

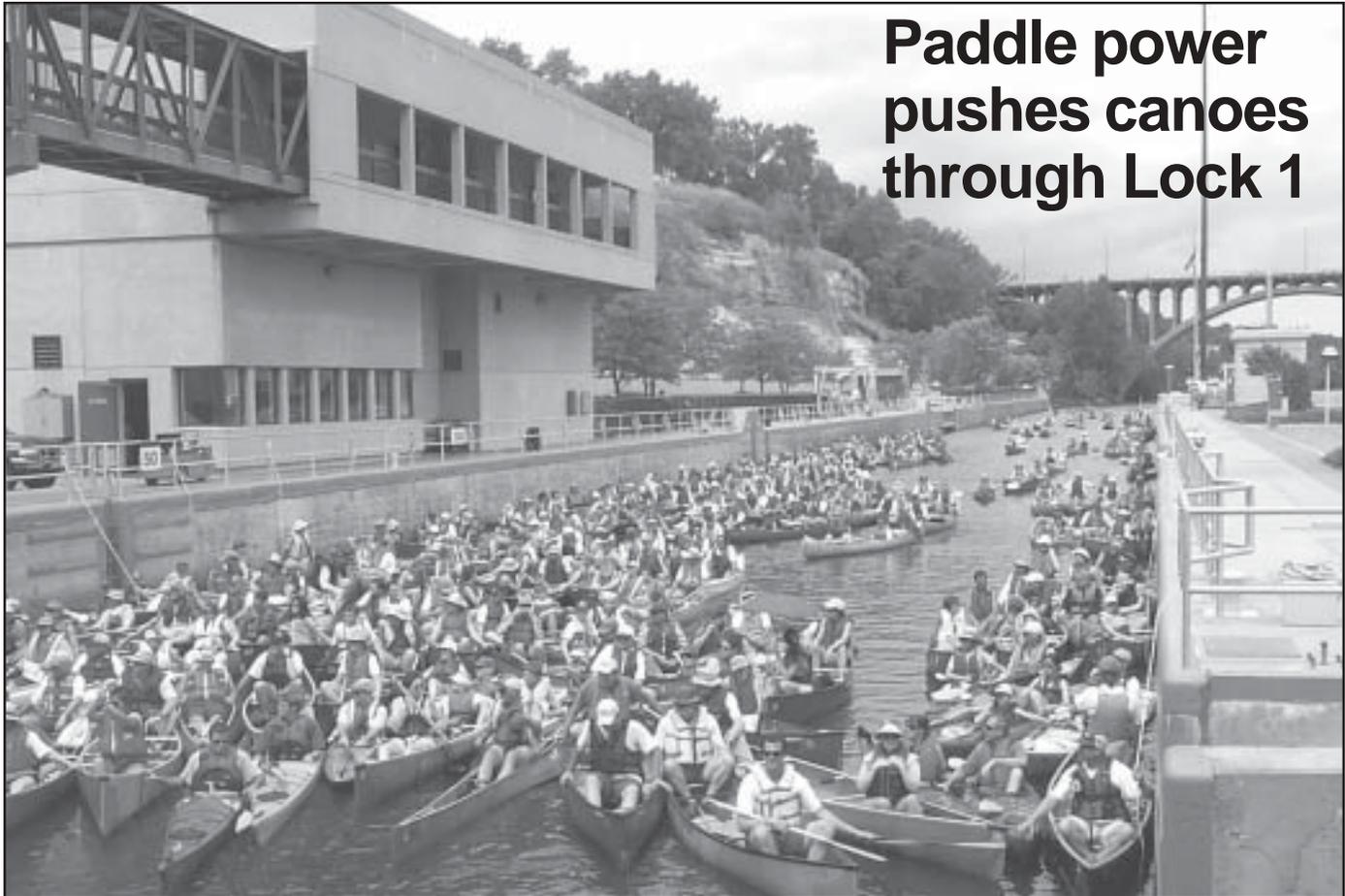


US Army Corps
of Engineers®
St. Paul District

Crosscurrents

Vol. 25, No. 8

August 2002



Paddle power pushes canoes through Lock 1

Photo by John McQuiston

More than 200 canoes emerged from Lock and Dam 1 in Minneapolis to paddle downstream for the Friends of the Mississippi fifth annual canoe adventure July 27. The group sponsored a guided tour, departing at Bohemian Flats Park near river mile 853, between Upper and Lower St. Anthony Falls locks and dams. The tour paddled to Hidden Falls Park, about river mile 846.5, downstream of Lock and Dam 1.

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Getting results is a district effort

By John Bailen
Chief of Engineering Division

We all want better business results. This takes a district effort and it must be a continuous process. Obviously, there must be a strategy for improvement and it cannot be a onetime effort.



Army Performance Improvement Criteria provides the framework for continuous improvement.

APIC closely resembles the Malcolm Baldrige criteria for

performance excellence – tailored to the Army. For our purposes, there are essentially no differences between APIC and Baldrige.

The Baldrige criteria for performance excellence, existing for more than a decade, are used by small and large businesses, organizations, and government agencies to assess and then improve performance on the critical factors that determine success.

The APIC goal is to improve the overall effectiveness of Army organizations in delivering continuous value to customers.

The criteria are based on core values found in high-performing organizations. These values are represented by the following categories:

- Leadership
- Strategic planning
- Customer and market focus
- Information and analysis
- Human resources focus
- Process management
- Business results

The key is business results. The first six categories are geared to satisfying the last – accomplishing the mission. Business results has five parts: customer-focused, financial and market, human resources, supplier and partner, and organizational effectiveness.

APIC is the umbrella under which all other programs and initiatives are included. The criteria provide a disciplined and structured way to assess and then to improve an organization.

The criteria do not prescribe how we do business. The focus is on results, not on procedures, tools, or organizational structure.

First, APIC is used to make a self-assessment of our organization. Two years ago, CERL

(Construction Research Engineer Laboratory) surveyed district staff, senior leaders, and customers such as local sponsors, and stakeholders such as state conservation agencies, as part of the assessment.

The survey results, plus our knowledge of missions and customers, provided a starting point for a strategy for the district's future.

Some of the work done in the past is shown on the district's intranet site under http://mvpiis/mangmnt_info/qual_improv/. The site is updated to include ongoing work.

The district has a strategic planning steering committee plus champions for each of the APIC criteria. Each year, district leaders will answer questions in the seven APIC categories as to how well we do or don't do in each category. This self-assessment should help identify gaps where we need improvement.

The focus of district leadership off-site meetings, in addition to team building, is to develop a plan on how to fill those gaps. At last December's off-site meeting, seven objectives were identified to address gaps in our business processes. Teams, identified as A through G, are currently working on action plans. One example of past work accomplished is the establishment of the district's leadership development program. Another is preparation of performance questionnaires for project team members and project managers – used for performance evaluations.

Action plans for the current teams will be discussed in future *Crosscurrents* issues. You are more than welcome to discuss this with myself or any district senior leader.



US Army Corps of Engineers
St. Paul District

Crosscurrents

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Address all inquiries to:

Editor, *Crosscurrents*
U.S. Army Corps of Engineers
Army Corps of Engineers Centre
190 Fifth Street East
St. Paul, MN 55101-1638

<p>District Engineer Public Affairs Chief Media Specialist Editor Phone: E-mail:</p>	<p>Col. Robert L. Ball Mark Davidson Shannon Bauer Peter Versteegen 651-290-5202 cemvp-pa@usace.army.mil</p>
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Merit award goes to Devils Lake levees project

By Shannon Bauer

The U.S. Army Corps of Engineers, St. Paul District, received a 2001 Chief of Engineers Design and Environmental Merit Award for its Devils Lake levees project in Devils Lake, N.D., from its headquarters this summer.

Headquarters USACE established this biannual awards program in 1965 to recognize and promote excellence in design and environmental achievement by its engineers and professional contractors.

This year, the mostly non-Corps judges received 36 entries, 11 of which were selected for awards. The St. Paul District received one of two merit awards presented, with the merit award recognizing excellence in multiple engineering disciplines.

The district's Devils Lake levee project was recognized for building permanent levees in record time and under budget under emergency conditions – rising lake levels and record flooding. It was unique, according to the judges, because levees are generally meant to hold water back for short periods and these are permanent. They were designed as a dam more than seven miles long and up to 30 feet high.

The project was also difficult to design, said the judges. Normally, levees are constructed in dry conditions – but because of the rising lake levels and fast-track nature of the project, portions of the Devils Lake levees had to be built in water.



Photo by Peter Versteegen

The Devils Lake team described project challenges at the town hall meeting July 16. At the table above are Bonnie Greenleaf, project manager, Paul Madison, Bruce Boldon, Terry Williams and Tim Paulus. Below right is a sign-language interpreter.

“This project provides the best engineering solution available for this difficult problem,” commented the judges. “The jury was impressed with the high quality of execution, given the emergency conditions under which it was designed and contracted.”

The levees were built in stages in response to rising water levels. In the 1980s, two small levee sections were built to 1,445 feet. In the spring of 1996, the city requested emergency assistance from the Corps to raise them five more feet and construction began that fall. After devastating flooding in the spring of 1997, the district was requested to raise them again – this time to 1,457 feet, providing protection to a lake levee of 1,451 feet. By the spring of 2000, the district completed the levees and six

pump stations.

Because of the levees and pumps, numerous homes were saved; the region's only golf course was protected; road and utility assess was provided to homes outside the levees that otherwise would have been isolated on an island; U.S. Highway 2, a regional airport and the wastewater treatment plant were protected; wetlands were saved from inundation; and undeveloped land was made suitable for homes and businesses.

Numerous individuals from the district office supported the completion of the Devils Lake project. Paul Madison, geotechnical and lead engineer, said, at least one individual from every office has been represented on the project at some time. As for his own

Devils Lake, continued on Page 8

Dam safety provides learning platform for district, historically black college

By Daniel Yang

Dr. Erat S. Joseph, professor of engineering at Southern University, Baton Rouge, La., decided to take a break from teaching this summer and do some learning. Under an Interagency Personnel Act agreement, Joseph's summer assignment was to work with project manager Nan Bischoff and an in-house team of student interns and staff to prepare a database of WPA (Works Projects Administration) dams in Minnesota.

The WPA, created during the great economic depression to assist economic development in the 1930s and later, built the majority of the dams. There are 343 WPA dams in Minnesota, of which 263 are on the Minnesota Department of Natural Resources database. Joseph worked with the engineers and project managers to compile the remaining 80 WPA dams from information scattered in various files and from field inspections.

Inspection reports along with recommendations and accompanying field data of these dams collected by Joseph and his team will complement the existing DNR database. Section 524 of the Water Resources Development Act of 2000 provides for the inventory, assessment and rehabilitation of dams constructed in Minnesota by the WPA. This is the first program of its type and is looked at as the first step in contributing to the goal of completing database of a national inventory of dams.

"The water resources

infrastructure is one of the most valuable resources that a nation has," said Joseph. "Its upkeep, safety and security all need to be documented and is essential for any type of planning."

Joseph was born on the southern coast of Kerala, India. He graduated from the University of Kerala, India, with a degree in civil engineering. He first arrived in the U.S. alone to do his graduate work at the University of Colorado, Boulder, Colo., and welcomed his wife and two children to the U.S. several months later. He earned his Ph.D. from the University of Colorado in 1969 and has been teaching civil engineering ever since. He spent eight years as a professor at the University of

Pittsburgh, Penn., and one additional year teaching at Lafayette College, Easton, Penn., before arriving at Southern University where he has taught for the past 26 years. He has received special training in safety of dams at the U.S. Bureau of Reclamation and has been serving as professor and the director of the safety of dams training program at Southern University since 1994.

Minorities in engineering

Jim Peak, assistant chief of engineering division, first became aware of Southern University's capability to work with the corps through his involvement with Advancing Minorities Interest in Engineering Partnership. Peak is the

Dam safety, continued Page 8



Photo by Jon Petersen

Dr. Erat S. Joseph visited Keller Lake Dam in late May. He is a professor of engineering at Southern University in Baton Rouge, La. The pole in his hand is used to measure the height of the dam. Keller Lake is in Maplewood, Minn.

Pine River Dam renovations nearly completed

By Shannon Bauer

The Corps' dam at Crosslake, Minn., is safer now, thanks to a three-year, \$7 million renovation.

Renovation of the dam included enlarging the spillway gate openings to increase the amount of water allowed to pass through the structure, installing new gate operators, refurbishing the concrete structure, grouting under the foundation and installing a concrete-capped sheet-pile wall atop the embankments alongside the dam, which tie the dam into high ground.

The Corps' construction project was, at times, controversial, according to Corps' project manager Nan Bischoff, due to the extent of tree-clearing required at the perimeter dikes, as well as extensive work at two dikes located on West Shore Drive.

The St. Paul District completed most of the Pine River Dam renovation project at Crosslake July 1.

Although the major work was completed in June, some of the cleanup work, such as adding sod, will be completed later in the summer, before the grand opening.

The Cross Lake recreation site staff provided tours of the dam and recent renovation work and conducted a variety of interpretative programs for the public in conjunction with Crosslake Days the first week in August.



Photo by Dave Nelson

A crane holds the gate in place at the Pine River Dam, while it is being shimmed into position to be grouted in place.

The renovations were initiated because a Corps' evaluation of the dam in 1993 showed the century-old dam did not comply with today's safety standards.

A previous phase of the project, involving work on perimeter dikes around Cross Lake, was completed in November 2001.



Photo by Dave Nelson

The contractor poured the pier tops and large arches at the Pine River Dam at Crosslake, Minn. In the above picture, about half of them have been placed. Renovation included refurbishing the concrete and grouting under the foundation.



Photo by Shannon Bauer

Construction was in progress in this February 2001 photo showing the top of the concrete structure at Pine River Dam being refurbished. The project is at the district's recreation site on Cross Lake.



Photo by Jeff Kapaun

Co-op ranger Brent Cosette instructs children at the Mel Reiman Recreation Area in Valley City, N.D., how to make throw jugs out of plastic milk cartons. Co-op ranger Nathan Busche is seated behind him.

By Jeff Kapaun

Forty-nine youngsters, ages 6-10, learned to make fishing lures from scratch and to cast fishing lines into Lake Ashtabula at Valley City, N.D., June 1.

The 14th annual Take a Kid Fishing Day at the lake succeeded through cooperation of 20 volunteers from three agencies, including the Corps' staff at the Mel Reiman Recreation Area. The area is 12 miles northwest of Valley City.

The day celebrated National Fishing Week.

Volunteers organized the kids into two groups, with one group fishing and the rest going through the various programs. An hour and a half later, the groups switched to allow everyone to fish and engage in other programs. Activities included a casting game to teach casting skills. The most accurate casters in all five age groups earned prizes. Kids tied their own fishing spinner (a fishing lure) from scratch and proudly kept them to show their parents.

Brent Cosette and Nathan Busche, co-op students at the Lake Ashtabula project, helped the kids make throw jugs and showed them how they are used. A throw jug, tossed out into the water like a ring-buoy, is a plastic milk carton with rope gathered on the inside. One end of the rope is strung through a hole in the bottom. Knots anchor the rope to the carton. They learned to hang on to one end of the rope and



Photo by Scott Tichy

toss the jug into the water. Each kid got to take the one they made home.

The kids were catching bullheads that day. The catch and release concept was explained to the kids earlier in the day – they learned to release fish back into the lake so another person could enjoy fishing.

For many of the youngsters, it was their first time to cast a line into the water or bait a hook.

The cooperating agencies provided hotdogs, chips, pop and ice cream. The program included drawings for 24 fishing rods and reels. All the kids received a bag containing fish coloring books provided by the Corps and the North Dakota Game and Fish Department. They also took home their own tackle box with various tackle included.

The Barnes County Wildlife Club sponsored the day and provided volunteers and funds for the event. The Valley City Women of Today also supported the event.

Jeff Kapaun is a park ranger at Lake Ashtabula.



Photo by Jeff Kapaun

Above, one of the fishing day youngsters shows his catch. Children learned proper rod-and-reel techniques to catch fish. At left, children prepare to fill a throw jug with the rope.

Engineer elevates people, process, pool levels

By William McCauley

The next time you visit Hoover Dam, think of Kerry Horner as you ride the elevator to the power station. He was superintendent of the crew that drilled the elevator shaft.

It's a long way from Hoover Dam to the Saint Paul District, but his focus at bringing out the best in others and himself has journeyed with him.

After graduating from Pennsylvania State University, State College, Penn., with a degree in civil engineering, Horner worked in construction for 20 years in the private sector.

He traveled all over the United States, wherever the jobs took him, including one stint as superintendent on a Corps project in the Kansas City District.

However, he decided he was tired of moving every couple of years and accepted a job with the Department of Veterans Affairs, Marion, Ill.

Ironically, two years later he moved – this time to be closer to his children and grandchildren, and

coincidentally, became associated with the Saint Paul District.

In September 1999, he joined Mike Evenson, Fargo resident engineer, and Dick Sundberg, construction representative, in the newly opened Fargo Resident Office in Fargo, N.D.

Horner is a civil engineer and serves as a member of the project delivery team for Baldhill Dam and Lake Ashtabula projects. He works closely with Mike Evenson, the contracting officer's representative. Evenson relies on Horner for day-to-day contact with the contractor, and Horner's extensive background as a construction superintendent enables him to understand and relate to contractors, building synergistic relationships at partnering sessions and on the job site.

The work at Baldhill Dam and Lake Ashtabula has been Horner's specialty, since he arrived in Fargo.

"The project contracts generally support the objective of storing an extra five feet of water in Lake Ashtabula," said Horner. "The goal of the extra storage is to provide better flood protection for Valley City and other downstream communities."

He started on the Baldhill Dam rehabilitation stage 4 project and has since administered contracts for the new Eggert's Landing comfort station and the pool raise stage 1 contract.

He is now working on pool raise stage 2 and pool raise mitigation contracts, and he will be involved with the Wesley Acres contract.

Swanberg Construction and Construction Engineers earned "Contractor of the Year" awards from Saint Paul District for their performance on jobs that Horner administered.

Swanberg Construction of Valley City, N.D., built a new maintenance and control building and installed new gate machinery as part of the dam rehabilitation stage 4 contract.

Construction Engineers, Inc., of Grand Forks, N.D., raised the dam piers and installed the new, larger tainter gates to hold back the additional water under the pool raise stage 1 contract.

"There is nothing more satisfying than seeing the successful completion of a challenging construction project," said Horner.

William McCauley is a civil engineer in the Fargo resident office.



St. Paul District photo

Jerry Holen, left, project superintendent for Holen Construction, and Kerry Horner a civil engineer in the Fargo, N.D., resident office watch Darel Schlotfeldt of Midwest Testing measure soil compaction using a nuclear density gauge. The site is on the Sibley levee, on the west shore of Lake Ashtabula near Valley City, N.D. The levee work is part of the Baldhill pool raise stage 2 contract.

Devils Lake, continued from Page 3
participation, Madison said he was only supposed to work on it for two days back in 1995 but has been working on it ever since.

About receiving this award on the project, he said, "The important thing is that we were able to help the people of Devils Lake. They asked us for help, and we were able to provide it. To be recognized for a job well done is great!

"I think it was fun; the team never had a dull moment, we always had a fire to put out," he continued. "With a typical flood control project, a lot of planning and design is done over many years before the project is constructed. This one happened in record time.

"Professionally, it was a challenge; but as an engineer I have always hoped to be able to work on



Photo by Peter Versteegen

Bonnie Greenleaf, project manager, Paul Madison, Bruce Boldon, Terry Williams and Tim Paulus discussed the Devils Lake project.

an interesting project full of geotechnical challenges," he said. "This was one of those projects."

Bonnie Greenleaf, project manager, agreed, describing the first time she went to Devils Lake in the spring of 1997, "As the levels of the lake rose, the wind created large waves which attacked the roads around the lake. I thought, 'My goodness, these people are living in a war zone.'"

She said the Devils Lake

community benefited greatly from construction of the levee. "In monetary terms, this project, expected to cost \$50 million, cost \$43 million but is protecting more than \$225 million in private and public property," she explained. "Most importantly, the community, which provides services to the surrounding region, including the Spirit Lake Indian Reservation, has been able to grow and prosper because of the levees' protection."

Dam safety, continued from Page 4
district's AMIE coordinator. AMIE seeks out and fosters the establishment of working alliances between corporate sponsors, government agencies and Historically Black Colleges and Universities engineering departments.

"Nine engineering-accredited HBCU's, several government agencies and major Fortune 500 companies have joined forces to promote and support the participation of under-represented minority students in engineering careers," said Peak. "Both the Corps and Southern University are members of that partnership."

Peak attended Southern University's recruitment fair last September, when he met Southern's civil engineering chair, Dr. Patrick Carriere, and initiated a working relationship with the university.

Carriere visited the district's recruitment open house in October 2001 and met with many of the district's managers to discuss Southern University's engineering capabilities.

"I noted that Southern University had a standing dam safety program that could possibly fit in with our work," said Peak. "Chuck Spitzack, chair of our Special Emphasis Program, challenged the district to form a working relationship with Southern and hire engineering students and professors for the summer," he said. "The Minnesota dam safety program happened to match well with Southern's capability, and I contacted Dr. Carriere to inquire if they would be interested. He introduced me to Dr. Joseph, and we went from there."

Focus on teaching

"A change in type of work is like a vacation. The work and new

people I've met here at the Corps has been a very enjoyable experience," said Joseph.

Joseph was chairman of the engineering program at Southern University for 15 years and directed the majority of his time to administration. He now focuses all his time on what he enjoys most — teaching. Joseph is not the only one enjoying his decision to dedicate himself to the classroom. He was elected outstanding faculty of the year at Southern University for three years.

"The professor was the one doing the learning over the summer. I am looking forward to relaying the knowledge I gained to my students this fall. My summer assignment at the Corps has been very fulfilling. I can take back with me the wealth of this experience at the Corps to the classroom and include Corps work in courses," said Joseph.

Global positioning bulldozer saves time, money

By Virginia Regorrah

A bulldozer equipped with global positioning system at the East Grand Forks, Minn., project site saves construction time and requires fewer surveys than traditional methods to achieve design specifications.

The GPS bulldozer is the newest in the fleet for the



Photos by Ryan Otto

Dave Zavoral and Bryce Bosh explain the capabilities of the global position system on the bulldozer to Tricia Liggett, project engineer on the East Grand Forks levees phase 1 project. At right, the GPS display inside the bulldozer cab.

contractor, R.J. Zavoral and Sons. The bulldozer pushes earth to construct levees and the bike trails on the East Grand Forks Levees phase 1 project.

Two plastic poles jut up on either side of the bulldozer blade, each topped with a plastic dish connected by a bright yellow plaited wire. The system on the bulldozer receives a signal from GPS satellites. A base station located at the Zavoral shop verifies the data and provides a more accurate measurement of location and elevation.

The Zavoral's office engineer, Joe Zavoral, fills the GPS program files with the coordinate points provided in the construction designs. Once the file is installed, the dozer operator follows the program design on the display in the cab.

Equipment operator Bryce Bosh said the program indicates all features of the levees, to include the elevation, width and control points at the top and toe of the levee, as well as the levee slope. "It makes it so easy to build," he said. "Once the program is entered, I just follow the display." He showed how the blade could be set to automatically cut or fill the last three-tenths of a foot of the required elevation.

"We can cut down on the number of surveys we need to reach design," said Dave Zavoral, the contractor's site superintendent.

SAME conference offers exciting topics

By John Bailen

World Trade Center structural evaluations, stealth technology, ecological economics and other timely issues are on the agenda at the Society of American Military Engineers conference Oct. 2-4, 2002 at the Radisson Hotel on Kellogg Ave. in St. Paul.

Review the schedule and register for the conference on-line at <http://www.same.org/msp/conf02/>. The enrollment fee is \$100 for the daytime only training on Oct. 3-4.

Attendance at sessions is flexible – go to many or select a few or divide up the time for one registration by sending different people to different sessions. Professional development credits will be given.

This is not a design course for engineers – much is relevant to all district employees.

Speakers and topics include:

Lt. Gen. Robert Flowers, chief of engineers; U.S. Representative James Oberstar; Brig. Gen. Stephen Rhoades, North Atlantic Division commander during 9-11; Dr. Charles Thornton on World Trade Center structural evaluations; Brig. Gen. (retired) Dennis Schulstad on Air Force stealth technology; Dr.

Robert Costanza, a leading expert on ecological economics; and Dwight Beranek, the Corps chief of engineering and construction.

The program offers technical sessions about:

Chicago district tunnel and reservoir plan system, Louisville district lock rehabilitation, Sault St. Marie locks project, Mississippi Valley Division's environmental management program, a navigation study panel discussion, wind power, nuclear reactor decommissioning, Great Lakes fluctuation and more. Membership in SAME is not needed to attend the seminars or the conference.

Volunteering opens Johnson to new challenges

Editor's note: Brent Johnson, his family and others, volunteered to rehabilitate homes in the Appalachian region of West Virginia July 15-19. Johnson works in project management.

By Brent Johnson

After retiring from the Minnesota Army National Guard this January, I was looking for a new challenge and found it — rehabbing houses in the Appalachian region of West Virginia.

My three children had all gone to the region in previous years with high school youth groups from Christ the King Lutheran Church out of New Brighton, Minn. The Appalachia Service Project, Inc., had organized the trips. They all had a positive experience.

This year, I accompanied my wife, my youngest son and 40 other youth and adult leaders in a caravan of vans for more than 1,000 miles to the Logan County, W. Va., area. We worked with another church group from Pennsylvania and lived out of a local high school. We spent our days working in teams on housing rehabilitation projects for the needy in the area.

My group included five high-school youth and one other adult leader. As the week began, we quickly realized the

geography was far different. Each day started and ended with a challenging 35-minute commute to and from the project work site over narrow, winding roads surrounded by rock walls and steep cliffs. Train tracks frequently intersected these roads, and we shared the roads with coal trucks.

At the site, our project consisted of removing old siding, installing insulation (where previously none had existed) in the attic and walls, putting up new siding, reframing an old window and repairing a walkway for a 94-year-old woman's house.

It is one thing to travel on vacation to an area in a different part of the country and see the tourism sights. I have done my share of that. However, to actually work in a poverty-stricken community and see close-up how some people are able to live life simply and yet happily gives one a totally different perspective on life. I left my comfort zone while there and wondered whether the people in this part of Appalachia care whether

such and such sports team won or lost or if they have the latest CD, computer or car? Rather, people there are just happy to finally have running water, a flush toilet, a roof that does not leak or a house with solid, insulated walls and an insulated ceiling.



Photo courtesy of Brent Johnson

Brent Johnson installed roughshod cedar siding on a home in Logan County, W. Va. He and his family spent their vacation rehabilitating homes in July as part of the Appalachia Service Project.

Wanted: Your news!

PAO seeks information about special events in you life (e.g., births, deaths, marriages, engagements). If you would like to share these items, please contact Public Affairs at 651-290-5202, -5108 or 5201 or send an e-mail to: cemvp-pa@mvp02.usace.army.mil.

Bits and Pieces

Welcome

Work-study student **Sari Xiong** will assist in the civilian personnel advisory center at the St. Paul District office as an office automation clerk for the human resources branch. She will be a senior this fall at Harding High School, St. Paul, Minn.

Connie McCulick was recently hired as a clerk at Lock and Dam 8 near Genoa, Wis. She will be attending classes at Western Wisconsin Technical College, La Crosse, Wis., to earn her associate degree in computer programming. She lives in Seneca, Wis.

Gary Miller was recently hired as a purchasing agent in the contracting branch at the St. Paul District office. He served for nearly 10 years with the U.S. Navy, including four tours in Vietnam. He then went to United Defense L.P., where he worked for the next 30 years. He served with the U.S. Naval Reserve for 12 years, retiring to the Fleet Reserve Retired. He currently resides in West Lakeland Township, Minn.

Welcome back

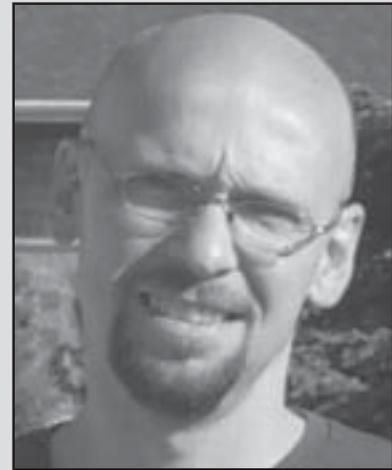
Judy Harris will be returning to the corps as a clerk at Lock and Dam 5A in Fountain City, Wis. She is back with the Corps after working in the private sector as a project manager and safety coordinator for O'Laughlin Plumbing and Heating of Winona, Minn. She was enlisted in the U.S. Army for five years. She previously worked as a lock and dam operator

Bergsgaard named June Employee of the Month

Darren J. Bergsgaard, mechanical engineer in the western area office, was selected as Employee of the Month for June. Virginia Regorrah, East Grand Forks resident engineer, nominated him for his commitment to project excellence and quality assurance.

He reviews the designs with special attention to the quality and longevity of the complete project. He has been instrumental in coordinating design improvements in all phases of levee projects.

His efforts have meant continuing success of the flood control projects in Grand Forks, N.D., and East Grand Forks, Minn.



Darren J. Bergsgaard

with the corps for four years, ending at Lock and Dam 7. She currently resides in Winona.

Congratulations

Ralph Augustin was recently appointed the new acting chief of the environmental branch of project management for the St. Paul District. He will hold the position of acting chief for 120 days.

Bob Engelstad was recently appointed chief of hydraulics and hydrology for the St. Paul District.

Community Outreach

Timm Rennecke, ranger at Leech Lake, was the main speaker at the Leech Lake Association's annual picnic July 20, 2002. Nearly 80 members attended.

Matt Percy, St. Paul District historian; **Yvonne Berner**, environmental protection specialist; **Brad Johnson**, archaeologist, and **Steve Lenhart**, the lockmaster at Upper St. Anthony Falls, recently conducted a tour of the Upper St. Anthony Falls Lock and Dam. The presentation and tour was provided for a group of 30 students and five instructors as part of the native American math and science camp.

Bob Stone, Lock and Dam 3 equipment repairman, recently conducted a tour of the lock and dam in Welch, Minn. The tour was provided for a group of 14, belonging to junior naturalist kids, from Faribault, Minn.

Thunderstorms challenge Corps, contractors

By Virginia Regorrah

Heavy rains and thunderstorms in the Red River Valley this summer have challenged the Corps and its contractors at the levee projects and English Coulee Diversion in Grand Forks, N.D, and East Grand Forks, Minn.

"Ironically, the contractor lost more time due to inclement weather during the month of June than during the entire winter," said Francis Schanilec, construction representative on the East Grand Forks levee project.

Unexpectedly heavy rains on June 9 dropped more than five inches of rain on Grand Forks and East Grand Forks and 3.5 inches in Crookston, Minn.

While the district deployed emergency crews to the northern Minnesota communities of Roseau, Mahanomen and Ada, the project

engineers and construction representatives in Grand Forks and East Grand Forks helped contractors ready their sites for the rising water from the Red River of the North.

In East Grand Forks, the rising river filled both borrow pits and the junction manholes of two pump stations. (A borrow pit provides earth for construction.) In Grand Forks, both borrow pits filled with water and water inundated English Coulee, submerging most of the contractor's work sites.

Just as the contractors returned to work, the summer thunderstorms struck July 9, dropping 11 inches of rain south and east of Grand Forks and eight inches of rain in Grand Forks.

With the river predicted to crest at 44 feet on July 14, the contractors once again began building ring dikes around critical sites, installing and

closing sluice gates, deploying and activating pumps.

The National Weather Service web site for Grand Forks lists the flood stage at East Grand Forks at 28 feet, when minor flooding occurs. Minor flooding means minimal or no property damage, but possibly some public inconvenience.

Moderate flooding, at 40 feet, begins to inundate secondary roads. Transfer to higher elevation is necessary to save property. Some evacuation may be required.

Severe flooding occurred when river peaked at 54.35 feet, establishing the flood-of-record April 22, 1997.

In comparison, the river finally crested this year at 38.54 feet early in the morning July 14.

At the DeMers pump station construction site in Grand Forks, NODAK Construction, Inc., built a temporary levee to protect an excavation site, while ICS, Inc., built 10-foot ring dikes around two junction manholes in East Grand Forks. ICS, Grand Forks, is the prime contractor for the East Grand Forks project.

While the preparations temporarily disrupted the construction, the contractors on both sides of the river continue to make good progress and both cities are pleased with the results.

Greg Boppre, city engineer for East Grand Forks, said at a recent flood-fight meeting, "Even though the project isn't finished yet, with the work that has been done to date, we're in great shape to meet this crest."



Photo by Ryan Otto

Tricia Liggett, project engineer on the East Grand Forks levees phase one project, and Dave Zavoral, subcontractor superintendent, monitor the placement of a ring dike to prevent flooding at one of the construction sites.