computer software, government purpose license rights a prior contract, rights in SBIR software generated under another contract, or specifically negotiated licenses).

**** Corporation, individual, or other person, as appropriate.

Date

Printed Name and Title

Signature

End of identification and assertion)

(4) When requested by the Contracting Officer, the Contractor shall provide sufficient information to enable the Contracting Officer to evaluate the Contractor's assertions. The Contracting Officer reserves the right to add the Contractor's assertions to the Attachment and validate any listed assertion, at a later date, in accordance with the procedures of the Validation of Asserted Restrictions--Computer Software clause of this contract.

(f) Marking requirements. The Contractor, and its subcontractors or suppliers, may only assert restrictions on the Government's rights to use, modify, reproduce, release, perform, display, or disclose computer software by marking the deliverable software or documentation subject to restriction. Except as provided in paragraph (f)(5) of this clause, only the following legends are authorized under this contract; the government purpose rights legend at paragraph (f)(2) of this clause; the restricted rights legend at paragraph (f)(3) of this clause; or the special license rights legend at paragraph (f)(4) of this clause; and/or a notice of copyright as prescribed under 17 U.S.C. 401 or 402.

(1) General marking instructions. The Contractor, or its subcontractors or suppliers, shall conspicuously and legibly mark the appropriate legend on all computer software that qualify for such markings. The authorized legends shall be placed on the transmitted document or software storage container and each page, or portions thereof, of printed material containing computer software for which restrictions are asserted. Computer software transmitted directly from one computer or computer terminal to another shall contain a notice of asserted restrictions. However, instructions that interfere with or delay the operation of computer software in order to display a restrictive rights legend or other license statement at any time prior to or during use of the computer software, or otherwise cause such interference or delay, shall not be inserted in software that will or might be used in combat or situations that simulate combat conditions, unless the Contracting Officer's written permission to deliver such software has been obtained prior to delivery. Reproductions of computer software or any portions thereof subject to asserted

restrictions, shall also reproduce the asserted restrictions.

(2) Government purpose rights markings. Computer software delivered or otherwise furnished to the Government with government purpose rights shall be marked as follows:

GOVERNMENT PURPOSE RIGHTS

Contract No.

Contractor Name

Contractor Address

Expiration Date

The Government's rights to use, modify, reproduce, release, perform, display, or disclose this software are restricted by paragraph (b)(2) of the Rights in Noncommercial Computer Software and Noncommercial Computer Software Documentation clause contained in the above identified contract. No restrictions apply after the expiration date shown above. Any reproduction of the software or portions thereof marked with this legend must also reproduce the markings.

(End of legend)

(3) Restricted rights markings. Software delivered or otherwise furnished to the Government with restricted rights shall be marked with the following legend:

RESTRICTED RIGHTS

Contract No.

Contractor Name

Contractor Address

The Government's rights to use, modify, reproduce, release, perform, display, or disclose this software are restricted by paragraph (b)(3) of the Rights in Noncommercial Computer Software and Noncommercial Computer Software Documentation clause contained in the above identified contract. Any reproduction of computer software or portions thereof marked with this legend must also reproduce the markings. Any person, other than the Government, who has been provided access to such software must promptly notify the above named Contractor.

(End of legend)

(4) Special license rights markings. (i) Computer software or computer documentation in which the Government's rights stem from a specifically negotiated license shall be marked with the following legend:

SPECIAL LICENSE RIGHTS

The Government's rights to use, modify, reproduce, release, perform, display, or disclose this software are restricted by Contract No. (Insert contract number) , License No. (Insert license identifier) Any reproduction of computer software, computer software documentation, or portions thereof marked with this legend must also reproduce the markings.

(End of legend)

(ii) For purposes of this clause, special licenses do not include government purpose license rights acquired under a prior contract (see paragraph (b)(5) of this clause).

(5) Pre-existing markings. If the terms of a prior contract or license permitted the Contractor to restrict the Government's rights to use, modify, release, perform, display, or disclose computer software or computer software documentation and those restrictions are still applicable, the Contractor may mark such software or documentation with the appropriate restrictive legend for which the software qualified under the prior contract or license. The marking procedures in paragraph (f)(1) of this clause shall be followed.

(g) Contractor procedures and records. Throughout performance of this contract, the Contractor and its subcontractors or suppliers that will deliver computer software or computer software documentation with other than unlimited rights, shall--

(1) Have, maintain, and follow written procedures sufficient to assure that restrictive markings are used only when authorized by the terms of this clause; and

(2) Maintain records sufficient to justify the validity of any restrictive markings on computer software or computer software documentation delivered under this contract.

(h) Removal of unjustified and nonconforming markings. (1) Unjustified computer software or computer software documentation markings. The rights and obligations of the parties regarding the validation of restrictive markings on computer software or computer software documentation furnished or to be furnished under this contract are contained in the Validation of Asserted Restrictions--Computer Software and the Validation of Restrictive Markings on Technical Data clauses of this contract, respectively. Notwithstanding any provision of this contract concerning inspection and acceptance, the Government may ignore or, at the Contractor's expense, correct or strike a marking if, in accordance with the procedures of those clauses, a restrictive marking is determined to be unjustified.

(2) Nonconforming computer software or computer software documentation markings. A nonconforming marking is a marking placed on computer software or computer software documentation delivered or otherwise furnished to the Government under this contract that is not in the format authorized by this contract. Correction of nonconforming markings is not subject to the Validation of Asserted Restrictions--Computer Software or the Validation of Restrictive Markings on Technical Data clause of this contract. If the Contracting Officer notifies the Contractor of a nonconforming marking or markings and the Contractor fails to remove or correct such markings within sixty (60) days, the Government may ignore or, at the Contractor's expense, remove or correct any nonconforming markings.

(i) Relation to patents. Nothing contained in this clause shall imply a license to the Government under any patent or be construed as affecting the scope of any license or other right otherwise granted to the Government under any patent.

(j) Limitation on charges for rights in computer software or computer software documentation. (1) The Contractor shall not charge to this contract any cost, including but not limited to license fees, royalties, or similar charges, for rights in computer software or computer software documentation to be delivered under this contract when--

(i) The Government has acquired, by any means, the same or greater rights in the software or documentation; or

(ii) The software or documentation are available to the public without restrictions.

(2) The limitation in paragraph (j)(1) of this clause--

(i) Includes costs charged by a subcontractor or supplier, at any tier, or costs incurred by the Contractor to acquire rights in subcontractor or supplier computer software or computer software documentation, if the subcontractor or supplier has been paid for such rights under any other Government contract or under a license conveying the rights to the Government; and

(ii) Does not include the reasonable costs of reproducing, handling, or mailing the documents or other media in which the software or documentation will be delivered.

(k) Applicability to subcontractors or suppliers. (1) Whenever any noncommercial computer software or computer

software documentation is to be obtained from a subcontractor or supplier for delivery to the Government under this contract, the Contractor shall use this same clause in its subcontracts or other contractual instruments, and require its subcontractors or suppliers to do so, without alteration, except to identify the parties. No other clause shall be used to enlarge or diminish the Government's, the Contractor's, or a higher tier subcontractor's or supplier's rights in a subcontractor's or supplier's computer software or computer software documentation.

(2) The Contractor and higher tier subcontractors or suppliers shall not use their power to award contracts as economic leverage to obtain rights in comp uter software or computer software documentation from their subcontractors or suppliers.

(3) The Contractor shall ensure that subcontractor or supplier rights are recognized and protected in the identification, assertion, and delivery processes required by paragraph (e) of this clause.

(4) In no event shall the Contractor use its obligation to recognize and protect subcontractor or supplier rights in computer software or computer software documentation as an excuse for failing to satisfy its contractual obligation to the Government.

(End of clause)

252.227-7016 RIGHTS IN BID OR PROPOSAL INFORMATION (JUN 1995)

(a) Definitions.

(1) For contracts that require the delivery of technical data, the terms "technical data" and "computer software" are defined in the Rights in Technical Data--Noncommercial Item clause of this contract or, if this is a contract awarded under the Small Business Innovative Research Program, the Rights in Noncommercial Technical Data and Computer Software--Small Business Innovative Research (SBIR) Program clause of this contract.

(2) For contracts that do not require the delivery of technical data, the term "computer software" is defined in the Rights in Noncommercial Computer and Noncommercial Computer Software Documentation clause of this contract or, if this is a contract awarded under the Small Business Innovative Research Program, the Rights in Noncommercial Technical Data and Computer Software--Small Business Innovative Research (SBIR) Program clause of this contract.

(b) Government rights to contract award. By submission of its offer, the Offeror agrees that the Government--

(1) May reproduce the bid or proposal, or any portions thereof, to the extent necessary to evaluate the offer.

(2) Except as provided in paragraph (d) of this clause, shall use information contained in the bid or proposal only for evaluational purposes and shall not disclose, directly or indirectly, such information to any person including potential evaluators, unless that person has been authorized by the head of the agency, his or her designee, or the Contracting Officer to receive such information.

(c) Government rights subsequent to contract award--The Contractor agrees--

(1) Except as provided in paragraphs (c)((2), (d), and (e) of this clause, the Government shall have the rights to use, modify, reproduce, release, perform, display, or disclose information contained in the Contractor's bid or proposal within the Government. The Government shall not release, perform, display, or disclose such information outside the Government without the Contractor's written permission.

(2) The Government's right to use, modify, reproduce, release, perform, display, or disclose information that is technical data or computer software required to be delivered under this contract are determined by the Rights in Technical Data--Noncommercial Items, Rights in Noncommercial Computer Software and Noncommercial Computer Software Documentation, or Rights in Noncommercial Technical Data and Computer Software--Small Business Innovative Research (SBIR) Program clause(s) of this contract.

(d) Government-furnished information. The Government's rights with respect to technical data or computer software contained in the Contractor's bid or proposal that were provided to the Contractor by the Government are subject only to restrictions on use, modification, reproduction, release, performance, display, or disclosure, if any, imposed by the developer or licensor of such data or software.

(e) Information available without restrictions. The Government's rights to use, modify, reproduce, release, perform, display, or, disclose information contained in a bid or proposal, including technical data or computer software, and to permit others to do so, shall not be restricted in any manner if such information has been released or disclosed to the Government or to other persons without restrictions other than a release or disclosure resulting from the sale, transfer, or other assignment of interest in the information to another party or the sale or transfer of some or all of a business entity or its assets to another party.

(f) Flowdown. Contractor shall include this clause in all subcontracts or similar contractual instruments and require its subcontractors or suppliers to do so without alteration, except to identify the parties.

252.227-7019 VALIDATION OF ASSERTED RESTRICTIONS--COMPUTER SOFTWARE (JUN 1995)

(a) Definitions.

(1) As used in this clause, unless otherwise specifically indicated, the term "Contractor" means the Contractor and its subcontractors or suppliers.

(2) Other terms used in this clause are defined in the Rights in Noncommercial Computer Software and Noncommercial Computer Software Documentation clause of this contract.

(b) Justification. The Contractor shall maintain records sufficient to justify the validity of any markings that assert restrictions on the Government's rights to use, modify, reproduce, perform, display, release, or disclose computer software delivered or required to be delivered under this contract and shall be prepared to furnish to the Contracting Officer a written justification for such restrictive markings in response to a request for information under paragraph (d) or a challenge under paragraph (f) of this clause.

(c) Direct contact with subcontractors or suppliers. The Contractor agrees that the Contracting Officer may transact matters under this clause directly with subcontractors or suppliers at any tier who assert restrictions on the Government's right to use, modify, reproduce, release, perform, display, or disclose computer software. Neither this clause, nor any action taken by the Government under this clause, creates or implies privity of contract between the Government and the Contractor's subcontractors or suppliers.

(d) Requests for information.

(1) The Contracting Officer may request the Contractor to provide sufficient information to enable the Contracting Officer to evaluate the Contractor's asserted restrictions. Such information shall be based upon the records required by this clause or other information reasonably available to the Contractor.

(2) Based upon the information provided, if the--

(i) Contractor agrees that an asserted restriction is not valid, the Contracting Officer may--

(A) Strike or correct the unjustified marking at the Contractor's expense; or

(B) Return the computer software to the Contractor for correction at the Contractor's expense. If the Contractor fails to correct or strike the unjustified restrictions and return the corrected software to the Contracting Officer within sixty (60) days following receipt of the software, the Contracting Officer may correct the strike the markings at the Contractor's expense.

(ii) Contracting Officer concludes that the asserted restriction is appropriate for this contract, the Contracting Officer shall so notify the Contractor in writing.

(3) The Contractor's failure to provide a timely response to a Contracting Officer's request for information or failure to provide sufficient information to enable the Contracting Officer to evaluate an asserted restriction shall constitute reasonable grounds for questioning the validity of an asserted restriction.

(e) Government right to challenge and validate asserted restrictions. (1) The Government, when there are reasonable grounds to do so, has the right to review and challenge the validity of any restrictions asserted by the Contractor on the Government's rights to use, modify, reproduce, release, perform, display, or disclose computer software delivered, to be delivered under this contract, or otherwise provided to the Government in the performance of this contract. Except for software that is publicly available, has been furnished to the Government without restrictions, or has been otherwise made available without restrictions, the Government may exercise this right only within three years after the date(s) the software is delivered or otherwise furnished to the Government, or three years following final payment under this contract, whichever is later.

(2) The absence of a challenge to an asserted restriction shall not constitute validation under this clause. Only a Contracting Officer's final decision or actions of an agency Board of Contract Appeals or a court of competent jurisdiction that sustain the validity of an asserted restriction constitute validation of the restriction.

(f) Challenge procedures. (1) A challenge must be in writing and shall--

(i) State the specific grounds for challenging the asserted restriction;

(ii) Require the Contractor to respond within sixty (60) days;

(iii) Require the Contractor to provide justification for the assertion based upon records kept in accordance with paragraph (b) of this clause and such other documentation that are reasonably available to the Contractor, in sufficient detail to enable the Contracting Officer to determine the validity of the asserted restrictions; and

(iv) State that a Contracting Officer's final decision, during the three-year period preceding this challenge, or action of a court of competent jurisdiction or Board of Contract Appeals that sustained the validity of an identical assertion made by the Contractor (or a licensee) shall serve as justification for the asserted restriction.

(2) The Contracting Officer shall extend the time for response if the Contractor submits a written request showing the need for additional time to prepare a response.

(3) The Contracting Officer may request additional supporting documentation if, in the Contracting Officer's opinion, the Contractor's explanation does not provide sufficient evidence to justify the validity of the asserted restrictions. The Contractor agrees to promptly respond to the Contracting Officer's request for additional supporting documentation.

(4) Notwithstanding challenge by the Contracting Officer, the parties may agree on the disposition of an asserted restriction at any time prior to a Contracting Officer's final decision or, if the Contractor has appealed that decision, filed suit, or provided notice of an intent to file suit, at any time prior to a decision by a court of competent jurisdiction or Board of Contract Appeals.

(5) If the Contractor fails to respond to the Contracting Officer's request for information or additional information under paragraph (f)(1) of this clause, the Contracting Officer shall issue a final decision, in accordance with the Disputes clause of this contract, pertaining to the validity of the asserted restriction.

(6) If the Contracting Officer, after reviewing the written explanation furnished pursuant to paragraph (f)(1) of this clause, or any other available information pertaining to the validity of an asserted restriction, determines that the asserted restriction has --

(i) Not been justified, the Contracting Officer shall issue promptly a final decision, in accordance with the Disputes clause of this contract, denying the validity of the asserted restriction; or

(ii) Been justified, the Contracting Officer shall issue promptly a final decision, in accordance with the Disputes clause of this contract, validating the asserted restriction.

(7) A Contractor receiving challenges to the same asserted restriction(s) from more than one Contracting Officer shall notify each Contracting Officer of the other challenges. The notice shall also state which Contracting Officer initiated the first in time unanswered challenge. The Contracting Officer who initiated the first in time unanswered challenge, after consultation with the other Contracting Officers who have challenged the restrictions and the Contractor, shall formulate and distribute a schedule that provides the contractor a reasonable opportunity for responding to each challenge.

(g) Contractor appeal--Government obligation. (1) The Government agrees that, notwithstanding a Contracting Officer's final decision denying the validity of an asserted restriction and except as provided in paragraph (g)(3) of this clause, it will honor the asserted restriction--

(i) For a period of ninety (90) days from the date of the Contracting Officer's final decision to allow the Contractor to appeal to the appropriate Board of Contract Appeals or to file suit in an appropriate court;

(ii) For a period of one year from the date of the Contracting Officer's final decision if, within the first ninety (90) days following the Contracting Officer's final decision, the Contractor has provided notice of an intent to file suit in an appropriate court; or

(iii) Until final disposition by the appropriate Board of Contract Appeals or court of competent jurisdiction, if the Contractor has: (A) appealed to the Board of Contract Appeals or filed suit an appropriate court within ninety (90) days; or (B) submitted, within ninety (90) days, a notice of intent to file suit in an appropriate court and filed suit within one year.

(2) The Contractor agrees that the Government may strike, correct, or ignore the restrictive markings if the Contractor fails to--

(i) Appeal to a Board of Contract Appeals within ninety (90) days from the date of the Contracting Officer's final decision;

(ii) File suit in an appropriate court within ninety (90) days from such date; or

(iii) File suit within one year after the date of the Contracting Officer's final decision if the Contractor had provided notice of intent to file suit within ninety (90) days following the date of the Contracting Officer's final decision.

(3) The agency head, on a nondelegable basis, may determine that urgent or compelling circumstances do not permit awaiting the filing of suit in an appropriate court, or the rendering of a decision by a court of competent jurisdiction or Board of Contract Appeals. In that event, the agency head shall notify the Contractor of the urgent or compelling circumstances. Notwithstanding paragraph (g)(1) of this clause, the Contractor agrees that the agency may use, modify, reproduce, release, perform, display, or disclose computer software marked with (i) government purpose legends for any purpose, and authorize others to do so; or (ii) restricted or special license rights for government purposes only. The Government agrees not to release or disclose such software unless, prior to release or disclosure, the intended recipient is subject to the use and non-disclosure agreement at 227.7103-7 of the Defense Federal Acquisition Regulation Supplement (DFARS), or is a Government contractor receiving access to the software for performance of a Government contract that contains the clause at DFARS 252.227-7025, Limitations on the Use or Disclosure of Government-Furnished Information Marked with Restrictive Legends. The agency head's determination may be made at any time after the date of the Contracting Officer's final decision and shall not affect the Contractor's right to damages against the United States, or other relief provided by law, if its asserted restrictions are ultimately upheld.

(h) Final disposition of appeal or suit. If the Contractor appeals or files suit and if, upon final disposition of the appeal or suit, the Contracting Officer's decision is:

(1) Sustained--

(i) Any restrictive marking on such computer software shall be struck or corrected at the contractor's expense or ignored; and

(ii) If the asserted restriction is found not to be substantially justified, the Contractor shall be liable to the Government for payment of the cost to the Government of reviewing the asserted restriction and the fees and other expenses (as defined in 28 U.S.C. 2412(d)(2)(A)) incurred by the Government in challenging the restriction, unless special circumstances would make such payment unjust.

(2) Not sustained--

(i) The Government shall be bound by the asserted restriction; and

(ii) If the challenge by the Government is found not to have been made in good faith, the Government shall be liable to the Contractor for payment of fees and other expenses (as defined in 28 U.S.C. 2412(d)(2)(A)) incurred by the Contractor in defending the restriction.

(i) Flowdown. The Contractor shall insert this clause in all contracts, purchase orders, and other similar instruments with its subcontractors or suppliers, at any tier, who will be furnishing computer software to the Government in the performance of this contract. The clause may not be altered other than to identify the appropriate parties.

(End of clause)

252.227-7028 TECHNICAL DATA OR COMPUTER SOFTWARE PREVIOUSLY DELIVERED TO THE GOVERNMENT (JUN 1995)

The Offeror shall attach to its offer an identification of all documents or other media incorporating technical data or computer software it intends to deliver under this contract with other than unlimited rights that are identical or substantially similar to documents or other media that the Offeror has produced for, delivered to, or is obligated to deliver to the Government under any contract or subcontract. The attachment shall identify--

(a) The contract number under which the data or software were produced;

(b) The contract number under which, and the name and address of the organization to whom, the data or software were most recently delivered or will be delivered; and

(c) Any limitations on the Government's rights to use or disclose the data or software, including, when applicable, identification of the earliest date the limitations expire.

(End of clause)

252.227-7030 TECHNICAL DATA--WITHHOLDING OF PAYMENT (MAR 2000)

(a) If technical data specified to be delivered under this contract, is not delivered within the time specified by this contract or is deficient upon delivery (including having restrictive markings not identified in the list described in the clause at 252.227-7013(e)(2) or 252.227-7018(e)(2) of this contract), the Contracting Officer may until such data is accepted by the Government, withhold payment to the Contractor of ten percent (10%) of the total contract price or amount unless a lesser withholding is specified in the contract. Payments shall not be withheld nor any other action taken pursuant to this paragraph when the Contractor's failure to make timely delivery or to deliver such data without deficiencies arises out of causes beyond the control and without the fault or negligence of the Contractor.

(b) The withholding of any amount or subsequent payment to the Contractor shall not be construed as a waiver of any rights accruing to the Government under this contract.

(End of clause)

252.227-7033 RIGHTS IN SHOP DRAWINGS (APR 1966)

(a) Shop drawings for construction means drawings, submitted to the Government by the Construction Contractor, subcontractor or any lower-tier subcontractor pursuant to a construction contract, showing in detail (i) the proposed fabrication and assembly of structural elements and (ii) the installation (i.e., form, fit, and attachment details) of materials or equipment. The Government may duplicate, use, and disclose in any manner and for any purpose shop drawings delivered under this contract.

(b) This clause, including this paragraph (b), shall be included in all subcontracts hereunder at any tier.

252.227-7036 DECLARATION OF TECHNICAL DATA CONFORMITY (JAN 1997)

All technical data delivered under this contract shall be accompanied by the following written declaration:

The Contractor, _____, hereby declares that, to the best of its knowledge and belief, the technical data delivered herewith under Contract No. _____ is complete, accurate, and complies with all requirements of the contract.

Date _____

Name and Title of Authorized Official _____

(End of clause)

252.227-7037 VALIDATION OF RESTRICTIVE MARKINGS ON TECHNICAL DATA. (SEP 1999)

(a) Definitions. The terms used in this clause are defined in the Rights in Technical Data--Noncommercial Items clause of this contract.

(b) Contracts for commercial items--presumption of development at private expense. Under a contract for a commercial item, component, or process, the Department of Defense shall presume that a Contractor's asserted use or release restrictions are justified on the basis that the item, component, or process was developed exclusively at private expense. The Department shall not challenge such assertions unless information the Department provides demonstrates that the item, component, or process was not developed exclusively at private expense.

(c) Justification. The Contractor or subcontractor at any tier is responsible for maintaining records sufficient to justify the validity of its markings that impose restrictions on the Government and others to use, duplicate, or disclose technical data delivered or required to be delivered under the contract or subcontract. Except under contracts for commercial items, the Contractor or subcontractor shall be prepared to furnish to the Contracting Officer a written justification for such restrictive markings in response to a challenge under paragraph (e) of this clause.

(d) Prechallenge request for information. (1) The Contracting Officer may request the Contractor or subcontractor to furnish a written explanation for any restriction asserted by the Contractor or subcontractor on the right of the United States or others to use technical data. If, upon review of the explanation submitted, the Contracting Officer remains unable to ascertain the basis of the restrictive marking, the Contracting Officer may further request the Contractor or subcontractor to furnish additional information in the records of, or otherwise in the possession of or reasonably available to, the Contractor or subcontractor to justify the validity of any restrictive marking on technical data delivered or to be delivered under the contract or subcontract (e.g., a statement of facts accompanied with

supporting documentation). The Contractor or subcontractor shall submit such written data as requested by the Contracting Officer within the time required or such longer period as may be mutually agreed.

(2) If the Contracting Officer, after reviewing the written data furnished pursuant to paragraph (d)(1) of this clause, or any other available information pertaining to the validity of a restrictive marking, determines that reasonable grounds exist to question the current validity of the marking and that continued adherence to the marking would make impracticable the subsequent competitive acquisition of the item, component, or process to which the technical data relates, the Contracting Officer shall follow the procedures in paragraph (e) of this clause.

(3) If the Contractor or subcontractor fails to respond to the Contracting Officer's request for information under paragraph (d)(1) of this clause, and the Contracting Officer determines that continued adherence to the marking would make impracticable the subsequent competitive acquisition of the item, component, or process to which the technical data relates, the Contracting Officer may challenge the validity of the marking as described in paragraph (e) of this clause.

(e) Challenge.

(1) Notwithstanding any provision of this contract concerning inspection and acceptance, if the Contracting Officer determines that a challenge to the restrictive marking is warranted, the Contracting Officer shall send a written challenge notice to the Contractor or subcontractor asserting the restrictive markings. Such challenge shall--

(i) State the specific grounds for challenging the asserted restriction;

(ii) Require a response within sixty (60) days justifying and providing sufficient evidence as to the current validity of the asserted restriction;

(iii) State that a DoD Contracting Officer's final decision, issued pursuant to paragraph (g) of this clause, sustaining the validity of a restrictive marking identical to the asserted restriction, within the three-year period preceding the challenge, shall serve as justification for the asserted restriction if the validated restriction was asserted by the same Contractor or subcontractor (or any licensee of such Contractor or subcontractor) to which such notice is being provided; and

(iv) State that failure to respond to the challenge notice may result in issuance of a final decision pursuant to paragraph (f) of this clause.

(2) The Contracting Officer shall extend the time for response as appropriate if the Contractor or subcontractor submits a written request showing the need for additional time to prepare a response.

(3) The Contractor's or subcontractor's written response shall be considered a claim within the meaning of the Contract Disputes Act of 1978 (41 U.S.C. 601, et seq.), and shall be certified in the form prescribed at 33.207 of the Federal Acquisition Regulation, regardless of dollar amount.

(4) A Contractor or subcontractor receiving challenges to the same restrictive markings from more than one Contracting Officer shall notify each Contracting Officer of the existence of more than one challenge. The notice shall also state which Contracting Officer initiated the first in time unanswered challenge. The Contracting Officer initiating the first in time unanswered challenge after consultation with the Contractor or subcontractor and the other Contracting Officers, shall formulate and distribute a schedule for responding to each of the challenge notices to all interested parties. The schedule shall afford the Contractor or subcontractor an opportunity to respond to each challenge notice. All parties will be bound by this schedule.

(f) Final decision when Contractor or subcontractor fails to respond. Upon a failure of a Contractor or subcontractor to submit any response to the challenge notice, other than a failure to respond under a contract for commercial items, the Contracting Officer will issue a final decision to the Contractor or subcontractor in accordance with the Disputes clause of this contract pertaining to the validity of the asserted restriction. This final decision shall be issued as soon as possible after the expiration of the time period of paragraph (e)(1)(ii) or (e)(2) of this clause.

Following issuance of the final decision, the Contracting Officer will comply with the procedures in paragraphs (g)(2) (ii) through (iv) of this clause.

(g) Final decision when Contractor or subcontractor responds.

(1) if the Contracting Officer determines that the Contractor or subcontractor has justified the validity of the restrictive marking, the Contracting Officer shall issue a final decision to the Contractor or subcontractor sustaining the validity of the restrictive marking, and stating that the Government will continue to be bound by the restrictive marking. This final decision shall be issued within sixty (60) days after receipt of the Contractor's or subcontractor's response to the challenge notice, or within such longer period that the Contracting Officer has notified the Contractor or subcontractor that the Government will require. The notification of a longer period for issuance of a final decision will be made within sixty (60) days after receipt of the response to the challenge notice.

(2)(i) If the Contracting Officer determines that the validity of the restrictive marking is not justified, the Contracting Officer shall issue a final decision to the Contractor or subcontractor in accordance with the Disputes clause of this contract. Notwithstanding paragraph (e) of the Disputes clause, the final decision shall be issued within sixty (60) days after receipt of the Contractor's or subcontractor's response to the challenge notice, or within such longer period that the Contracting Officer has notified the Contractor or subcontractor of the longer period that the Government will require. The notification of a longer period for issuance of a final decision will be made within sixty (60) days after receipt of the response to the challenge notice.

(ii) The Government agrees that it will continue to be bound by the restrictive marking of a period of ninety (90) days from the issuance of the Contracting Officer's final decision under paragraph (g)(2)(i) of this clause. The Contractor or subcontractor agrees that, if it intends to file suit in the United States Claims Court it will provide a notice of intent to file suit to the Contracting Officer within ninety (90) days from the issuance of the Contracting Officer's final decision under paragraph (g)(2)(i) of this clause. If the Contractor or subcontractor fails to appeal, file suit, or provide a notice of intent to file suit to the Contracting Officer within the ninety (90)-day period, the Government may cancel or ignore the restrictive markings, and the failure of the Contractor or subcontractor to take the required action constitutes agreement with such Government action.

(iii) The Government agrees that it will continue to be bound by the restrictive marking where a notice of intent to file suit in the United States Claims Court is provided to the Contracting Officer within ninety (90) days from the issuance of the final decision under paragraph (g)(2)(i) of this clause. The Government will no longer be bound, and the Contractor or subcontractor agrees that the Government may strike or ignore the restrictive markings, if the Contractor or subcontractor fails to file its suit within one (1) year after issuance of the final decision. Notwithstanding the foregoing, where the head of an agency determines, on a nondelegable basis, that urgent or compelling circumstances will not permit waiting for the filing of a suit in the United States Claims Court, the Contractor or subcontractor agrees that the agency may, following notice to the Contractor or subcontractor, authorize release or disclosure of the technical data. Such agency determination may be made at any time after issuance of the final decision and will not affect the Contractor's or subcontractor's right to damages against the United States where its restrictive markings are ultimately upheld or to pursue other relief, if any, as may be provided by law.

(iv) The Government agrees that it will be bound by the restrictive marking where an appeal or suit is filed pursuant to the Contract Disputes Act until final disposition by an agency Board of Contract Appeals or the United States Claims Court. Notwithstanding the foregoing, where the head of an agency determines, on a nondelegable basis, following notice to the Contractor that urgent or compelling circumstances will not permit awaiting the decision by such Board of Contract Appeals or the United States Claims Court, the Contractor or subcontractor agrees that the agency may authorize release or disclosure of the technical data. Such agency determination may be made at any time after issuance of the final decision and will not affect the Contractor's or subcontractor's right to damages against the United States where its restrictive markings are ultimately upheld or to pursue other relief, if any, as may be provided by law.

(h) Final disposition of appeal or suit. (1) If the Contractor or subcontractor appeals or files suit and if, upon final disposition of the appeal or suit, the Contracting Officer's decision is sustained--

(i) The restrictive marking on the technical data shall be cancelled, corrected or ignored; and

(ii) If the restrictive marking is found not to be substantially justified, the Contractor or subcontractor, as appropriate, shall be liable to the Government for payment of the cost to the Government of reviewing the restrictive marking and the fees and other expenses (as defined in 28 U.S.C. 2412(d)(2)(A)) incurred by the Government in challenging the marking, unless special circumstances would make such payment unjust.

(2) If the Contractor or subcontractor appeals or files suit and if, upon final disposition of the appeal or suit, the Contracting Officer's decision is not sustained--

(i) The Government shall continue to be bound by the restrictive marking; and

(ii) The Government shall be liable to the Contractor or subcontractor for payment of fees and other expenses (as defined in 28 U.S.C. 2412(d)(2)(A)) incurred by the Contractor or subcontractor in defending the marking, if the challenge by the Government is found not to have been made in good faith.

(i) Duration of right to challenge. The Government may review the validity of any restriction on technical data, delivered or to be delivered under a contract, asserted by the Contractor or subcontractor. During the period within three (3) years of final payment on a contract or within three (3) years of delivery of the technical data to the Government, whichever is later, the Contracting Officer may review and make a written determination to challenge the restriction. The Government may, however, challenge a restriction on the release, disclosure or use of technical data at any time if such technical data--

(1) Is publicly available;

(2) Has been furnished to the United States without restriction; or

(3) Has been otherwise made available without restriction. Only the Contracting Officer's final decision resolving a formal challenge by sustaining the validity of a restrictive marking constitutes "validation" as addressed in 10 U.S.C. 2321.

(j) Decision not to challenge. A decision by the Government, or a determination by the Contracting Officer, to not challenge the restrictive marking or asserted restriction shall not constitute "validation."

(k) Privity of contract. The Contractor or subcontractor agrees that the Contracting Officer may transact matters under this clause directly with subcontractors at any tier that assert restrictive markings. However, this clause neither creates nor implies privity of contract between the Government and subcontractors.

(l) Flowdown. The Contractor or subcontractor agrees to insert this clause in contractual instruments with its subcontractors or suppliers at any tier requiring the delivery of technical data, except contractual instruments for commercial items or commercial components.

(End of clause)

252.231-7000 SUPPLEMENTAL COST PRINCIPLES (DEC 1991)

When the allowability of costs under this contract is determined in accordance with part 31 of the Federal Acquisition Regulation (FAR), allowability shall also be determined in accordance with part 231 of the Defense FAR Supplement, in effect on the date of this contract.

252.243-7001 PRICING OF CONTRACT MODIFICATIONS (DEC 1991)

When costs are a factor in any price adjustment under this contract, the contract cost principles and procedures in FAR part 31 and DFARS part 231, in effect on the date of this contract, apply.

252.243-7002 REQUESTS FOR EQUITABLE ADJUSTMENT (MAR 1998)

(a) The amount of any request for equitable adjustment to contract terms shall accurately reflect the contract adjustment for which the Contractor believes the Government is liable. The request shall include only costs for performing the change, and shall not include any costs that already have been reimbursed or that have been separately claimed. All indirect costs included in the request shall be properly allocable to the change in accordance with applicable acquisition regulations.

(b) In accordance with 10 U.S.C. 2410(a), any request for equitable adjustment to contract terms that exceeds the simplified acquisition threshold shall bear, at the time of submission, the following certificate executed by an individual authorized to certify the request on behalf of the Contractor:

I certify that the request is made in good faith, and that the supporting data are accurate and complete to the best of my knowledge and belief.

(Official's Name)

(Title)

(c) The certification in paragraph (b) of this clause requires full disclosure of all relevant facts, including--

(1) Cost or pricing data if required in accordance with subsection 15.403-4 of the Federal Acquisition Regulation (FAR); and

(2) Information other than cost or pricing data, in accordance with subsection 15.403-3 of the FAR, including actual cost data and data to support any estimated costs, even if cost or pricing data are not required.

(d) The certification requirement in paragraph (b) of this clause does not apply to----

(1) Requests for routine contract payments; for example, requests for payment for accepted supplies and services, routine vouchers under a cost-reimbursement type contract, or progress payment invoices; or

(2) Final adjustment under an incentive provision of the contract.

252.246-7001 WARRANTY OF DATA (DEC 1991) - ALTERNATE II (DEC 1991)

(a) Definition. "Technical data" has the same meaning as given in the clause in this contract entitled, Rights in Technical Data and Computer Software.

(b) Warranty. Notwithstanding inspection and acceptance by the Government of technical data furnished under this contract, and notwithstanding any provision of this contract concerning the conclusiveness of acceptance, the Contractor warrants that all technical data delivered under this contract will at the time of delivery conform with the specifications and all other requirements of this contract. The warranty period shall extend for three years after completion of the delivery of the line item of data (as identified in DD Form 1423, Contract Data Requirements List) of which the data forms a part; or any longer period specified in the contract.

(c) Contractor notification. The Contractor agrees to notify the Contracting Officer in writing immediately of any breach of the above warranty which the Contractor discovers within the warranty period.

(d) Remedies. The following remedies shall apply to all breaches of the warranty, whether the Contractor notifies the Contracting Officer in accordance with paragraph (c) of this clause or if the Government notifies the Contractor of the breach in writing within the warranty period:

(1) Within a reasonable time after such notification, the Contracting Officer may--

(i) By written notice, direct the Contractor to correct or replace at the Contractor's expense the nonconforming technical data promptly; or

(ii) If the Contracting Officer determines that the Government no longer has a requirement for correction or replacement of the data, or that the data can be more reasonably corrected by the Government, inform the Contractor by written notice that the Government elects a price or fee adjustment instead of correction or replacement.

(2) If the Contractor refuses or fails to comply with a direction under paragraph (d)(1)(i) of this clause, the Contracting Officer may, within a reasonable time of the refusal or failure--

(i) By contract or otherwise, correct or replace the nonconforming technical data and charge the cost to the Contractor; or

(ii) Elect a price or fee adjustment instead of correction or replacement.

(3) In addition to the remedies under paragraphs (d)(1) and (2) of this clause, the Contractor shall be liable to the Government for all damages to the Government as a result of the breach of the warranty.

(i) The additional liability under paragraph (d)(3) of this clause shall not exceed ten percent of the total contract price.

(ii) If the breach of the warranty is with respect to the data supplied by an equipment subcontractor, the limit of the Contractor's liability shall be--

(A) Ten percent of the total subcontract price in a firm fixed-price subcontract;

(B) Seventy-five percent of the total subcontract price fee in a cost-plus-fixed-fee or cost-plus-award-fee subcontract; or

(C) Seventy-five percent of the total subcontract target profit or fee in a fixed-price or cost-plus-incentive-type contract.

(iii) The additional liability specified in paragraph (d)(3) of this clause shall not apply--

(A) With respect to the requirements for product drawings and associated lists, special inspection equipment (SIE) drawings and associated lists, special tooling drawings and associated lists, SIE operating instructions, SIE descriptive documentation, and SIE calibration procedures under MIL-T-31000, General Specification for Technical Data Packages, Amendment 1, or MIL-T-47500, General Specification for Technical Data Packages, Supp 1, or drawings and associated lists under level 2 or level 3 of MIL-D-1000A, Engineering and Associated Data Drawings, or DoD-D-1000B, Engineering and Associated Lists Drawings (Inactive for New Design) Amendment 4, Notice 1; or drawings and associated lists under category E or I of MIL-D-1000, Engineering and Associated Lists Drawings, provided that the data furnished by the Contractor was current, accurate at time of submission, and did not involve a significant omission of data necessary to comply with the requirements; or

(B) To defects the Contractor discovers and gives written notice to the Government before the Government discovers the error.

252.247-7023 TRANSPORTATION OF SUPPLIES BY SEA (MAR 2000)

(a) Definitions. As used in this clause --

(1) "Components" means articles, materials, and supplies incorporated directly into end products at any level of manufacture, fabrication, or assembly by the Contractor or any subcontractor.

(2) "Department of Defense" (DoD) means the Army, Navy, Air Force, Marine Corps, and defense agencies.

(3) "Foreign flag vessel" means any vessel that is not a U.S.-flag vessel.

(4) "Ocean transportation" means any transportation aboard a ship, vessel, boat, barge, or ferry through international waters.

(5) "Subcontractor" means a supplier, materialman, distributor, or vendor at any level below the prime contractor whose contractual obligation to perform results from, or is conditioned upon, award of the prime contract and who is performing any part of the work or other requirement of the prime contract.

(6) "Supplies" means all property, except land and interests in land, that is clearly identifiable for eventual use by or owned by the DoD at the time of transportation by sea.

(i) An item is clearly identifiable for eventual use by the DoD if, for example, the contract documentation contains a reference to a DoD contract number or a military destination.

(ii) "Supplies" includes (but is not limited to) public works; buildings and facilities; ships; floating equipment and vessels of every character, type, and description, with parts, subassemblies, accessories, and equipment; machine tools; material; equipment; stores of all kinds; end items; construction materials; and components of the foregoing.

(7) "U.S.-flag vessel" means a vessel of the United States or belonging to the United States, including any vessel registered or having national status under the laws of the United States.

(b)(1) The Contractor shall use U.S.-flag vessels when transporting any supplies by sea under this contract.

(2) A subcontractor transporting supplies by sea under this contract shall use U.S.-flag vessels if--

(i) This contract is a construction contract; or

(ii) The supplies being transported are--

(A) Noncommercial items; or

(B) Commercial items that--

(1) The Contractor is reselling or distributing to the Government without adding value (generally, the Contractor does not add value to items that it contracts for f.o.b. destination shipment);

(2) Are shipped in direct support of U.S. military contingency operations, exercises, or forces deployed in humanitarian or peacekeeping operations; or

(3) Are commissary or exchange cargoes transported outside of the Defense Transportation System in accordance with 10 U.S.C. 2643.

(c) The Contractor and its subcontractors may request that the Contracting Officer authorize shipment in foreign-flag vessels, or designate available U.S.-flag vessels, if the Contractor or a subcontractor believes that --

(1) U.S.-flag vessels are not available for timely shipment;

(2) The freight charges are inordinately excessive or unreasonable; or

(3) Freight charges are higher than charges to private persons for transportation of like goods.

(d) The Contractor must submit any request for use of other than U.S.-flag vessels in writing to the Contracting Officer at least 45 days prior to the sailing date necessary to meet its delivery schedules. The Contracting Officer

will process requests submitted after such date(s) as expeditiously as possible, but the Contracting Officer's failure to grant approvals to meet the shipper's sailing date will not of itself constitute a compensable delay under this or any other clause of this contract. Requests shall contain at a minimum --

(1) Type, weight, and cube of cargo;

(2) Required shipping date;

(3) Special handling and discharge requirements;

(4) Loading and discharge points;

(5) Name of shipper and consignee;

(6) Prime contract number; and

(7) A documented description of efforts made to secure U.S.-flag vessels, including points of contact (with names and telephone numbers) with at least two U.S.-flag carriers contacted. Copies of telephone notes, telegraphic and facsimile message or letters will be sufficient for this purpose.

(e) The Contractor shall, within 30 days after each shipment covered by this clause, provide the Contracting Officer and the Division of National Cargo, Office of Market Development, Maritime Administration, U.S. Department of Transportation, Washington, DC 20590, one copy of the rated on board vessel operating carrier's ocean bill of lading, which shall contain the following information --

(1) Prime contract number;

(2) Name of vessel;

(3) Vessel flag of registry;

(4) Date of loading;

(5) Port of loading;

(6) Port of final discharge;

(7) Description of commodity;

(8) Gross weight in pounds and cubic feet if available;

(9) Total ocean freight in U.S. dollars; and

(10) Name of the steamship company.

(f) The Contractor agrees to provide with its final invoice under this contract a representation that to the best of its knowledge and belief --

(1) No ocean transportation was used in the performance of this contract;

(2) Ocean transportation was used and only U.S.-flag vessels were used for all ocean shipments under the contract;

(3) Ocean transportation was used, and the Contractor had the written consent of the Contracting Officer for all non-U.S.-flag ocean transportation; or

(4) Ocean transportation was used and some or all of the shipments were made on non-U.S.-flag vessels without the

written consent of the Contracting Officer. The Contractor shall describe these shipments in the following format:

ITEM DESCRIPTION	CONTRACT LINE ITEMS	QUANTITY

TOTAL_____

(g) If the final invoice does not include the required representation, the Government will reject and return it to the Contractor as an improper invoice for the purposes of the Prompt Payment clause of this contract. In the event there has been unauthorized use of non-U.S.-flag vessels in the performance of this contract, the Contracting Officer is entitled to equitably adjust the contract, based on the unauthorized use.

(h) The Contractor shall include this clause, including this paragraph (h), in all subcontractors under this contract that--

(1) Exceed the simplified acquisition threshold in Part 2 of the Federal Acquisition Regulation; and

(2) Are for a type of supplies described in paragraph (b)(3) of this clause.

(End of clause)

252.247-7024 NOTIFICATION OF TRANSPORTATION OF SUPPLIES BY SEA (MAR 2000)

(a) The Contractor has indicated by the response to the solicitation provision, Representation of Extent of Transportation by Sea, that it did not anticipate transporting by sea any supplies. If, however, after the award of this contract, the Contractor learns that supplies, as defined in the Transportation of Supplies by Sea clause of this contract, will be transported by sea, the Contractor --

(1) Shall notify the Contracting Officer of that fact; and

(2) Hereby agrees to comply with all the terms and conditions of the Transportation of Supplies by Sea clause of this contract.

(b) The Contractor shall include this clause; including this paragraph (b), revised as necessary to reflect the relationship of the contracting parties--

(1) In all subcontracts under this contract, if this contract is a construction contract; or

(2) If this contract is not a construction contract, in all subcontracts under this contract that are for--

(i) Noncommercial items; or

(ii) Commercial items that--

(A) The Contractor is reselling or distributing to the Government without adding value (generally, the Contractor does not add value to items that it subcontracts for f.o.b. destination shipment);

(B) Are shipped in direct support of U.S. military contingency operations, exercises, or forces deployed in humanitarian or peacekeeping operations; or

(C) Are commissary or exchange cargoes transported outside of the Defense Transportation System in accordance with 10 U.S.C. 2643.

(End of clause)

252.248-7000 PREPARATION OF VALUE ENGINEERING CHANGE PROPOSALS (MAY 1994)

Prepare value engineering change proposals, for submission pursuant to the value engineering clause of this contract, in the format prescribed by the version of MIL-STD-973 in effect on the date of contract award.

(End of clause)

CLAUSES INCORPORATED BY FULL TEXT

52.203-2 CERTIFICATE OF INDEPENDENT PRICE DETERMINATION (APR 1985)

(a) The offeror certifies that --

(1) The prices in this offer have been arrived at independently, without, for the purpose of restricting competition, any consultation, communication, or agreement with any other offeror or competitor relating to –

(i) Those prices;

(ii) The intention to submit an offer:, or

(iii) The methods of factors used to calculate the prices offered:

(2) The prices in this offer have not been and will not be knowingly disclosed by the offeror, directly or indirectly, to any other offeror or competitor before bid opening (in the case of a sealed bid solicitation) or contract award (in the case of a negotiated solicitation) unless otherwise required by law; and

(3) No attempt has been made or will be made by the offeror to induce any other concern to submit or not to submit an offer for the purpose of restricting competition.

(b) Each signature on the offer is considered to be a certification by the signatory that the signatory --

(1) Is the person in the offeror's organization responsible for determining the prices offered in this bid or proposal, and that the signatory has not participated and will not participate in any action contrary to paragraphs (a)(1) through (a)(3) of this provision; or

(2) (i) Has been authorized, in writing, to act as agent for the following principals in certifying that those principals have not participated, and will not participate in any action contrary to subparagraphs (a)(1) through (a)(3) of this provison _____ (insert full name of person(s) in the offeror's organization responsible for determining the prices offered in this bid or proposal, and the title of his or her position in the offeror's organization);

(ii) As an authorized agent, does certify that the principals named in subdivision (b)(2)(i) above have not participated, and will not participate, in any action contrary to subparagraphs (a)(1) through (a)(3) above; and

(iii) As an agent, has not personally participated, and will not participate, in any action contrary to subparagraphs (a)(1) through (a)(3) of this provision.

(c) If the offeror deletes or modifies subparagraph (a)(2) of this provision, the offeror must furnish with its offer a signed statement setting forth in detail the circumstances of the disclosure.

(End of provision)

52.203-11 CERTIFICATION AND DISCLOSURE REGARDING PAYMENTS TO INFLUENCE CERTAIN FEDERAL TRANSACTIONS (APR 1991)

(a) The definitions and prohibitions contained in the clause, at FAR 52.203-12, Limitation on Payments to Influence Certain Federal Transactions, included in this solicitation, are hereby incorporated by reference in paragraph (b) of this Certification.

(b) The offeror, by signing its offer, hereby certifies to the best of his or her knowledge and belief that on or after December 23, 1989,--

(1) No Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress on his or her behalf in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment or modification of any Federal contract, grant, loan, or cooperative agreement;

(2) If any funds other than Federal appropriated funds (including profit or fee received under a covered Federal transaction) have been paid, or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress or an employee of a Member of Congress on his or her behalf in connection with this solicitation, the offeror shall complete and submit, with its offer, OMB standard form LLL, Disclosure of Lobbying Activities, to the Contracting Officer; and

(3) He or she will include the language of this certification in all subcontract awards at any tier and require that all recipients of subcontract awards in excess of $100,000 shall certify and disclose accordingly.

(c) Submission of this certification and disclosure is a prerequisite for making or entering into this contract imposed by section 1352, Title 31, United States Code. Any person who makes an expenditure prohibited under this provision or who fails to amend the disclosure form to be filed or amended by this provision, shall be subject to a civil penalty of not less than $10,000, and not more than $100,000, for each such failure.

(End of provision)

52.204-5 WOMEN-OWNED BUSINESS (OTHER THAN SMALL BUSINESS) (MAY 1999)

(a) Definition. Women-owned business concern, as used in this provision, means a concern that is at least 51 percent owned by one or more women; or in the case of any publicly owned business, at least 51 percent of its stock is owned by one or more women; and whose management and daily business operations are controlled by one or more women.

(b) Representation. [Complete only if the offeror is a women-owned business concern and has not represented itself as a small business concern in paragraph (b)(1) of FAR 52.219-1, Small Business Program Representations, of this solicitation.] The offeror represents that it ( ) is a women-owned business concern.

(End of provision)

52.207-4 ECONOMIC PURCHASE QUANTITY--SUPPLIES (AUG 1987)

(a) Offerors are invited to state an opinion on whether the quantity(ies) of supplies on which bids, proposals or quotes are requested in this solicitation is (are) economically advantageous to the Government.

_____

_____

_____

Each offeror who believes that acquisitions in different quantities would be more advantageous is invited to recommend an economic purchase quantity. If different quantities are recommended, a total and a unit price must be quoted for applicable items. An economic purchase quantity is that quantity at which a significant price break occurs. If there are significant price breaks at different quantity points, this information is desired as well.

	OFFEROR RECOMMENDATIONS		
ITEM	QUANTITY	PRICE QUOTATION	TOTAL

_____
_____
_____

(c) The information requested in this provision is being solicited to avoid acquisitions in disadvantageous quantities and to assist the Government in developing a data base for future acquisitions of these items. However, the Government reserves the right to amend or cancel the solicitation and resolicit with respect to any individual item in the event quotations received and the Government's requirements indicate that different quantities should be acquired.

(End of provision)

52.209-5 CERTIFICATION REGARDING DEBARMENT, SUSPENSION, PROPOSED DEBARMENT, AND OTHER RESPONSIBILITY MATTERS (APR 2001)

(a)(1) The Offeror certifies, to the best of its knowledge and belief, that--

(i) The Offeror and/or any of its Principals --

(A) Are ( ) are not ( ) presently debarred, suspended, proposed for debarment, or declared ineligible for the award of contracts by any Federal agency;

(B) Have ( ) have not ( ), within the three-year period preceding this offer, been convicted of or had a civil judgment rendered against them for: commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, state, or local) contract or subcontract; violation of Federal or state antitrust statutes relating to the submission of offers; or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, tax evasion, or receiving stolen property;

(C) Are ( ) are not ( ) presently indicted for, or otherwise criminally or civilly charged by a governmental entity with, commission of any of the offenses enumerated in subdivision (a)(1)(i)(B) of this provision; and

(D) Have ( ) have not ( ), within a three-year period preceding this offer, been convicted of or had a civil judgment rendered against them for: commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, state, or local) contract or subcontract; violation of Federal or state antitrust statutes relating to the submission of offers; or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, tax evasion, or receiving stolen property; and

(E) Are ( ) are not ( ) presently indicted for, or otherwise criminally or civilly charged by a governmental entity with, commission of any of the offenses enumerated in subdivision (a)(1)(i)(D) of this provision.

(ii)(A) The offeror, aside from the offenses enumerated in paragraphs (a)(1)(i)(A), (B), and (C) of this provision, has ( ) has not ( ) within the past three years, relative to tax, labor and employment, environmental, antitrust, or consumer protection laws--

(1) Been convicted of a Federal or state felony (or has any Federal or state felony indictments currently pending against them); or

(2) Had a Federal court judgment in a civil case brought by the United States rendered against them; or

(3) Had an adverse decision by a Federal administrative law judge, board, or commission indicating a willful violation of law.

(B) If the offeror has responded affirmatively, the offeror shall provide additional information if requested by the Contracting Officer; and

(iii) The Offeror has ( ) has not ( ), within a three-year period preceding this offer, had one or more contracts terminated for default by any Federal agency.

(2) "Principals," for the purposes of this certification, means officers; directors; owners; partners; and, persons having primary management or supervisory responsibilities within a business entity (e.g., general manager; plant manager; head of a subsidiary, division, or business segment, and similar positions).

THIS CERTIFICATION CONCERNS A MATTER WITHIN THE JURISDICTION OF AN AGENCY OF THE UNITED STATES AND THE MAKING OF A FALSE, FICTITIOUS, OR FRAUDULENT CERTIFICATION MAY RENDER THE MAKER SUBJECT TO PROSECUTION UNDER SECTION 1001, TITLE 18, UNITED STATES CODE.

(b) The Offeror shall provide immediate written notice to the Contracting Officer if, at any time prior to contract award, the Offeror learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

(c) A certification that any of the items in paragraph (a) of this provision exists will not necessarily result in withholding of an award under this solicitation. However, the certification will be considered in connection with a determination of the Offeror's responsibility. Failure of the Offeror to furnish a certification or provide such additional information as requested by the Contracting Officer may render the Offeror nonresponsible.

(d) Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render, in good faith, the certification required by paragraph (a) of this provision. The knowledge and information of an Offeror is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

(e) The certification in paragraph (a) of this provision is a material representation of fact upon which reliance was placed when making award. If it is later determined that the Offeror knowingly rendered an erroneous certification, in addition to other remedies available to the Government, the Contracting Officer may terminate the contract resulting from this solicitation for default.

(End of provision)

52.215-6 PLACE OF PERFORMANCE (OCT 1997)

(a) The offeror or respondent, in the performance of any contract resulting from this solicitation, ( ) intends, ( ) does not intend [check applicable block] to use one or more plants or facilities located at a different address from the address of the offeror or respondent as indicated in this proposal or response to request for information.

(b) If the offeror or respondent checks “intends” in paragraph (a) of this provision, it shall insert in the following spaces the required information:

Place of performance (street address, city, state, county, zip code)	Name and address of owner and operator of the plant or facility if other than offeror or respondent
_____.....	_____
_____.....	_____

52.219-1 SMALL BUSINESS PROGRAM REPRESENTATIONS (OCT 2000) ALTERNATE I (OCT 2000) & ALTERNATE II (OCT 2000)

(a)(1) The North American Industry Classification System (NAICS) code for this acquisition is 335314.

(2) The small business size standard is 750 employees.

(3) The small business size standard for a concern which submits an offer in its own name, other than on a construction or service contract, but which proposes to furnish a product which it did not itself manufacture, is 500 employees.

(b) Representations. (1) The offeror represents as part of its offer that it ( ) is, ( ) is not a small business concern.

(2) (Complete only if the offeror represented itself as a small business concern in paragraph (b)(1) of this provision.) The offeror represents, for general statistical purposes, that it ( ) is, ( ) is not a small disadvantaged business concern as defined in 13 CFR 124.1002.

(3) (Complete only if the offeror represented itself as a small business concern in paragraph (b)(1) of this provision.) The offeror represents as part of its offer that it ( ) is, ( ) is not a women-owned small business concern.

(4) (Complete only if the offeror represented itself as a small business concern in paragraph (b)(1) of this provision.) The offeror represents as part of its offer that it ( ) is, ( ) is not a veteran-owned small business concern.

(5) (Complete only if the offeror represented itself as a veteran-owned small business concern in paragraph (b)(4) of this provision.) The offeror represents as part of its offer that it ( ) is, ( ) is not a service-disabled veteran-owned small business concern.

(6) (Complete only if offeror represented itself as small business concern in paragraph (b)(1) of this provision). The offeror represents, as part of its offer, that--

(i) It ( ) is, ( ) is not a HUBZone small business concern listed, on the date of this representation, on the List of Qualified HUBZone Small Business Concerns maintained by the Small Business Administration, and no material change in ownership and control, principal office, or HUBZone employee percentage has occurred since it was certified by the Small Business Administration in accordance with 13 CFR Part 126; and

(ii) It ( ) is, ( ) is not a joint venture that complies with the requirements of 13 CFR Part 126, and the representation in paragraph (b)(6)(i) of this provision is accurate for the HUBZone small business concern or concerns that are participating in the joint venture. (The offeror shall enter the name or names of the HUBZone small business concern or concerns that are participating in the joint venture: _____.) Each HUBZone small business concern participating in the joint venture shall submit a separate signed copy of the HUBZone representation.

(7) (Complete if offeror represented itself as disadvantaged in paragraph (b)(2) of this provision.) The offeror shall check the category in which its ownership falls:

( ) Black American.

( ) Hispanic American.

( ) Native American (American Indians, Eskimos, Aleuts, or Native Hawaiians).

( ) Asian-Pacific American (persons with origins from Burma, Thailand, Malaysia, Indonesia, Singapore, Brunei, Japan, China, Taiwan, Laos, Cambodia (Kampuchea), Vietnam, Korea, The Philippines, U.S. Trust Territory of the Pacific Islands (Republic of Palau), Republic of the Marshall Islands, Federated States of Micronesia, the Commonwealth of the Northern Mariana Islands, Guam, Samoa, Macao, Hong Kong, Fiji, Tonga, Kiribati, Tuvalu, or Nauru).

( ) Subcontinent Asian (Asian-Indian) American (persons with origins from India, Pakistan, Bangladesh, Sri Lanka, Bhutan, the Maldives Islands, or Nepal).

(c) Definitions. As used in this provision--

Service-disabled veteran-owned small business concern--

(1) Means a small business concern--

(i) Not less than 51 percent of which is owned by one or more service-disabled veterans or, in the case of any publicly owned business, not less than 51 percent of the stock of which is owned by one or more service-disabled veterans; and

(ii) The management and daily business operations of which are controlled by one or more service-disabled veterans or, in the case of a veteran with permanent and severe disability, the spouse or permanent caregiver of such veteran.

(2) Service-disabled veteran means a veteran, as defined in 38 U.S.C. 101(2), with a disability that is service-connected, as defined in 38 U.S.C. 101(16).

"Small business concern," means a concern, including its affiliates, that is independently owned and operated, not dominant in the field of operation in which it is bidding on Government contracts, and qualified as a small business under the criteria in 13 CFR Part 121 and the size standard in paragraph (a) of this provision.

Veteran-owned small business concern means a small business concern--

(1) Not less than 51 percent of which is owned by one or more veterans (as defined at 38 U.S.C. 101(2)) or, in the case of any publicly owned business, not less than 51 percent of the stock of which is owned by one or more veterans; and

(2) The management and daily business operations of which are controlled by one or more veterans.

"Women-owned small business concern," means a small business concern--

(1) Which is at least 51 percent owned by one or more women or, in the case of any publicly owned business, at least 51 percent of the stock of which is owned by one or more women; and

(2) Whose management and daily business operations are controlled by one or more women.

(d) Notice.

(1) If this solicitation is for supplies and has been set aside, in whole or in part, for small business concerns, then the clause in this solicitation providing notice of the set-aside contains restrictions on the source of the end items to be furnished.

(2) Under 15 U.S.C. 645(d), any person who misrepresents a firm's status as a small, HUBZone small, small disadvantaged, or women-owned small business concern in order to obtain a contract to be awarded under the preference programs established pursuant to section 8(a), 8(d), 9, or 15 of the Small Business Act or any other provision of Federal law that specifically references section 8(d) for a definition of program eligibility, shall--

(i) Be punished by imposition of fine, imprisonment, or both;

(ii) Be subject to administrative remedies, including suspension and debarment; and

(iii) Be ineligible for participation in programs conducted under the authority of the Act.

(End of provision)

52.222-22 PREVIOUS CONTRACTS AND COMPLIANCE REPORTS (FEB 1999)

The offeror represents that --

(a) [ ] It has, [ ] has not participated in a previous contract or subcontract subject to the Equal Opportunity clause of this solicitation;

(b) [ ] It has, [ ] has not, filed all required compliance reports; and

(c) Representations indicating submission of required compliance reports, signed by proposed subcontractors, will be obtained before subcontract awards.

(End of provision)

52.223-13 CERTIFICATION OF TOXIC CHEMICAL RELEASE REPORTING (OCT 2000)

(a) Submission of this certification is a prerequisite for making or entering into this contract imposed by Executive Order 12969, August 8, 1995.

(b) By signing this offer, the offeror certifies that--

(1) As the owner or operator of facilities that will be used in the performance of this contract that are subject to the filing and reporting requirements described in section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA) (42 U.S.C. 11023) and section 6607 of the Pollution Prevention Act of 1990 (PPA) (42 U.S.C. 13106), the offeror will file and continue to file for such facilities for the life of the contract the Toxic Chemical Release Inventory Form (Form R) as described in sections 313(a) and (g) of EPCRA and section 6607 of PPA; or

(2) None of its owned or operated facilities to be used in the performance of this contract is subject to the Form R filing and reporting requirements because each such facility is exempt for at least one of the following reasons: (Check each block that is applicable.)

[ ] (i) The facility does not manufacture, process or otherwise use any toxic chemicals listed under section 313(c) of EPCRA, 42 U.S.C. 11023(c);

[ ] (ii) The facility does not have 10 or more full-time employees as specified in section 313.(b)(1)(A) of EPCRA 42 U.S.C. 11023(b)(1)(A);

[ ] (iii) The facility does not meet the reporting thresholds of toxic chemicals established under section 313(f) of EPCRA, 42 U.S.C. 11023(f) (including the alternate thresholds at 40 CFR 372.27, provided an appropriate certification form has been filed with EPA);

[ ] (iv) The facility does not fall within Standard Industrial Classification Code (SIC) major groups 20 through 39 or their corresponding North American Industry Classification System (NAICS) sectors 31 through 33; or

[ ] (v) The facility is not located within any State of the United States, the District of Columbia, the Commonwealth of Puerto Rico, Guam, American Samoa, the United States Virgin Islands, the Northern Mariana Islands, or any other territory or possession over which the United States has jurisdiction.

52.226-2 HISTORICALLY BLACK COLLEGE OR UNIVERSITY AND MINORITY INSTITUTION REPRESENTATION (MAY 2001)

(a) Definitions. As used in this provision--

Historically black college or university means an institution determined by the Secretary of Education to meet the requirements of 34 CFR 608.2. For the Department of Defense, the National Aeronautics and Space Administration, and the Coast Guard, the term also includes any nonprofit research institution that was an integral part of such a college or university before November 14, 1986.

Minority institution means an institution of higher education meeting the requirements of Section 1046(3) of the Higher Education Act of 1965 (20 U.S.C. 1067k, including a Hispanic-serving institution of higher education, as defined in Section 316(b)(1) of the Act (20 U.S.C. 1101a)).

(b) Representation. The offeror represents that it--

( ) is ( ) is not a historically black college or university;

( ) is ( ) is not a minority institution.

(End of provision)

52.227-6 ROYALTY INFORMATION (APR 1984)

(a) Cost or charges for royalties. When the response to this solicitation contains costs or charges for royalties totaling more than $250, the following information shall be included in the response relating to each separate item of royalty or license fee:

(1) Name and address of licensor.

(2) Date of license agreement.

(3) Patent numbers, patent application serial numbers, or other basis on which the royalty is payable.

(4) Brief description, including any part or model numbers of each contract item or component on which the royalty is payable.

(5) Percentage or dollar rate of royalty per unit.

(6) Unit price of contract item.

(7) Number of units.

(8) Total dollar amount of royalties.

(b) Copies of current licenses. In addition, if specifically requested by the Contracting Officer before execution of the contract, the offeror shall furnish a copy of the current license agreement and an identification of applicable claims of specific patents.

(End of provision)

52.230-1 COST ACCOUNTING STANDARDS NOTICES AND CERTIFICATION (JUN 2000)

Note: This notice does not apply to small businesses or foreign governments. This notice is in three parts, identified by Roman numerals I through III.

Offerors shall examine each part and provide the requested information in order to determine Cost Accounting Standards (CAS) requirements applicable to any resultant contract.

If the offeror is an educational institution, Part II does not apply unless the contemplated contract will be subject to full or modified CAS coverage pursuant to 48 CFR 9903.201-2(c)(5) or 9903.201-2(c)(6), respectively.

I. DISCLOSURE STATEMENT--COST ACCOUNTING PRACTICES AND CERTIFICATION

(a) Any contract in excess of $500,000 resulting from this solicitation will be subject to the requirements of the Cost Accounting Standards Board (48 CFR Chapter 99), except for those contracts which are exempt as specified in 48 CFR 9903.201-1.

(b) Any offeror submitting a proposal which, if accepted, will result in a contract subject to the requirements of 48 CFR Chapter 99 must, as a condition of contracting, submit a Disclosure Statement as required by 48 CFR 9903.202. When required, the Disclosure Statement must be submitted as a part of the offeror's proposal under this solicitation unless the offeror has already submitted a Disclosure Statement disclosing the practices used in connection with the pricing of this proposal. If an applicable Disclosure Statement has already been submitted, the offeror may satisfy the requirement for submission by providing the information requested in paragraph (c) of Part I of this provision.

CAUTION: In the absence of specific regulations or agreement, a practice disclosed in a Disclosure Statement shall not, by virtue of such disclosure, be deemed to be a proper, approved, or agreed-to practice for pricing proposals or accumulating and reporting contract performance cost data.

(c) Check the appropriate box below:

(1) Certificate of Concurrent Submission of Disclosure Statement.

The offeror hereby certifies that, as a part of the offer, copies of the Disclosure Statement have been submitted as follows: (i) original and one copy to the cognizant Administrative Contracting Officer (ACO) or cognizant Federal agency official authorized to act in that capacity (Federal official), as applicable, and (ii) one copy to the cognizant Federal auditor.

(Disclosure must be on Form No. CASB DS-1 or CASB DS-2, as applicable. Forms may be obtained from the cognizant ACO or Federal official and/or from the loose-leaf version of the Federal Acquisition Regulation.)

Date of Disclosure Statement: _____ Name and Address of Cognizant ACO or Federal Official Where Filed: _____

The offeror further certifies that the practices used in estimating costs in pricing this proposal are consistent with the cost accounting practices disclosed in the Disclosure Statement.

(2) Certificate of Previously Submitted Disclosure Statement.

The offeror hereby certifies that the required Disclosure Statement was filed as follows:

Date of Disclosure Statement: _____ Name and Address of Cognizant ACO or Federal Official Where Filed: _____

The offeror further certifies that the practices used in estimating costs in pricing this proposal are consistent with the cost accounting practices disclosed in the applicable Disclosure Statement.

(3) Certificate of Monetary Exemption.

The offeror hereby certifies that the offeror, together with all divisions, subsidiaries, and affiliates under common control, did not receive net awards of negotiated prime contracts and subcontracts subject to CAS totaling more than $50 million (of which at least one award exceeded $1 million) in the cost accounting period immediately preceding the period in which this proposal was submitted. The offeror further certifies that if such status changes before an award resulting from this proposal, the offeror will advise the Contracting Officer immediately.

(4) Certificate of Interim Exemption.

The offeror hereby certifies that (i) the offeror first exceeded the monetary exemption for disclosure, as defined in (3) of this subsection, in the cost accounting period immediately preceding the period in which this offer was

submitted and (ii) in accordance with 48 CFR 9903.202-1, the offeror is not yet required to submit a Disclosure Statement. The offeror further certifies that if an award resulting from this proposal has not been made within 90 days after the end of that period, the offeror will immediately submit a revised certificate to the Contracting Officer, in the form specified under subparagraph (c)(1) or (c)(2) of Part I of this provision, as appropriate, to verify submission of a completed Disclosure Statement.

CAUTION: Offerors currently required to disclose because they were awarded a CAS-covered prime contract or subcontract of $50 million or more in the current cost accounting period may not claim this exemption (4). Further, the exemption applies only in connection with proposals submitted before expiration of the 90-day period following the cost accounting period in which the monetary exemption was exceeded.

II. COST ACCOUNTING STANDARDS--ELIGIBILITY FOR MODIFIED CONTRACT COVERAGE

If the offeror is eligible to use the modified provisions of 48 CFR 9903.201-2(b) and elects to do so, the offeror shall indicate by checking the box below. Checking the box below shall mean that the resultant contract is subject to the Disclosure and Consistency of Cost Accounting Practices clause in lieu of the Cost Accounting Standards clause.

( ) The offeror hereby claims an exemption from the Cost Accounting Standards clause under the provisions of 48 CFR 9903.201-2(b) and certifies that the offeror is eligible for use of the Disclosure and Consistency of Cost Accounting Practices clause because during the cost accounting period immediately preceding the period in which this proposal was submitted, the offeror received less than $50 million in awards of CAS-covered prime contracts and subcontracts. The offeror further certifies that if such status changes before an award resulting from this proposal, the offeror will advise the Contracting Officer immediately.

CAUTION: An offeror may not claim the above eligibility for modified contract coverage if this proposal is expected to result in the award of a CAS-covered contract of $50 million or more or if, during its current cost accounting period, the offeror has been awarded a single CAS-covered prime contract or subcontract of $25 million or more.

III. ADDITIONAL COST ACCOUNTING STANDARDS APPLICABLE TO EXISTING CONTRACTS

The offeror shall indicate below whether award of the contemplated contract would, in accordance with subparagraph (a)(3) of the Cost Accounting Standards clause, require a change in established cost accounting practices affecting existing contracts and subcontracts.

( ) YES ( ) NO

(End of clause)

252.209-7001 DISCLOSURE OF OWNERSHIP OR CONTROL BY THE GOVERNMENT OF A TERRORIST COUNTRY (MAR 1998)

(a) "Definitions."

As used in this provision --

(a) "Government of a terrorist country" includes the state and the government of a terrorist country, as well as any political subdivision, agency, or instrumentality thereof.

(2) "Terrorist country" means a country determined by the Secretary of State, under section 6(j)(1)(A) of the Export Administration Act of 1979 (50 U.S.C. App. 2405(j)(i)(A)), to be a country the government of which has repeatedly provided support for such acts of international terrorism. As of the date of this provision, terrorist countries include: Cuba, Iran, Iraq, Libya, North Korea, Sudan, and Syria.

(3) "Significant interest" means --

(i) Ownership of or beneficial interest in 5 percent or more of the firm's or subsidiary's securities. Beneficial interest includes holding 5 percent or more of any class of the firm's securities in "nominee shares," "street names," or some other method of holding securities that does not disclose the beneficial owner;

(ii) Holding a management position in the firm, such as a director or officer;

(iii) Ability to control or influence the election, appointment, or tenure of directors or officers in the firm;

(iv) Ownership of 10 percent or more of the assets of a firm such as equipment, buildings, real estate, or other tangible assets of the firm; or

(v) Holding 50 percent or more of the indebtness of a firm.

(b) "Prohibition on award."

In accordance with 10 U.S.C. 2327, no contract may be awarded to a firm or a subsidiary of a firm if the government of a terrorist country has a significant interest in the firm or subsidiary or, in the case of a subsidiary, the firm that owns the subsidiary, unless a waiver is granted by the Secretary of Defense.

(c) "Disclosure."

If the government of a terrorist country has a significant interest in the Offeror or a subsidiary of the Offeror, the Offeror shall disclosure such interest in an attachment to its offer. If the Offeror is a subsidiary, it shall also disclose any significant interest the government of a terrorist country has in any firm that owns or controls the subsidiary. The disclosure shall include --

(1) Identification of each government holding a significant interest; and

(2) A description of the significant interest held by each government.

(End of provision)

252.225-7000 BUY AMERICAN ACT--BALANCE OF PAYMENTS PROGRAM CERTIFICATE (SEP 1999)

(a) Definitions. Domestic end product, qualifying country, qualifying country end product, and qualifying country end product have the meanings given in the Buy American Act and Balance of Payments Program clause of this solicitation.

(b) Evaluation. Offers will be evaluated by giving preference to domestic end products and qualifying country end products over nonqualifying country end products.

(c) Certifications. (1) The Offeror certifies that--

(i) Each end product, except those listed in paragraphs (c) (2) or (3) of this provision, is a domestic end product; and

(ii) Components of unknown origin are considered to have been mined, produced, or manufactured outside the United States or a qualifying country.

(2) The Offeror certifies that the following end products are qualifying country end products:

Qualifying Country End Products

Line Item Number	Country of Origin
_____	_____

(List only qualifying country end products.)

(3) The Offeror certifies that the following end products are nonqualifying country end products:

Nonqualifying Country End Products

Line Item Number	Country of Origin (If known)
_____	_____

(End of provision)

252.225-7006 BUY AMERICAN ACT--TRADE AGREEMENTS--BALANCE OF PAYMENTS PROGRAM CERTIFICATE (MAR 1998)

a) Definitions. Caribbean Basin country end product, designated country end product, domestic end product NAFTA country end product, nondesignated country end product, qualifying country end product, and U.S. made end product have the meanings given in the Buy American Act--Trade Agreements--Balance of Payments Program clause of this solicitation.

(b) Evaluation. Offers will be evaluated in accordance with the policies and procedures of Part 225 of the Defense Federal Acquisition Regulation Supplement. Offers of foreign end products that are not U.S. made, qualifying country, designated country, Caribbean Basin country, or NAFTA country end products will not be considered for award, unless the Contracting Officer determines that there are no offers of such end products; or the offers of such end products are insufficient to fulfill the requirements; or a national interest exception to the Trade Agreements Act is granted.

(c) Certifications.

(1) The Offeror certifies that—

(i) Each end product, except the end products listed in paragraph (c)(2) of this provision, is a domestic end product; and

(ii) Components of unknown origin are considered to have been mined, produced, or manufactured outside the United States or a qualifying country.

(2) The Offeror must identify all end products that are not domestic end products.

(i) The Offeror certifies that the following supplies qualify as “U.S. made end products” but do not meet the definition of “domestic end product”:

_____
(insert line item number)

(ii) The Offeror certifies that the following supplies are qualifying country end products:

_____
(insert line item number)

_____
(insert country of origin)

(iii) The Offeror certifies that the following supplies qualify as designated country end products:

_____
(insert line item number)

_____
(insert country of origin)

(iv) The Offeror certifies that the following supplies qualify as Caribbean Basin country end products:

_____
(insert line item number)

_____
(insert country of origin)

(v) The Offeror certifies that the following supplies qualify as NAFTA country end products:

_____
(insert line item number)

_____
(insert country of origin)

(vi) The following supplies are other nondesignated country end products.

Insert line item number	Insert country of origin

252.227-7028 TECHNICAL DATA OR COMPUTER SOFTWARE PREVIOUSLY DELIVERED TO THE GOVERNMENT (JUN 1995)

The Offeror shall attach to its offer an identification of all documents or other media incorporating technical data or computer software it intends to deliver under this contract with other than unlimited rights that are identical or substantially similar to documents or other media that the Offeror has produced for, delivered to, or is obligated to deliver to the Government under any contract or subcontract. The attachment shall identify--

(a) The contract number under which the data or software were produced;

(b) The contract number under which, and the name and address of the organization to whom, the data or software were most recently delivered or will be delivered; and

(c) Any limitations on the Government's rights to use or disclose the data or software, including, when applicable, identification of the earliest date the limitations expire.

(End of clause)

252.247-7022 REPRESENTATION OF EXTENT OF TRANSPORTATION BY SEA (AUG 1992)

(a) The Offeror shall indicate by checking the appropriate blank in paragraph (b) of this provision whether transportation of supplies by sea is anticipated under the resultant contract. The term supplies is defined in the Transportation of Supplies by Sea clause of this solicitation.

(b) Representation. The Offeror represents that it:

____ (1) Does anticipate that supplies will be transported by sea in the performance of any contract or subcontract resulting from this solicitation.

____ (2) Does not anticipate that supplies will be transported by sea in the performance of any contract or subcontract resulting from this solicitation.

(c) Any contract resulting from this solicitation will include the Transportation of Supplies by Sea clause. If the Offeror represents that it will not use ocean transportation, the resulting contract will also include the Defense FAR Supplement clause at 252.247-7024, Notification of Transportation of Supplies by Sea.

(End of provision)

CLAUSES INCORPORATED BY FULL TEXT

52.204-6 DATA UNIVERSAL NUMBERING SYSTEM (DUNS) NUMBER (JUN 99)

(a) The offeror shall enter, in the block with its name and address on the cover page of its offer, the annotation "DUNS" followed by the DUNS number that identifies the offeror's name and address exactly as stated in the offer. The DUNS number is a nine-digit number assigned by Dun and Bradstreet Information Services.

(b) If the offeror does not have a DUNS number, it should contact Dun and Bradstreet directly to obtain one. A DUNS number will be provided immediately by telephone at no charge to the offeror. For information on obtaining a DUNS number, the offeror, if located within the United States, should call Dun and Bradstreet at 1-800-333-0505. The offeror should be prepared to provide the following information:

(1) Company name.

(2) Company address.

(3) Company telephone number.

(4) Line of business.

(5) Chief executive officer/key manager.

(6) Date the company was started.

(7) Number of people employed by the company.

(8) Company affiliation.

(c) Offerors located outside the United States may obtain the location and phone number of the local Dun and Bradstreet Information Services office from the Internet Home Page at http://www.customerservice@dnb.com. If an offeror is unable to locate a local service center, it may send an e-mail to Dun and Bradstreet at globalinfo@mail.dnb.com.

(End of provision)

52.215-20 REQUIREMENTS FOR COST OR PRICING DATA OR INFORMATION OTHER THAN COST OR PRICING DATA (OCT 1997)

(a) Exceptions from cost or pricing data. (1) In lieu of submitting cost or pricing data, offerors may submit a written request for exception by submitting the information described in the following subparagraphs. The Contracting Officer may require additional supporting information, but only to the extent necessary to determine whether an exception should be granted, and whether the price is fair and reasonable.

(i) Identification of the law or regulation establishing the price offered. If the price is controlled under law by periodic rulings, reviews, or similar actions of a governmental body, attach a copy of the controlling document, unless it was previously submitted to the contracting office.

(ii) Commercial item exception. For a commercial item exception, the offeror shall submit, at a minimum, information on prices at which the same item or similar items have previously been sold in the commercial market that is adequate for evaluating the reasonableness of the price for this acquisition. Such information may include--

(A) For catalog items, a copy of or identification of the catalog and its date, or the appropriate pages for the offered items, or a statement that the catalog is on file in the buying office to which the proposal is being submitted. Provide a copy or describe current discount policies and price lists (published or unpublished), e.g., wholesale, original equipment manufacturer, or reseller. Also explain the basis of each offered price and its relationship to the established catalog price, including how the proposed price relates to the price of recent sales in quantities similar to the proposed quantities;

(B) For market-priced items, the source and date or period of the market quotation or other basis for market price, the base amount, and applicable discounts. In addition, describe the nature of the market;

(C) For items included on an active Federal Supply Service Multiple Award Schedule contract, proof that an exception has been granted for the schedule item.

(2) The offeror grants the Contracting Officer or an authorized representative the right to examine, at any time before award, books, records, documents, or other directly pertinent records to verify any request for an exception under this provision, and the reasonableness of price. For items priced using catalog or market prices, or law or regulation , access does not extend to cost or profit information or other data relevant solely to the offeror's determination of the prices to be offered in the catalog or marketplace.

(b) Requirements for cost or pricing data. If the offeror is not granted an exception from the requirement to submit cost or pricing data, the following applies:

(1) The offeror shall prepare and submit cost or pricing data and supporting attachments in accordance with Table 15-2 of FAR 15.408.

As soon as practicable after agreement on price, but before contract award (except for unpriced actions such as letter contracts), the offeror shall submit a Certificate of Current Cost or Pricing Data, as prescribed by FAR 15.406-2.

(End of provision)

52.216-1 TYPE OF CONTRACT (APR 1984)

The Government contemplates award of a Firm Fixed Priced contract resulting from this solicitation.

(End of clause)

52.233-2 SERVICE OF PROTEST (AUG 1996)

(a) Protests, as defined in section 33.101 of the Federal Acquisition Regulation, that are filed directly with an agency, and copies of any protests that are filed with the General Accounting Office (GAO), shall be served on the Contracting Officer (addressed as follows) by obtaining written and dated acknowledgment of receipt from

Corps of Engineers
St. Paul District
190 Fifth Street East
St. Paul, Minnesota 55101-1638

(b) The copy of any protest shall be received in the office designated above within one day of filing a protest with the GAO.

(End of provision)

252.217-7026 IDENTIFICATION OF SOURCES OF SUPPLY. (NOV 1995)

(a) The Government is required under 10 U.S.C. 2384 to obtain certain information on the actual manufacturer or sources of supplies it acquires.

(b) The apparently successful Offeror agrees to complete and submit the following table before award:

TABLE

Line Items	National Stock No.	Commercial Item (Y or N)	Source of supply Company	Source of supply Address	Actual Part No.	Actual Mfg?
(1)	(2)	(3)	(4)	(4)	(5)	(6)

(1) List each deliverable item of supply and item of technical data.

(2) If there is no national stock number, list "none."

(3) Use "Y" if the item is a commercial item; otherwise, use "N". If "Y" is listed, the Offeror need not complete the remaining columns in the table.

(4) For items of supply, list all sources. For technical data, list the source.

(5) For items of supply, list each source's part number for the item.

(6) Use "Y" if the source of supply is the actual manufacturer; "N" if it is not; and "U" if unknown.

252.227-7017 IDENTIFICATION AND ASSERTION OF USE, RELEASE, OR DISCLOSURE RESTRICTIONS. (JUN 1995)

(a) The terms used in this provision are defined in following clause or clauses contained in this solicitation--

(1) If a successful offeror will be required to deliver technical data, the Rights in Technical Data--Noncommercial Items clause, or, if this solicitation contemplates a contract under the Small Business Innovative Research Program, the Rights in Noncommercial Technical Data and Computer Software--Small Business Innovative Research (SBIR) Program clause.

(2) If a successful offeror will not be required to deliver technical data, the Rights in Noncommercial Computer Software and Noncommercial Computer Software Documentation clause, or, if this solicitation contemplates a contract under the Small Business Innovative Research Program, the Rights in Noncommercial Technical Data and Computer Software--Small Business Innovative Research (SBIR) Program clause.

(b) The identification and assertion requirements in this provision apply only to technical data, including computer software documents, or computer software to be delivered with other than unlimited rights. For contracts to be awarded under the Small Business Innovative Research Program, the notification requirements do not apply to technical data or computer software that will be generated under the resulting contract. Notification and identification is not required for restrictions based solely on copyright.

(c) Offers submitted in response to this solicitation shall identify, to the extent known at the time an offer is submitted to the Government, the technical data or computer software that the Offeror, its subcontractors or suppliers, or potential subcontractors or suppliers, assert should be furnished to the Government with restrictions on use, release, or disclosure.

(d) The Offeror's assertions, including the assertions of its subcontractors or suppliers or potential subcontractors or suppliers shall be submitted as an attachment to its offer in the following format, dated and signed by an official authorized to contractually obligate the Offeror:

Identification and Assertion of Restrictions on the Government's Use, Release, or Disclosure of Technical Data or Computer Software.

The Offeror asserts for itself, or the persons identified below, that the Government's rights to use, release, or disclose the following technical data or computer software should be restricted:

Technical Data or Computer Software to be Furnished With Restrictions *	Basis for Assertion **	Asserted Rights Category ***	Name of Person Asserting Restrictions ****
(LIST) *****	(LIST)	(LIST)	(LIST)

*For technical data (other than computer software documentation) pertaining to items, components, or processes developed at private expense, identify both the deliverable technical data and each such items, component, or process. For computer software or computer software documentation identify the software or documentation.

**Generally, development at private expense, either exclusively or partially, is the only basis for asserting restrictions. For technical data, other than computer software documentation, development refers to development of the item, component, or process to which the data pertain. The Government's rights in computer software documentation generally may not be restricted. For computer software, development refers to the software. Indicate whether development was accomplished exclusively or partially at private expense. If development was not accomplished at private expense, or for computer software documentation, enter the specific basis for asserting restrictions.

***Enter asserted rights category (e.g., government purpose license rights from a prior contract, rights in SBIR data generated under another contract, limited, restricted, or government purpose rights under this or a prior contract, or specially negotiated licenses).

****Corporation, individual, or other person, as appropriate.

*****Enter "none" when all data or software will be submitted without restrictions.

Date _____

Printed Name and Title _____

Signature _____

(End of identification and assertion)

(e) An offeror's failure to submit, complete, or sign the notification and identification required by paragraph (d) of this provision with its offer may render the offer ineligible for award.

(f) If the Offeror is awarded a contract, the assertions identified in paragraph (d) of this provision shall be listed in an attachment to that contract. Upon request by the Contracting Officer, the Offeror shall provide sufficient information to enable the Contracting Officer to evaluate any listed assertion.

CLAUSES INCORPORATED BY FULL TEXT

52.215-4005 PREPARATION AND EVALUATION OF PROPOSALS

1. REQUIRED FORMAT

(A) All proposals must be submitted in two parts, a Technical Proposal and a Price Proposal. Your submittal must include a one sided original and three copies of the Technical Proposal and a one sided original and one copy of the Price Proposal. The Price Proposals must be sealed in a single, labeled, package separate from the Technical Proposal.

(B) All pages containing text shall be consecutively numbered, type written on 8 1/2 x 11 inch paper with margins of at least one inch, and created using a font no smaller than 12. Proposals shall not be permanently bound (in order to facilitate incorporation of portions of the proposal into the final contract document if necessary).

(C) The format used for the areas and factors below shall be strictly adhered to. All responses in the offeror’s package shall clearly indicate the applicable Evaluation Area (A, B, or C) and Element (number in parentheses ‘()’) to which the response pertains.

(D) It is the offeror's responsibility to insure the completeness of the proposal. The evaluation panel for the Government may evaluate **solely** on the information provided in the initial proposal and will not assume that an offeror possesses any capability that is not specifically identified in the proposal.

(E) Only one proposal will be evaluated for each offeror. Alternate methods of accomplishing the work required by this solicitation will not be evaluated.

2. CONTENT OF TECHNICAL PROPOSAL. The following factors shall be addressed.

The technical proposal shall describe the capabilities and qualifications of each offeror to perform all aspects of the required services. Technical Acceptability, Technical Merit and Past Performance will be evaluated.

Technical Merit and Past Performance are equal in importance, and combined are significantly more important than price.

3. ALL OR NOTHING PROPOSALS. Offerors that do not propose to perform all of the work required by the solicitation, **including options**, will not be considered.

4. OFFEROR PRE-PROPOSAL MEETING. Each prospective offeror is encouraged to attend a pre-proposal conference at 9:00 AM on Wednesday 5 December, 2001 at the Grand Forks City Hall, Conference Room A101, 255 N. Fourth Street, Grand Forks, ND 58203

5. Evaluation Areas

Introduction to Technical Evaluation. In this area, offeror's technical proposal will be evaluated on whether it meets the requirements of the scope of work for this solicitation, its ability to deliver a product with a high degree of operability to the customer, and ability to deliver a superior level of service support over the life of the contract and warranty period. The focus of this section is the degree to which the offeror's proposal meets or exceeds the requirements of the solicitation in the key areas evaluated.

A. **EVALUATION FACTOR 1, MINIMUM: Technical Acceptability** – will be evaluated on a go/no-go basis. For an offer to be eligible for award, the items and services offered must meet the technical requirements as outlined in Attachment C, PRODUCTS AND EXECUTION, of the contract documents. The technical proposal must provide information adequate to assess whether the offeror's control systems meet all of the specific requirements. Proposals lacking in completeness or containing obvious deficiencies may be eliminated without further consideration.

(a) To assess technical acceptability, the content of the technical proposal shall include, as a minimum:

(1) Clear descriptions of the proposed pump station control systems, including all key components of the motor starters, control panels, SCADA and telemetry, and the master control system. The technical proposal shall include catalogue cuts and manufacturer's data of proposed components, sample documentation, typical control system schematics, and detailed equipment lists. The technical proposal should cover all of the products specified in Attachment B, PRODUCTS AND EXECUTION, in the scope of work.

(2) A statement of the Contractor's warranty on provided equipment and services, which meets the requirements of this contract as stated in Paragraph 52.246-17, and Scope of Work, paragraph VII. WARRANTY.

(3) Identify the proposed manufacturing facility where the control panels will be built, and provide documentation that it is an Underwriter's Laboratory listed facility.

(4) A detailed breakdown of the proposed equipment and services to be supplied for each pump station, in a manner that defines all of the equipment, engineering services, and other supporting services required for each installation.

E. **TECHNICAL MERIT.** Proposals that are considered to meet minimum technical acceptability will be qualitatively evaluated on the basis of technical merit under Evaluation Factors 2(a) thru 2(c).

1. **EVALUATION FACTOR 2(a): System Operability** – will assess the offeror's ability to provide a complete control system that is easily understood and operated by City operations staff. The offeror may maximize system operability by providing for a high level of standardization with the

existing system and/or a high level of training on equipment that is unfamiliar to the operator(s). A standard “look and feel” between the new and existing systems is an important consideration. Operation & Maintenance manuals for the completed system shall be complete, clear, concise, and well organized. Standardization of system logic, layout, and naming conventions with the existing system is a requirement for any offered system, and must be described in the proposal.

Desired Performance Characteristics: The pump station control system is an infrequently used system that requires 100% reliability when called upon in an emergency situation. System operation should be made as simple and understandable as possible for the operators, and standardized with the existing system in order to capitalize on their existing operating expertise. The requested information is necessary for Government evaluators to assess the similarity of interfaces, control program logic, and the quality of planned training and system documentation which provide operators with a clear understanding of the pumping control systems.

(a) In order to evaluate system operability, the technical proposal shall include the following information:

(1) Display screen printouts of the proposed graphical user interface on the master control system, the layout of information and data supplied on the operator’s display screen(s), and description of the interface functions.

(2) A diagrammatic layout of the supervisory control panels to be provided for each type of pump station.

(3) A narrative description that specifically identifies, by manufacturer, model or version, the programmable logic controller and master control software being proposed. Describe how these key components will be integrated into the overall control system while maintaining existing logic conventions, and provide a system that has a high degree of familiarity to the pump station operators. Describe the process and issues involved in migrating the existing pump stations onto the new master control system, if the contract option is exercised.

(4) An operation & maintenance manual from a completed, similar control system previously installed by the Contractor.

(5) A detailed course outline of the proposed training to be provided for the owner/operators that meets the requirements of Section IV.I. – TRAINING. Include the following information:

(i) a description of content and time duration for each session;
(ii) a description and/or examples of the training materials which will be utilized during the training sessions;
(iii) the total length of training;
(iv) a description of any formal classroom manufacturer’s maintenance training to be provided for PLCs, radio, and master control software;
(v) identify the Key personnel who will instruct the training session(s) and their experience in instructing

system training, and past projects on which they conducted training sessions.

(b) Qualifications of training instructors will be evaluated separately under EVALUATION FACTOR 2(c), Key Personnel Qualifications.

2. **EVALUATION FACTOR 2(b): Service Availability** – will evaluate the ability of the offeror to provide ongoing service and support for the control systems throughout the life of the contract including the warranty period. The supplied control systems must be supported by a service organization fully qualified and experienced in the service and repair of the supplied items.

Desired Performance Characteristics: Availability of immediate service is critical during a flood emergency, and may be required during periods of inclement weather that could eliminate modes of travel other than ground transportation. Proximity to the Grand Forks area of a service facility which has service vehicles and in-stock parts is necessary for immediate resolution of system failures which may jeopardize public safety.

(a) To be eligible for award, the offeror must have a facility capable of servicing the control systems available within a distance of 400 miles of the Grand Forks, ND/East Grand Forks, MN metropolitan area. Additionally, in-stock parts for the required control systems shall have specific shipping and delivery procedures established in order to insure a 12 hour maximum turn-around time frame for receipt of any needed service and/or repair item, in the future, for the life of the contract, including the warranty period.

(b) Beyond the minimum requirements of this factor, offerors will be rated higher for demonstrated service availability that exceeds the minimum requirements of paragraph(a) above. For example, offers will be rated more favorably for service enhancements such as a closer service proximity, history of service organization in supporting control system components and/or offeror’s product line, complete on-site parts stock, etc.

(c) In order for the Government to evaluate service availability, the technical proposal should include the following information:

(1) Identify specifically, the location of the service facility that will be providing primary service support on the supplied systems, and its distance from the Grand Forks/East Grand Forks metro area. Describe the relationship between the service facility and the prime contractor, including how long that the service site has been in operation, providing service support for the offeror;

(2) Describe in detail the parts that will be maintained in stock at the service facility, and parts locations for other non-stocked items that may be necessary to maintain the operation of the installed controls. Describe the specific shipping and delivery procedures established in order to insure a 12-hour maximum turn-around time frame for receipt of <u>any</u> needed service and/or repair item.

(3) Describe in detail enhancements to your service and support capabilities, which exceed the required minimum for acceptable service availability cited in paragraph (a), above.

(4) List 3-5 other controller contracts by the offeror that have been serviced out of the cited facility. For each contract, specify whether it has been listed in Section 1.(a)-(d) of PAST PERFORMANCE.

(5) Identify the primary service representative who will be providing on-site maintenance and warranty service for the installed control system. This person shall be located at the service facility identified for EVALUATION FACTOR 2(b), above, and is the primary point of contact for all requests for service.

(i) Describe in detail, citing specific projects and clients, past experience in performing in this capacity.

(ii) Identify which of the listed projects and clients from Section 1.(a)-(d) of PAST PERFORMANCE they have performed in this capacity for.

(d) Quality of service personnel will be evaluated separately under the EVALUATION FACTOR 2(c), Key Personnel Qualifications.

3. **EVALUATION FACTOR 2(c): Key Personnel Qualifications** – will evaluate the qualifications of the offeror's key personnel to successfully provide the services and support which are required under this contract. Key personnel will be evaluated both on their individual qualifications and their experience in working on product delivery teams. Highly rated proposals will offer highly qualified key personnel with demonstrated abilities to work well as a team in delivering excellent services under this contract.

(a) Key personnel for the purposes of this proposal include:

(1) Project Manager-Employee of the prime contractor who acts on behalf of the prime contractor to supervise the work effort, coordinate subcontractors, and has overall responsibility to assure that all contractual requirements are met.

(2) Support Services Engineer-Person who is responsible, during each construction contract that includes pump station construction, for supporting the Government's prime construction contractors to ensure that the supplied equipment is installed as intended. This person executes all of the tasks outlined in scope Section—SUPPORT ENGINEERING SERVICES, and works with both the Government and the Construction Contractor throughout the pump control installation and start-up process.

(3) Training Instructor—Person(s) who will instruct the owner/operator training session(s) for the control systems installed under this contract.

(4) Service Representative-Primary service representative who will be responsible for on-site maintenance and warranty service for the installed control system. This person is located at the

service facility identified for EVALUATION FACTOR 2(b), above, and is the primary point of contact for all requests for service.

(b) Identify the key personnel that will be used in the accomplishment of this contract. Identify which projects listed in Section 1.(a)-(d) of PAST PERFORMANCE included work performed utilizing these key personnel.

(c) For each of the key personnel listed in 2. provide the following information:

(1) Describe their qualifications, past experience, education or training, and skills in performing the functions of their key role. Include specific information on their familiarity and experience with the particular components that are being offered within the proposed system.

(2) Identify the listed projects and clients from (b)-(d) above for which they have performed in this capacity.

(3) Define the relationship of key individuals to your company as employee, sub-contractor, etc. and describe the ability of the group to work as team to provide high quality products and services.

(d) Do not include information on the experience of key personnel that you do not intend to use in performing this contract. The successful offeror's list of key personnel will be incorporated into the contract as a material term of the contract.

E. **PAST PERFORMANCE.** In this area, offerors will be evaluated on their demonstrated success on projects of similar scope, as measured by the level of past customer satisfaction with the offerors installed control systems, quality of workmanship, timeliness of support, and the system service record. The Government may consider any other available past performance information, including the Government’s ACAS database of past projects and other experience with Contractor performance on projects. The focus of this section is on the prime and subcontractor's past history of successful or unsuccessful performance, and will be rated by the following factors, which are approximately equal in importance.

1. **EVALUATION FACTOR 3(a): Relevance of Past Performance** – will evaluate whether the Contractor’s past performance includes experience in delivering projects of similar scope, size, and complexity to that which is proposed.

2. **EVALUATION FACTOR 3(b): Quality of Workmanship** – will evaluate the satisfaction of previous clients with the quality of the end product, trouble free operation of the installed control system, the “fit and finish” of the components.

3. **EVALUATION FACTOR 3(c): Timeliness** – will evaluate the satisfaction of previous clients with the Contractor’s adherence to schedules, time responsiveness to issues, prompt decision making, and speedy resolution of problems, service and warranty issues.

4. **EVALUATION FACTOR 3(d): Service/Repair Record** – will evaluate the Contractor's system reliability after installation, number and significance of service/repair calls required on control systems after installation.

5. In order for the Government to adequately evaluate the past performance, the offeror shall provide the following in their Past Performance Proposal:

   (a) A list of 5 relevant projects completed in the last 5 years for separate clients, especially those where the aggregate value of the complete in-place system provided to the client by your firm (in that, and associated projects for the client) exceeds $1 Million.

      (1) Systems submitted must be fully operational control systems which contain all of the key components required in this solicitation; pump motor starters, controllers, radio telemetry and SCADA system, and a master control/monitoring system.

      (2) Projects expanding on an in-place control system should be noted as such, and a description, including aggregate value, of the in-place system should be provided.

   (b) A list of ALL projects currently ongoing or completed during the past year for which your firm provided the type of system and work you are proposing to provide for this contract.

   (c) A list of current pumping system controls and telemetry which have been installed and which the owner has not finally accepted.

   (d) For each project listed in response to (a)-(c) provide the following items of information:
      (1) Project Name
      (2) Client
      (3) Role of Your firm on this project
      (4) Date of Completion
      (5) Approximate Contract Price including modifications.
      (6) Aggregate value of the in-place system, if the project is an expansion of an existing control system.
      (7) Names of Key Personnel involved on the project
      (8) Customer Point of Contact that is knowledgeable about the project and the performance of your firm.
      (9) Phone number and Address of POC

   (e) Key personnel qualifications will be evaluated separately, under the Technical Proposal EVALUATION FACTOR 2(c), Technical Personnel Qualifications.

   (f) List any concerns with quality of work, timeliness, customer satisfaction, or service issues that your points of contact or clients may express, what the circumstances were that led to those concerns, and any corrective action taken by your firm.

6. For each subcontractor that you are proposing to use, identify the last two projects completed that the subcontractor performed the type work you are proposing to use them for on this contract. Identify any key personnel roles that will be filled by the subcontractor, and provide

information for evaluation of that person under EVALUATION FACTOR 2(c), Key Personnel Qualifications. Provide the same information on intended subcontractors as that listed in 1.(d) above. The past performance of subcontractors will be evaluated on EVALUATION FACTORS 3(b) through 3(d).

7. No credit will be given for any listed project that does not include a point of contact that is knowledgeable about the project, as well as a phone number and address for each contact. Initially, each point of contact that the Government contacts will be asked to respond to a standard list of questions; follow up questions will be asked as necessary. The past performance of your firm will be evaluated based on quality of work, timeliness, customer satisfaction with key personnel, and the service/repair record of the installed product.

8. Offerors without relevant performance will be rated neither favorably nor unfavorably in the area of Past Performance. See FAR 15.305 (a)(2).

D. **PRICE**

1. All proposals shall be complete, detailed and submitted on the price schedule provided in the Request for Proposal.

2. The price proposal detail shall expand upon the price schedule and shall detail the equipment, engineering services, and other supporting services required for each pump station installation. The proposal price detail should be structured so that additional pump station costs can be easily ascertained, in the event that future pump stations are identified.

3. The price proposal will be reviewed for completeness and compatibility with the technical proposal. Each offeror’s price for the base plus all options will be evaluated for reasonableness and to determine whether it contains any apparent mistakes [either arithmetic or in business judgment]. Each price proposal will also be evaluated to determine whether the prices are unbalanced. In reviewing the proposed prices to determine whether they are unbalanced, the evaluators will consider whether the total price of the base is unbalanced with respect to the total prices for each of the options. The evaluators will also review the price proposals for the base and each option for internal consistency; they will determine whether the prices for the individual CLINS within the base are unbalanced with respect to the other CLINS in the base; the evaluators will also perform the same type of internal–consistency analysis for each option. The total price for the base plus all options will be used for purposes of evaluation.

4. Technical Merit and Past Performance are equal in importance and combined, are significantly more important than price.

6. PROPOSAL EVALUATION

(A) Who will Evaluate Proposals. An evaluation team consisting of qualified technical and contracting personnel will be established to evaluate each proposal received in response to this solicitation. The evaluation team will make its recommendation to the Source Selection Authority. The names of the members of the team will not be released prior to award.

(B) How Proposals will Be Evaluated. Selection of a contractor will be made by an assessment of the proposals submitted. The integrated assessment will include a determination by the Government of the overall technical merit of each offeror's proposal, recognizing that subjective judgment on the part of the Evaluation Team is implicit in the entire process. After the Technical Proposals from all offerors have been evaluated and scored, the overall technical score for each offeror will be weighed against their Price Proposal. The Government will select the Offeror that the Government determines can best accomplish the necessary work in a manner that satisfies the objectives and requirements set forth in the solicitation documents and in a manner most advantageous to the Government. The right is reserved to accept other than the lowest priced offer and to reject any or all offers.

******NOTE - ALTERNATE PROPOSALS WILL NOT BE REVIEWED OR CONSIDERED FOR AWARD.**

******NOTE - ALL PROSPECTIVE FIRMS ARE ADVISED THAT ALL EQUIPMENT, SUBCONTRACTORS, AND KEY PERSONNEL PROPOSED FOR UTILIZATION IN PERFORMANCE OF REQUIRED WORK MUST, UNLESS REQUESTED CHANGES ARE APPROVED IN ADVANCE BY THE GOVERNMENT, BE USED IN THE MANNER PROPOSED.**

52.217-5 EVALUATION OF OPTIONS (JUL 1990)

Except when it is determined in accordance with FAR 17.206(b) not to be in the Government's best interests, the Government will evaluate offers for award purposes by adding the total price for all options to the total price for the basic requirement. Evaluation of options will not obligate the Government to exercise the option(s).

(End of Provision)