

REACH



A publication of the U.S. Department of Energy for all Hanford Site employees

DOE to permanently deactivate Hanford's FFTF

After an exhaustive eight-month review of possible missions and future commercial uses for the Fast Flux Test Facility, the Department of Energy announced Dec. 19 that restart of the reactor is impractical and that deactivation of the reactor will proceed. The review ordered by Energy Secretary Spencer Abraham last April was conducted by a team led by Under Secretary Robert Card.

The review included an initial 90-day study of all previous reports and other information that might be relevant to a decision on the future of the FFTF. Card also studied expressions of interest by public and private groups to commercially operate the facility.

"I want to thank the FFTF review teams who committed countless hours to this process," Secretary Abraham said. "And in particular I want to thank Congressman Doc Hastings, who worked longer and harder than anyone else to identify options for the potential restart of the FFTF. This review was conducted in an objective, exhaustive and thorough manner. The department's final determination is based on sound science, an extensive analysis of the costs and benefits of disposition options and an in-depth consideration of the feasibility of commercial use options."

One commercial proposal submitted by Advanced Nuclear and Medical Systems proposed using the FFTF to produce medical and research isotopes. Abraham ordered an analysis of that proposal by the working group directed by Under Secretary Card. The team ultimately concluded that the ANMS proposal had significant drawbacks and presented new legal and financial liabilities for DOE. Separate consideration was given to a related DOE-funded research mission proposed by Argonne National Laboratory to use the facility as a demonstration project related to nuclear fuel issues. Both proposals were deemed to introduce liability and funding requirements for DOE that collectively could exceed \$2 billion.



FFTF employees have set safety records during years of standby operation while performing tasks such as this critical lift of the plant's solid waste cask. The cask is used for handling low- and medium-level reactor waste and spent fuel. FFTF workers recently completed more than 2 million safe work hours.

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DOE to permanently deactivate Hanford's FFTF, cont.

Issues the review team referred to included:

- worker-related financing of operations
- the lack of identified commercial purchasers of medical and research isotopes
- DOE's assumption of costs associated with fuel disposal, as well as the department's assumption of costs associated with the ultimate decontamination and decommissioning of the site if the commercial operation by ANMS proved unsuccessful.
- questions regarding operational and safety oversight and approval of the FFTF by the Nuclear Regulatory Commission, given the fact that the reactor was not originally built to NRC specifications.

Safety record set

On Dec. 5, FFTF employees completed two million hours of work without a lost-workday accident. "This achievement represents more than four years in which our entire staff of 245 employees has worked together in a concerted effort to avoid serious injury," said Bruce Klos, FFTF Project senior director.

The FFTF achieved DOE Voluntary Protection Program Gold Star status in July of this year. The project also received recognition at the Voluntary Protection Program Participants Association annual conference in August as one of five "Star of Excellence" sites.

The FFTF is probably best known for its history of 10 high-performance years as the safest and most technologically advanced test reactor for the Department of Energy. The plant has been in a shutdown and standby state since April 1992. ♦

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Pit Viper works in 'hot' areas to protect workers

CH2M HILL Hanford Group is cleaning and upgrading some of the most radioactive areas in Hanford's tank farms using the Pit Viper — a robotic arm attached to a backhoe.

The Pit Viper is being used to make upgrades to pits that provide access to the tanks. These pits are made of concrete and contain valves, piping connections, pumps and other tank waste transfer equipment. CHG personnel plan to upgrade 32 of these pits in preparation for transferring waste out of Hanford's tanks to a planned vitrification plant for treatment.



The Pit Viper is sleeved to prevent contamination when performing work in tank-farm pits. The backhoe portion of the Pit Viper remains outside the containment tent surrounding the open pit.

Protecting workers

Work in these pits requires human skill and dexterity, but the job has to be performed in what is often a highly radioactive and contaminated environment. The hydraulic Pit Viper arm has a reach of 8 feet and can be remotely manipulated in the pits to perform a variety of tasks that would otherwise be done by workers with tools on long poles.

“Using the Pit Viper allows us to protect our workers by significantly reducing the potential for radioactive dose,” said Rick Raymond, CHG's vice president of Projects. “This means upgrades to the process pits can be done more efficiently, putting us that much closer to retrieving the tank waste for treatment at the planned vitrification plant.”

Versatile arm

The Pit Viper's first job in the Hanford tank farms was at single-shell Tank C-104, making preparations to the tank's heel pit for the installation of waste retrieval equipment. The Pit Viper sliced through a deteriorated piece of foam using a water knife, which directs a stream of water at 3,000 pounds per square inch.

Other jobs performed included removal of debris from the pit floor, scraping clean a patch on the pit wall, and spraying fixative within the pit. These jobs will be analyzed to help determine the range of the Pit Viper's capability to perform Hanford's tank-farm work more safely and efficiently.

The Pit Viper operator sits at a control console located in a trailer outside the tank-farm fence line. Five video monitoring screens give multiple views as the operator manipulates the robotic arm, which reaches through a containment tent and into the pit.

The operator can choose to pick up and use a variety of tools such as brooms, spray nozzles, pincers and knives. A rack located inside the pit holds the tools, each of which is fitted with a T-handle for ease of pick-up. Many of these tools are the same as found at local hardware stores. Tools that are inexpensive and difficult to decontaminate are disposed of after the job.

Continued on page 4.

Pit Viper works in 'hot' areas to protect workers, cont.

Developed through teamwork

The Pit Viper concept was developed when CHG recognized a need for ways to do complex work in the pits with less personnel exposure and greater efficiency. The Department of Energy's Tanks Focus Area and Robotics Crosscutting Program provided a team of technology developers from Pacific Northwest National Laboratory, Oak Ridge National Laboratory and Numatec Hanford Company to work hand-in-hand with CHG from the initiation of the project through the first use of the system at Tank C-104.

"The Pit Viper is a great success," said Joe Cruz, Retrieval Program engineer for DOE's Office of River Protection. "This is a direct result of technology developers, engineers and craftspeople combining efforts to develop a system that helps protect workers, speed the pace of work in the field and save money. I am very proud of the team and their partnership."

Robotics staff members of Pacific Northwest National Laboratory operated the Pit Viper for this job. In the future, tank-farm employees or subcontractors will go through six to eight weeks of training before taking the helm in the control trailer. ♦

The Reach editors' picks for the top stories of the year 2001.

LOOKING BACK

ON THE YEAR

2001

This past year will be best remembered for the events of Sept. 11 — events so far removed from Hanford and yet so close.

Still, for the Hanford Site it was a year when good news outstripped the bad. In 2000, one of our top stories was about a devastating fire. This

year, while searching for the top 10 *Hanford Reach* subjects of 2001, we had trouble finding anything to compare with that tragedy. Even the articles prompted by the Sept. 11 terrorism were uplifting stories of compassion and sacrifice on the part of Hanford employees.

The good news was mostly in the fact that we did our jobs better, faster and safer. In every Hanford project, the pace of progress accelerated — sometimes exponentially as years of preparation and planning paid off. And we maintained our good safety record while doing more with fewer resources.

Here are the editors' choices of the top *Hanford Reach* stories of 2001.

2001:

The year the pace accelerated for all of Hanford

Sept. 11 changed our lives, brought out compassion

Who knew that one of the top stories of 2001 would begin so near the end of the year?

The events of Sept. 11, 2001, had an immediate impact at Hanford as they did everywhere else in the country. Stepped-up security, appeals to employees to donate blood and relief money, and a temporary halt on business travel were some of the first steps taken.

As the dust was settling for most of us, it was apparent that the dust and ash at “Ground Zero” still presented a problem for rescue workers. Hanford took the lead in rounding up 10,000 respirators from throughout the Department of Energy complex — about 2,000 from Hanford alone — and made special arrangements to ship them to New York at a time when almost no airplanes were flying.

A “Day’s Pay” movement was begun in the Tri-Cities community, modeled after the World War II fund-raising effort that resulted in the purchase of a B-17 bomber. This time, the objective was to buy a new ladder truck for the New York Fire Department. Hanford contractors instituted various programs to make it easier for employees to donate to both the Day’s Pay for the USA program and to the American Red Cross relief effort.

“All in all, Hanford contractors and their employees really showed their compassion,” said Day’s Pay organizer Kelly Watson of Richland. ■



Hanford employees contributed to a Tri-Cities campaign to buy a new ladder truck for the New York Fire Department, similar to this one that was destroyed Sept. 11.

Construction mobilized on Waste Treatment Plant

Limited construction began in October on the world's largest radioactive waste vitrification plant. Site preparation work, consisting of clearing and grading the 65-acre construction site, excavating for project facilities and building roads, represented a major step toward building the \$4 billion Waste Treatment Plant in the 200 East Area. Full-scale construction will begin in 2002 with hot commissioning scheduled for 2007.



U.S. Senator Patty Murray and Congressman Doc Hastings review plans for construction of Hanford's vitrification plant with ORP Manager Harry Boston, right.

At the same time the Office of River Protection was celebrating the start of site preparation work, the Department of Energy was being fined \$10,000 a week by the State of Washington for missing a July 31 deadline to begin construction of the major nuclear facilities associated with the project. The state Department of Ecology promised to roll the fines back into the Hanford cleanup budget if DOE showed a plan and the funding necessary to meet the 2007 Tri-Party Agreement milestone to begin vitrifying Hanford tank waste.

Three major facilities will be designed, built and commissioned by Bechtel National for pretreatment, high-level waste vitrification and low-activity waste vitrification. The plant will also have an analytical laboratory, a 60,000-square-foot office building and several smaller facilities.

There are 53 million gallons of radioactive and chemical waste in Hanford's 177 underground tanks. Turning the waste into a sturdy glass will keep it stable and impervious to the environment while the radioactivity dissipates over hundreds or even thousands of years. ■

Hanford workers earn VPP Gold Stars

Five contractors and projects at Hanford earned Department of Energy Voluntary Protection Program Gold Star status in 2001. The safety program excellence was recognized at Day & Zimmermann Protection Technology Hanford, DynCorp Tri-Cities Services, the Fast Flux Test Facility, Fluor Federal Services and Pacific Northwest National Laboratory.

DynCorp's contract with Fluor Hanford was not renewed in fiscal year 2001, but the company earned its VPP Gold Star while providing site services at Hanford. The majority of DynCorp's workers transitioned to Fluor Hanford.

Although the Occupational Safety and Health Administration Voluntary Protection Program affects 750,000 workers, the DOE Voluntary Protection Program is for the approximately 30,000 employees who work on federal projects.

Workplace injuries are reduced and safety performance is improved when company management and labor work hand-in-hand to recognize and prevent hazards and assist in a continuous improvement process. Once such a partnership is forged and the safety systems are reducing injuries, a company is ready to apply for star status to OSHA or DOE.

At Hanford, the quest for DOE-VPP Gold Stars continues with Fluor Hanford's River Corridor Project in the final stages of the award process. ■



Photo by Gary Eder of FFTF Nuclear Training

A Voluntary Protection Program Gold Star flag flies outside the Fast Flux Test Facility. Recent flags awarded to FFTF, Pacific Northwest National Laboratory and Fluor Federal Services gave Hanford a total of five VPP Gold Stars.

PNNL researchers awarded for innovations

The *Discover Magazine* Innovation Award in the health category was presented to Pacific Northwest National Laboratory for its combined optical and magnetic resonance microscope. For his development of the Timed Neutron Detector, a device that offers improved approaches for locating metal and plastic landmines, researcher Dick Craig was awarded a \$100,000 Christopher Columbus Foundation Fellowship, also part of the *Discover* awards program.

R&D Magazine recognized researchers at PNNL and their collaborators for developing four of the 100 most technologically significant innovations of 2001. Awards are based on a product's technical significance, uniqueness and usefulness. PNNL's award-winning innovations are:

- A plasma-catalysis technology that significantly reduces oxides of nitrogen from the exhaust of next-generation energy-efficient vehicles.
- A suite of analysis procedures, software and hardware that can reduce life-cycle operations and maintenance costs by as much as 25 to 50 percent.
- A long-range semi-passive radio frequency system that can identify, locate and even determine the condition of any item to which a tagging device is attached, a capability useful for assorted inventory applications.
- A high-temperature viscosity measurement technology for process monitoring of hot molten materials such as those in glass manufacturing and metals refining.

Since the laboratory began submitting entries in 1969, PNNL has received 58 R&D awards, including 51 awards since 1988. ■

Facilities cleaned out, others demolished in 300 Area

The 300 Area, the site of Hanford's radiological research and fuel fabrication facilities for nearly 50 years, is now the focus of cleanup work being done by the River Corridor Project, which is managed by Fluor Hanford.

In 2001 the cleanout of B Cell in the 324 Building and the shipment of the mixed waste and equipment to the 200 Area burial grounds met a key Tri-Party Agreement milestone for 300 Area cleanup. B Cell is a shielded concrete room where highly radioactive material was remotely handled. While it was operating, B Cell contained nearly 3 million curies of radioactive material, and was considered to be the largest operating hot cell west of the Mississippi River. All equipment removal had to be conducted with remotely handled devices and a robotic crawler known as the Dispersible Removal System, which helped collect and vacuum up debris from the floor.

Key radiological inventory reductions were also achieved in the 300 Area. Waste from the 327 Building deactivation was loaded into drums for shipment or consolidated into A Cell for later packaging. About 380 metric tons of uranium were moved away from the 300 Area Fuel Supply Shutdown facilities including 240 metric tons of fuel that were sent to other Department of Energy sites and 140 metric tons of scrap that were buried in Hanford's Low-Level Burial Grounds.

Two 300 Area water towers were demolished in the "skyline reduction" initiative. The 303-K Building, a former radioactive and mixed waste storage facility, was also demolished in 2001. ■



Removal of contaminated equipment and debris from the 324 Building's B Cell was accomplished this year, completing the B Cell cleanout project.

ERC team continues cleanup progress in the Columbia River corridor

The Bechtel Hanford-led Environmental Restoration Contractor team continued to clean up Hanford's Columbia River corridor in 2001.

At N Reactor, one of four major cleanup sites in the river corridor, the ERC team removed nearly 121,000 tons of highly contaminated material from the N-3 and N-1 cribs and trenches. At this site, the most radiologically contaminated waste site yet, liquids were discharged from the reactor cooling system into the soil. Conditions at this cleanup site prompted improvements to techniques that are protecting the environment and reducing workers' exposure to potential radiological hazards.



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Rubble and contaminated material from D Reactor exhaust and storage rooms were removed by the Environmental Restoration Contractor team. The material and rubble were safely deposited in the Environmental Restoration Disposal Facility.

The ERC team also continued the Interim Safe Storage project to "cocoon" Hanford's retired reactors by: demolishing all parts of the reactor building except for the 5-foot concrete shield walls surrounding the core, sealing all exterior openings and placing a 75-year roof on the structures. C Reactor is already cocooned.

Interim safe storage on H Reactor is 19 percent complete. D Reactor is 49 percent complete, DR Reactor is at 90 percent completion and progress on F Reactor is 77 percent complete.

At the highly contaminated 233-S Plutonium Concentration Facility, the ERC team removed nine process vessels, six more than planned, during the 2001 fiscal year.

Meanwhile, at B Reactor, the building was made safe for nearly 12,000 people to visit the historic landmark and the world's first full-scale nuclear reactor.

In 2001, ERC and non-ERC cleanup activities removed nearly 710,000 tons of contaminants away from waste sites and safely disposed of the material in the Environmental Restoration Disposal Facility on Hanford's central plateau. ■

SNF Project accelerated spent fuel movement

A little more than a year after the Spent Nuclear Fuel Project moved its first Multi-Canister Overpack of spent nuclear fuel out of the K Basins, the project closed out the year by moving its 40th MCO to the Cold Vacuum Drying facility and then to interim storage in the Canister Storage Building. Last summer, operation of two new processing tables was begun, and the rate of production accelerated. Times for readying and processing MCO shipments fell below planning cases in all major project operating facilities.

The time span of the entire project was also shortened. In late March, an “alternate fuel transfer strategy” was approved. Along with resulting changes to the Tri-Party Agreement, the strategy calls for moving all K East Basin fuel to K West Basin for processing, avoiding the installation of duplicate equipment.

In June, the *Reach* reported that the SNF Project had worked 3 million hours without a lost-workday injury, and that long stretch of safe work increased to 3.5 million hours before the end of 2001, in spite of the inherent hazards at various stages of the project. “Removing this fuel is important work,” said Fluor Hanford Vice President Bob Heck to project employees. “I’m proud of each one of you.” ■



The canister decapper, part of the K West Basin Fuel Retrieval System, operates as part of the unique fuel handling equipment in Hanford’s Spent Nuclear Fuel Project.

Hanford set the pace for DOE complex in nuclear material stabilization

Last year, the Department of Energy Richland Operations Office challenged the Nuclear Material Stabilization Project to quadruple the amount of plutonium stabilized the year before. The challenge was met. In 2001, according to Fluor Hanford Vice President George Jackson, the project more than quadrupled the year 2000 output.

The volume and variety of plutonium forms makes Hanford's Plutonium Finishing Plant one of the site's more technically challenging projects. To prepare the plant for deactivation, nearly 18 metric tons of plutonium-bearing metals, oxides, solutions, residues and polystyrene "polycubes" are being prepared for safe storage and off-site disposition over the next three years. The processes required to convert them into stable forms have all been installed, and in 2001, the accelerating pace of production became one of Hanford's top *Reach* stories.

Last April, we reported that Hanford had become the first site in the Department of Energy complex to be ready to comply with a stringent new DOE packaging standard. The first outer container of a new package for long-term plutonium storage was welded with the stainless steel "convenience" can inside. PFP continues to set the pace for DOE in both the variety of materials packaged and the speed at which they're being produced. ■

Tank SY-101 returned to waste service

Following rigorous safety reviews, Hanford's infamous "burping" waste tank was returned to service this fall, marking the end of a costly, decade-long effort to resolve some serious safety issues. "Returning the tank to service closes the book on what was once Hanford's and the Department of Energy's top safety concern," the *Reach* reported in November. Tank SY-101 will now play a key role as a staging point for waste destined for the planned vitrification plant.

SY-101 received national media attention in the early 1990s because of its occasional "burping" of flammable hydrogen gas — a problem that was solved by a large mixer pump that prevented buildup of the gas. A rising waste crust was another issue, and that problem was resolved last year by diluting and removing more than 520,000 gallons of waste from the million-gallon tank.

For those efforts to solve the problem of the rising surface level, the Office of River Protection and contractor CH2M HILL Hanford Group earned the recognition of the Project Management Institute. The Tank SY-101 project was honored as the local "project of the year" and was a runner-up in PMI's international project-of-the-year competition. ■

Congressional tank watch list closed

Nearly a decade of diligent work in the tank farms came to fruition in 2001 when the DOE Office of River Protection announced the closure of the Wyden tank safety watch list that had been created by Congress in the early 1990s. Resolution of the safety issues resulted in the removal of the final 24 high-level waste tanks from the list in August of this year, completing a Tri-Party Agreement milestone more than a month early.

The watch list, named for Oregon Senator Ron Wyden, required the Department of Energy to watchdog the most dangerous tanks at Hanford. As many as 56 tanks were on the list at one time because of concerns over generation of flammable gases, high heat levels and the presence of flammable organic chemicals and ferrocyanide in some of the waste.

DOE and the tank-farm contractor resolved the ferrocyanide issue in 1996, the organic chemical issue in 1999 and the high-heat issue in 2000. Last January, the flammable gas issue involving Tank SY-101 was resolved after waste had been diluted and transferred by CH2M HILL Hanford Group.

Close monitoring of Hanford's waste tanks will continue until all the waste is pumped out and vitrified for long-term storage. "We owe a special thanks to the Office of River Protection," said Wyden, "because they've made it clear that they're going to continue this effort of monitoring." ■

Other significant Hanford news of 2001

Shutdown of FFTF ordered, delayed, finalized

On the final day of office for the Clinton administration, outgoing Energy Secretary Bill Richardson ordered the permanent shutdown of the Fast Flux Test Facility, saying the Department of Energy could not justify re-starting it.

When Spencer Abraham succeeded Richardson, he suspended the shutdown order and initiated a review of previous studies and reports on the FFTF. DOE also reviewed a proposal that would have privatized the facility for producing medical, research and industrial isotopes. The final shutdown order was issued Dec. 19 (see page 1). ■

Abraham and Roberson visit

Last January, Spencer Abraham was sworn in as the 10th Secretary of Energy. The former Senator from Michigan served on the Budget, Commerce, Science and Transportation, Judiciary, and Small Business Committees and chaired two subcommittees — Manufacturing and Competitiveness, and Immigration — during his tenure. Secretary Abraham visited the Hanford Site on Nov. 7. During his visit he toured the Fast Flux Test Facility, tank farms and Pacific Northwest National Laboratory facilities.

Last year, Jesse Roberson was appointed the Department of Energy assistant secretary for Environmental Management. Responsible for much of the cleanup work at Hanford, including waste operations, research and development programs and environmental restoration, Roberson visited the site in August. Roberson has been a member of the Defense Nuclear Facilities Safety Board and was the manager of DOE's Rocky Flats Field Office in Colorado from 1996 to 1999. ■

Workers compensated by DOE

The Department of Labor opened a resource center in the Tri-Cities in July to help former radiation workers apply for compensation under a law passed during the Clinton administration. Under the Energy Employees Occupational Illness Compensation Program, nuclear workers or former workers could receive medical care and \$150,000 in compensation for illnesses caused by workplace exposures. Workers with lung diseases because of exposure to beryllium or silica also are eligible for compensation. ■

Hanford Site commits to reducing energy consumption

On Oct. 1, the Department of Energy Richland Operations Office committed to reducing Hanford Site energy consumption by 10 percent. Last summer, low levels of water in Northwest reservoirs, tight supplies of electrical power and unheard-of wholesale prices for that power affected wholesale rates charged by the Bonneville Power Administration. Faced with a predicted 250 percent increase in wholesale rates for the period 2002-2006, utilities and industries reduced their loads and BPA announced that its rate increase would be cut to 46 percent, effective Oct. 1. In support of the 10-percent reduction goal, across the Hanford Site thermostat settings were changed and the use of lights, computers and printers were monitored. ■

Other significant Hanford news of 2001, cont.

Electrical upgrades at WESF

A significant electrical safety upgrade project at the Waste Encapsulation and Storage Facility corrected some long-standing deficiencies that contributed to an electrical arc flash that burned an electrician and resulted in a lost-time injury. The upgrades had been needed but unfunded since 1990.

The upgrades included pulling electrical cables from substations outside into the facility's motor control centers and refurbishing circuit breakers. Ground fault interrupters that fit on the breakers were added to sense small amounts of electricity loss. ■

Sagebrush replanted on ALE

Last year, one of the top stories was the fire that burned a significant portion of the Fitzner-Eberhardt Arid Lands Ecology Reserve. A study of the burned portions of the ALE found that more than 75 percent of the sagebrush vegetation was lost.

This year, volunteers began restoring this important wildlife habitat by planting sagebrush seedlings. Duratek Federal Services of Hanford coordinated the volunteer labor and purchased the plants, which were grown from seed collected from the ALE. ■

Regular Features



LETTERS

Employees are invited to write letters of general interest on work-related topics. Anonymous letters will not be printed. We reserve the right to edit letters or not to accept letters for publication. Send your letters to the *Reach*, B3-30, or to *Hanford Reach on e-mail. Letters are limited to 300 words, and must include your name, company, work group and location. Opinions expressed are those of the author and not of DOE-RL, ORP or their contractors.

Sparking discussion

Your articles "Industrial hygiene analytical program recognized" and "More about beryllium," (*Hanford Reach*, Dec. 17) indicate that, although they contain beryllium "Normal use of a non-sparking tool should not create a hazard."

The Department of Energy's Office of Environment, Safety and Health recently issued a report (http://tis.eh.doe.gov/oesummary/oesummary2001/oe_2001-11.html) on beryllium contamination from non-sparking tools.

Oak Ridge's Y-12, steam plant, and fire department found extensive beryllium contamination from non-sparking tools. The contamination exceeded DOE release limits.

I understand from tank farms that some non-sparking tools do not contain beryllium.

Given the potential problems, I hope all of Hanford is using non-beryllium tools for their non-sparking tools.

Greg Morgan
DOE-RL

Reckless driver

I have been driving to the 200 East Area for the past 11 years and thought I had pretty much seen how reckless some drivers can be, but what I saw today took the cake.

While coming to work this morning from Benton City on Highway 225 heading north to Highway 240, a driver must have decided he or she (I could not tell the gender, they went by too fast) had to get to work five minutes sooner. The driver passed me going up a hill (past Horn Rapids Park), crossed a no-passing zone double line to pass me, and then quickly passed the pickup in front of me (still in the no-passing zone).

This is extreme reckless driving. There would not have been anywhere for anyone to go had a car been coming over that hill at the same time. At the speed the car was traveling when going around me (about 60 miles per hour) there more than likely would have been fatalities had there been an oncoming car at the same time.

Myrna Sills
Fluor Hanford



CLASSES

Computer Aided Drafting courses offered at CBC:

The following Computer Aided Drafting courses will be offered at

Columbia Basin College beginning Jan. 2 and ending March 21:

- **AutoCAD I** – Tuesdays
- **AutoCAD I** – Fridays
- **AutoCAD II** – Thursdays
- **Advanced 3-D** – Mondays
- **Advanced CAD** – Wednesdays.

All courses meet one evening a week from 6 to 10 p.m., except for a second AutoCAD I course, which will be offered Fridays from 8 a.m. to noon. Tuition is approximately \$205 per three-credit course.

AutoCAD I and AutoCAD II are prerequisites for the other courses. It is possible to test out of AutoCAD I. A CAD Certificate is available for students fulfilling all course requirements. For more information or assistance in enrolling, contact Steve Jette at sjette@cbc2.org or at 547-0511, ext. 2274.

Electrical journeyman's course available

The "National Electrical Code Update for 2002" initial schedule dates are Jan. 21 and 25, Feb. 12 and 19, and March 14. This course is for electricians, electrical supervisors and others who maintain a Washington state electrical journeyman's license. The course content satisfies the statutory requirement for eight hours of continuing education. The class also supports individuals who need to keep current on requirements of the National Electrical Code. The course costs \$250 per student and will be held at the HAMMER training center. To register for any of these dates, contact Libby Sickler at 376-7117. ♦

Features continued on next page.

Regular Features



CALENDAR

AQP meeting on total quality management

The Jan. 8 meeting of the local chapter of the Association for Quality and Participation will feature David Lemak, associate professor of management at Washington State University Tri-Cities, on the subject of "Total Quality Management: Fads, Facts and Finances." Lemak has researched total quality management, organizational power, performance measures in organizations and multinational corporate structures and strategies. He will share some of his insights on:

- The quality management movement in both practitioner and academic literature
- Why TQM means so many different things to so many different people
- Empirical evidence that suggests firms adopting TQM perform better financially than those that do not.

The meeting will be held at the Shilo Inn in Richland, with networking and social time starting at 5 p.m., buffet dinner at 6 and the presentation at 7. Cost is \$16 for AQP and American Society for Quality members, \$19 for non-members and \$5 for the presentation only. Reservations must be received by Jan. 3. Call 547-6548 or register through the chapter's Web site at <http://www.3-cities.com/~gates/AQPQuest.htm>.

River Protection Project management night Jan. 9

The Jan. 9 dinner meeting of the Hanford Chapter of the National Management Association will feature presentations by the River Protection Project's top managers. The chapter has asked Department of Energy Office of River Protection Manager Harry Boston, CH2M HILL Hanford Group President Fran DeLozier, and Bechtel National Project Manager Ron Naventi to speak if their schedules permit. The meeting will be held at the Red Lion Hotel in Richland. Social hour begins at 5 p.m. and the business meeting starts at 5:45. There is no

charge for chapter members. The cost for guests is \$20. Call Lisa Hart at 376-3484 to make a reservation.

HAMMER to hold blood drive Jan. 10

The Volpentest HAMMER Training and Education Center will sponsor an American Red Cross blood drive on Thursday, Jan. 10, from 9 a.m. to 2 p.m. at HAMMER's Al Alm Building (formerly the Training Support Building) vehicle bay. Walk-ins are welcome, but it's highly recommended that you make an appointment by calling Libby Sickler at 376-7117.

LIGO tour set for Jan. 12

A group from the American Institute of Chemical Engineers will be touring the Laser Interferometer Gravitational Wave Observatory (LIGO) on Saturday, Jan. 12. The tour will begin at 1:30 p.m. and will last about two and a half hours. For more information contact Jeff Doeler at 373-6024 or at Jeffery_N_Doeler@rl.gov. ♦



SHOEMOBILE

300 Area

along fence east of Wisconsin Street

Jan. 11	7 a.m. to noon	Sound Safety
Jan. 28	2 to 5 p.m.	BC Sales

100K

parking lot south of MO-401

Jan. 29	7 to 10 a.m.	BC Sales
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200 East Area

northeast gravel parking lot of 2101-M

Jan. 12	7 to 11 a.m.	Sound Safety
Jan. 29	11 a.m. to 1 p.m.	BC Sales

200 West Area

parking lot east of MO-281

Jan. 12	noon to 4 p.m.	Sound Safety
Jan. 29	2 to 5 p.m.	BC Sales

Regular Features



H.anford **E**.mployee **R**.ecreation **O**.rganization

<http://apweb02.rl.gov/hero>

PLEASE MAIL YOUR TICKET REQUESTS TO THE APPROPRIATE LISTED TICKET SELLER — It saves the ticket sellers' time and your tickets will be sent to you the same day.

HRA — Questions about the Hanford Recreation Association should be directed to Denise Prior at 376-2258.

HERO POLICY FOR NSF CHECKS — Associated non-sufficient fund bank fees will be passed on to check issuers. HERO will not absorb the cost.

YAKIMA AREA REPRESENTATIVE — Area representative is needed for Yakima. If you are interested, if your company is part of the Fluor Project Hanford team and if you have your manager's approval, e-mail Phyllis Roha.

DISCOUNTED MOVIE TICKETS — Limit now 10 per purchase. Carmike tickets are \$4.50 each with restrictions applying only to Sony DDS movies. Regal tickets are \$5 each and applicable restrictions are identified in the *Tri-City Herald* with a star. Yakima Mercy tickets are \$5 each with no restrictions. For Regal or Carmike tickets, send checks (no cash) made payable to HERO to Linda Meigs (H3-12), Linda Sheehan (T4-40), Nancy Zeuge (X3-74), Michelle Brown-Palmore (A7-51) or Patti Boothe (T6-04). For Yakima Mercy tickets, send checks (no cash) to Flu Garza (T4-01) or Nancy Zeuge (X3-74).

TRI-CITY AMERICANS HOCKEY — Tri-City Americans hockey vouchers are now available! This voucher is redeemable for tickets to any home game during the regulation season. Prices are \$10 for adults, \$8 for youth (13 to 17 years), and \$6 for children (4 to 12 years). Children 3 and under are free. Vouchers are good through March 2002. To purchase tickets, send your checks (no cash) to Linda Meigs (H3-12).

SKI BLUEWOOD — Save \$3 on lift tickets. Adult tickets are \$26, student tickets are \$22 (must present a valid A.S.B. card when exchanging the certificate for a lift ticket), child and senior tickets are \$19 (children are in first through eighth grades and seniors are 65 years and older). Preschoolers receive free lift tickets at Bluewood. Lift certificates are to be redeemed at the information desk or ticket window on the mountain for a lift ticket on the day they are to be used. Certificates are not redeemable for currency and are non-refundable. These lift certificates are not valid for the end-of-season "bash." For more information, contact Tricia Poland (T5-04).

PATRICK McMANUS COMEDY — Jan. 24 and 25, 7:30 p.m., Chief Joseph Middle School, starring Tim Behrens. "Scrambled McManus" is a one-man stage show based on the characters and places that Patrick McManus created during his 30 years of writing humorous fiction. It's a bumper crop of tales harvested from the first three McManus comedies: "A Fine and Pleasant Misery," "McManus in Love" and "Potts' Luck." Tickets are \$14 for adults and \$8 for children. Make checks payable to HERO and mail to Tricia Poland (T5-04).

STARS ON ICE — Featuring Kurt Browning, Katarina Witt, Tara Lipinski, Kristi Yamaguchi and Ilia Kulik. Come and join the stars on Jan. 8 at 7:30 p.m. in the Tri-Cities Coliseum. Tickets are \$35 (save \$5). send your checks (no cash) made payable to Tri-Cities Coliseum to Linda Meigs (H3-12). Tickets are limited, so buy yours today!

UPCOMING TRIPS

- **Cruise the Caribbean** — March 17-24. Travel to Ft. Lauderdale, Princess Cays (private island), Grand Cayman, Costa Maya and Cozumel, with two days sailing in between. The cost is \$1,242 ppdo inside stateroom; \$1,349 ocean view and \$1,549 with balcony. Includes port charges, transfers and airfare from Seattle. Save by staying over one day before or after the cruise and you won't have to take a "red-eye" flight. Final payment is due Jan. 16. You can use a credit card. E-mail Nancie Simon if you are interested.
- **Cancun, Mexico** — April 24-May 1. Immerse yourself in the calm Caribbean waters and talcum sand of the island's favorite beach, and surround yourself with the veritable fiesta of action at its coziest and most exclusive hotel, the Fiesta Americana Cancun. \$1,170 per person double occupancy, seven nights, round-trip airfare from Seattle, including all air and hotel taxes. \$200 deposit due as soon as possible. E-mail Phyllis Roha.
- **Cruise the Pacific Northwest Memorial Day Weekend** — A cruise on the spectacular Radiance of the Seas from the Royal Caribbean Line will take you from Seattle to Vancouver (Canada), then to Victoria and return to Seattle. A great way to sample cruising if you've never cruised, or to just have a perfect getaway over Memorial

Continued on page 15.

Regular Features



Day weekend, no vacation time needed! Boards in Seattle on Friday afternoon, May 24, and arrives back in Seattle Monday, May 27, around 8 a.m. Rates start at around \$356 per person, based on double occupancy, plus \$89 port charge and \$22 tax. Deposits of \$150 are due seven days after cabin confirmation with final payment due April 5. E-mail Linda Meigs for details and to reserve your space!

• **Sights and Sounds of Ireland** — 14 days beginning Oct 19. The tour includes stops at Shannon, Connemara's marble factory, Belleek China factory, Giant's Causeway, Down Cathedral, Dublin and the Waterford Crystal factory and showrooms. Price of \$2,095 pp includes accommodations in superior first class or first class hotels and private homes (B&B accommodations), 12 full Irish breakfasts, one lunch at Rathbaun Farm and nine dinners including an Irish Ceili. Private deluxe motorcoach with air-conditioning and emergency washroom. Hotel taxes, service charges, tips for baggage handling and all local taxes are included. Passports are required. E-mail Marvene McChesney for complete itinerary.

Other H.E.R.O. trips in planning for 2002 and points of contact

- **Maui, Hawaii**, Cheri McGee
- **Branson Musical Getaway**, Sheila Kirk
- **London**, Sheila Kirk
- **Floriade world horticultural exhibit in Holland, and visit Belgium and Germany**, Nancie Simon
- **Oregon Coast**, Tricia Poland
- **Tillicum Village on Blake Island**, Marvene McChesney
- **Cariboo Golf Getaway**, Flu Garza
- **San Juan Island 3-Day Getaway**, Linda Meigs.



VAN POOLS

Vanpool ads are run for two weeks. Ads must be resubmitted to run in subsequent issues of the Hanford Reach. The deadline for submissions is Thursday, 10 days prior to publication.

Day & Zimmermann Protection Technology Hanford reminds employees to wear their badges. Vanpool and carpool drivers are responsible for ensuring riders are badged. If a passenger forgets his or her badge, Patrol must be informed at the barricades. For more information, look on the Hanford Web in the Projects and Activities section, Safeguards and Security at <http://www.rl.gov:1050/sas/>

PASCO

New vanpool forming, 8x9, 7 a.m. to 4:30 p.m., picks up in Pasco and Richland, drops off in 100K. Will start at the beginning of January. Contact **Ben Franklin Transit Vanpool** or **Bob** at 372-3840 (work) or 547-6034 (home). 12/31

RICHLAND

Vanpool No. 216 needs a rider. 8x9s, 7 a.m. to 4:30 p.m. This is a door-to-door vanpool. That's right, we pick you up at your home! Starts on the 500 block of Douglass Ave., to the 100 block of Goethals, travels to Duportail, along Cottonwood Drive, over to Wright, Thayer, Van Geisen and North George Washington Way. Drops off at 274-E and 2750-E. Contact **Rich Bowen** at 373-5359. 12/31

Riders and backup drivers needed for 8x9s shift, 7 a.m. to 4:30 p.m. Seek comfort with a maximum of nine to 10 riders and a driver. Van starts at Park 'n Ride on Van Giesen. Stops at 222-S, WSCF and 2704-HV and others along the way. Contact **Patti Boothe** at 373-5637 or **Steve Boothe** at 376-6812. 12/17

Vanpool No. 115, 8x9, 7 a.m. to 4:30 p.m., has an opening for one rider. Picks up north of Van Giesen and at 2440 Stevens. Drops off at 2750-E and 2704-HV and some points in between. Contact **Bruce Johns** at 373-3429. 12/17

WEST RICHLAND

Vanpool forming with origin in West Richland and destination in K Area, 8x9s, 6:30 a.m. to 4 p.m. Interested? Call **Larry Bast** at 373-1193 (work) or at 588-2911 (evenings). 12/17 ♦

Regular Features



NEWS BRIEFS

HEHF offers presentations for safety meetings

Do you need a topic for your next safety meeting? The Hanford Environmental Health Foundation's Health Education Services offers a variety of topics available for presentation including:

- The A, B, Cs of Better Sleep
- Heat Stress
- Healthy Eating

- Cholesterol
- Men's/Women's Health
- Heart Smarts
- Colds and Flu.

Contact Angie Roche at 373-3729 for more information, or to schedule one of these presentations for your next safety meeting.

New videos for safety meetings

The HAMMER Learning Resource Center has four new safety videos available for checkout and viewing at safety meetings:

- **Anthrax Awareness** — In recent months, anthrax has become a household word. We need to take precautions to protect ourselves from potential exposure. Arm yourself with facts on how to prevent, to treat and not to spread anthrax.
- **Emergency Action Plan: Crisis Under Control** —

Emergencies in the workplace could mean chaos. Learn about the importance of a good emergency action plan.

- **Will You Be Here Tomorrow** — A general four-minute meeting opener (very graphic).
- **Radio Bikini** — The U.S. tested two atomic bombs, code named "Operation Crossroads," in July 1946 on Bikini Atoll. This incident was a nuclear catastrophe.

If you would like to reserve a video, call 376-2884 or send an e-mail message to ^HAMMER Learning Resource Ctr or to Janette Pettey.

PTB transfer approved for Collins

Tami Collins, an administrative specialist for the Spent Nuclear Fuel Project, has been approved to receive personal time bank transferred hours. Collins needs to be with her eight-year-old son when he undergoes open-heart surgery, and afterwards for his care and recovery at home. Collins' husband is an operator trainee at the SNF Project 100 K East facility.

Any Fluor Project Hanford team employee who would like to transfer PTB hours can do so by completing a PTB/Vacation Transfer Request form (Site Form A-6002-807) and sending it to Colleen Angel, Fluor Hanford Human Resources, at S2-45. Time must be transferred in one-hour increments.

Use up detergent, recycle container

The Dawn or Ultra Dawn liquid detergent provided by Custodial Services for Fluor Project Hanford team on-site use as a dishwashing detergent poses minimal risk to the environment. However, discarded containers of Dawn or Ultra Dawn that still contain more than three percent of the product cannot go into the trash. These containers do not meet the definition of "empty" as specified by Washington Administrative Code 173-303-160 (2) (a), and are therefore classified as a dangerous waste.

Pollution prevention, also known as "source reduction," is any practice that reduces, eliminates or prevents pollu-

tion at its source. Hanford employees can play an active role in pollution prevention on the Hanford Site by ensuring all of the dishwashing liquid is used for its intended purpose prior to recycling the plastic container.

The empty containers of Dawn and Ultra Dawn can be recycled through the lunchroom recycling program. Rinse the container and place into the plastic (resins types 1 and 2) recycling tote. Contact Rick Funderburg at 373-1615 or Candice Marple at 373-6742 for more information. ♦