

Hanford

1943-2003

The Hanford Site celebrates 60 years of protecting America

Years

March 24, 2003

Sixty years ago this month, ground was broken on the first facilities for what we now know as the Hanford Site. In the site's 60-year history, Hanford workers have played a pivotal role in winning World War II and the Cold War, and have been successful in the environmental cleanup mission that has spanned more than a decade. In these pages, we celebrate Hanford's 60th anniversary with a glimpse into the past and a look at how our history has shaped the present and future.

World War II

In 1941, an atomic research group headed by physicist Glenn T. Seaborg at the University of California produced the first submicroscopic amounts of plutonium-239. After the attack on Pearl Harbor in December of that year, the Army Corps of Engineers was brought into the atomic project, and President Franklin D. Roosevelt charged the Corps with constructing industrial plants that could produce both uranium-235 and plutonium-239.

A new division was formed within the Corps, called the Manhattan Engineer District, in June of 1942. In September, General Leslie Groves was named to head the new division, and two months later the DuPont Corporation signed on as prime contractor to construct and operate the plants.

The parties agreed that plutonium production should take place far from the nation's populated areas. So, a team headed by Col. Frank Matthias left in late December 1942 to scout the western United States for a remote site. After exploring the dusty tract lying between the towns of White Bluffs, Hanford and Richland, Wash., they reported to General Groves that the place was "far more favorable in virtually all respects than any other." Groves came to see for himself and ordered the acquisition of the land.

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Hanford riggers (from left) Jack Haze, Bob Walker and John Vucich posed for this 1944 photo that was used on the cover of a recruiting pamphlet distributed nationwide.



Residents of the towns of Hanford and White Bluffs were displaced by the secret government project.

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No time was wasted. In the 30 months between groundbreaking in March 1943 and the end of the war in August 1945, Hanford Site workers built 554 buildings (not counting housing) including B, D and F reactors; T, B and U processing canyons, 64 underground waste tanks and many facilities dedicated to fuel fabrication in the 300 Area. They also built 386 miles of roadway, 158 miles of railroad tracks, 50 miles of electrical transmission lines, hundreds of miles of fencing and the “government city” of Richland, capable of housing 17,500 people.

Secrecy reigned. Employees recruited throughout the country were told only that they would be working “out west” and “doing important war work.”

The mission of the Manhattan Project was unveiled in national press releases on Aug. 6 and 7, 1945. The Japanese surrendered on Aug. 14, just five days after the bomb containing Hanford’s plutonium was dropped on Nagasaki, and the victory celebrations in Richland were covered in the national news. Even as they celebrated the victory, Richland residents wondered about the future of atomic energy, and about whether the atomic plants would close. But the Soviet Union was racing to develop its own bomb.

The post-war period

The civilian Atomic Energy Commission, formed in 1946, took control of Hanford and the rest of the U.S. atomic complex on Jan. 1, 1947. By February, improving and expanding the plutonium production units at Hanford topped the list of AEC goals. A solemn President Truman “declared” the Cold War in a speech warning of the Soviet menace.

The AEC decided to expand the Hanford Works. The agency directed General Electric, the prime site contractor beginning in September 1946, to build two new production reactors, H and DR, along with the Plutonium Finishing Plant and 42 additional high-level waste storage tanks.

During the 1947-49 expansion, an enclave for construction workers was built in north Richland to provide temporary worker housing. By the summer of 1948, this trailer and barracks community housed about 12,000 construction workers and about 13,000 of their family members. It included a commercial district, recreational buildings and medical facilities.

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The sign-up room of the Hanford Employment office was a busy place when it was photographed in recognition of a record number of new employees hired in a single day.



J.C. Knapp, one of the first members of the Hanford Patrol, was photographed during World War II with a Japanese rifle and other war souvenirs sent to him from the Pacific Theater by his son, a Marine corporal.



A freckle-faced 10-year-old named Pat McChesney bought 40 \$25 War Bonds with money he earned shining shoes. His family came to Hanford from Wapello, Iowa.

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The Cold War

As Richland and the Hanford plants grew, the Cold War worsened. In September 1949, Americans were shocked by the Soviet test of an atomic bomb. The Hanford Site experienced another major growth surge that lasted from 1950 through 1952, spurred by the Korean War and China's alliance with the Soviet Union.

Just as the Korean War expansion was reaching completion, the election of President Dwight D. Eisenhower brought an emphasis on developing nuclear rather than conventional weapons.

The Eisenhower expansion saw the construction of KE and KW reactors, the Plutonium-Uranium Extraction (PUREX) facility and 21 more single-shell waste tanks. The K reactors powered up in 1955 and brought the total number of reactors operating at Hanford to eight.

Peak production years

The period from 1956 to 1963 was the most intense defense production period at the Hanford Site. Tensions of the Cold War, intensified by the coming to power of Nikita Khrushchev in the Soviet Union, drove the production of special nuclear materials.

In 1960, John F. Kennedy campaigned on the pledge that he would close the "missile gap" with the USSR. Policies that he initiated tripled the U.S. nuclear destructive capability by 1964. In the Cuban "missile crisis" of October 1962, he successfully challenged the Soviet attempt to place intercontinental ballistic missiles in the western hemisphere, and it was partly Hanford's weapons-production program that enabled him to stand firm.

Few new facilities were built during the peak production years, but N Reactor, a unique plant that combined plutonium production with the steam generation of commercial electric power, attracted the world's attention. N Reactor began production in December 1963 and started generating power in 1966. It was the largest electric power producer in the nation in its early years.

During this period, the volume of waste produced by the eight single-pass reactors increased sharply. A 1956 feasibility study had resulted in a voluntary decision by Hanford managers to construct no additional



This all-black labor crew in the 200 East Area was called the "100 Percent Crew" because each one bought War Bonds. Later, they lived up to the name with 100-percent participation in the Day's Pay campaign, in which Hanford workers contributed a day's pay to buy a B-17 bomber.



The trailer camp that housed thousands of Hanford workers was hot and dusty, and metal roofs were provided in the parking areas to reflect the hot sun. Some residents took advantage of the extra roof space to build themselves a little more living area.

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Surveyor Marley Fitzgerald appeared in a "Question of the Week" feature in the *Sage Sentinel* on Aug. 14, 1944. Asked how he felt about the Allied invasion of Europe, he expressed confidence in Gen. Dwight Eisenhower.

single-pass reactors, but power levels at the existing reactors were raised many times, to levels nearly 10 times those of World War II. The intensive production brought thermal increases and more chemical and radionuclide burdens to the Columbia River.

In 1964, President Lyndon Johnson surprised the Hanford Site with his announcement of a decreased national need for special nuclear materials.

That same year, Battelle was named by the Atomic Energy Commission to run the Hanford Laboratories, which conducted research and development for the Hanford Site. Under the terms of the contract, Battelle funds would be invested in facilities that promoted research and development, and Battelle was granted the ability to use the laboratories for other research projects that didn't involve the Hanford Site. Construction began on four buildings that were completed in late 1967. The Hanford Laboratories became Pacific Northwest Laboratory, forerunner of today's Pacific Northwest National Laboratory, still operated by Battelle.

Today, the laboratory provides the research-and-development support needed for Hanford cleanup projects. The processes involved in vitrification, for example — turning hazardous waste into glass — were developed by PNNL. And, because of the broad range of scientific interests at the laboratory and its ability to pursue both government and non-government projects, PNNL has done research in a wide range of fields including space exploration, health-care, transportation, optical recording and energy efficiency.

Slowing production

In its operational years, Hanford produced about 64 metric tons of plutonium, nearly two-thirds of all the plutonium produced for government use in the United States. Now it was time for many facilities to be closed down. All eight single-pass reactors at the Hanford Site closed between 1964 and 1971, leaving only N Reactor to produce plutonium for the nation's nuclear arsenal. N Reactor began producing weapons-grade plutonium during the weapons buildup that occurred in the Ronald Reagan administration.

In 1969, the Atomic Energy Commission decided to develop the technology needed for breeder reactors, as opposed to reactors fueled by mixed oxides. Hanford was chosen as the site for the prototype Fast Flux Test Facility, and Westinghouse established the Hanford Engineering Development Laboratory for FFTF research and development. Construction began in 1970 and continued through 1978. The reactor "went critical" in February 1980, but had been left without a mission when the government's breeder reactor program was terminated. The reactor proved its capabilities through a decade of operations, but was placed on standby in 1993.



An idea for a saw-setting device that saved time in his job earned recognition for saw filer C.H. McElroy during Hanford's wartime construction period.

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The era of cleanup

By the mid-1980s, nuclear armament agreements had greatly reduced the need for plutonium, and when the Chernobyl nuclear accident in the Soviet Union stunned the world in April 1986, concerns were raised about the perceived design similarities of N Reactor. The Department of Energy decided to close the reactor, and it was defueled in 1989. The PUREX plant was placed on standby status in 1990.

While it took nearly 50 years to win the Cold War, the “war” to clean up the legacy of contamination on the Hanford Site is being won much more quickly. Although cleanup work was being done earlier, the environmental-restoration mission began in earnest when the Tri-Party Agreement was signed in 1989 by representatives of DOE, the U.S. Environmental Protection Agency and the Washington State Department of Ecology. The agreement included a detailed 30-year cleanup schedule, as well as mechanisms for amending and modifying the agreement.



Signing the original Tri-Party Agreement in May of 1989 are Mike Lawrence (left) for the Department of Energy, Robie Russell for the Environmental Protection Agency and Christine Gregoire for the Washington State Department of Ecology.



In a 1996 cleanup operation at the Plutonium-Uranium Extraction (PUREX) facility, nuclear process operator Mike Bryant scrapes plutonium residues from a processing glovebox. From 1956 to 1989, PUREX was a workhorse of the nation’s nuclear arsenal, producing two-thirds of the U.S. plutonium inventory. The plant was safely deactivated in 1997.

In shifting Hanford’s mission from defense production to cleanup of the legacy waste, the challenges were daunting — more than 50 million gallons of radioactive waste in 177 aging underground tanks, 67 of which were known or suspected to have leaked; 2,100 metric tons of spent nuclear fuel in basins near the river; nearly 270 billion gallons of contaminated groundwater spread out over 80 square miles; more than 1,900 stainless-steel capsules of radioactive cesium and strontium containing about 37 percent of the site’s total radioactivity; more than 790,000 cubic meters of solid waste; more than 1,700 identified waste sites and 500 contaminated facilities; and about 4 metric tons of plutonium.

The risks associated with Hanford’s waste tanks were not well known at the time the TPA was signed, but a high priority was placed on protecting the river. In 1998, Congress created the Office of River Protection for that sole purpose,



On April 8, 1999, the final storage tube is put into place in the Canister Storage Building vault. Spent Nuclear Fuel Project tasks are geared toward dry, interim storage of spent fuel in the Canister Storage Building.

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and today most of the waste in the older leak-prone single-shell tanks has been pumped into safer double-shell tanks by contractor CH2M HILL Hanford Group. The Waste Treatment Plant, being built by a Bechtel team, will eventually glassify the waste for long-term safe storage.

A major part of the cleanup mission has been deactivating the former processing and production plants and maintaining them in a safe, low-cost shutdown mode. PUREX deactivation was expected to take five years and cost \$225 million. Instead, the job was completed 16 months ahead of schedule for about \$78 million less.

B Plant, a fuel-processing plant built during World War II, presented another complex deactivation challenge. The job involved cleaning out a huge process “canyon,” installing a new ventilation system and remotely cleaning out the processing cells and miles of piping. Still, it was completed four years ahead of schedule in 1998.

During the production years, Hanford’s end product, suitable for use in a nuclear warhead, was produced at the Plutonium Finishing Plant. When PFP production was stopped in 1989, 4.3 metric tons of plutonium in almost 18 metric tons of plutonium-bearing materials were left inside the facility — all needing to be converted to a form more suitable for long-term storage. Today, the Special Nuclear Material Project, managed by Fluor Hanford, has finished stabilizing some plutonium forms, is way ahead of schedule on others, and is making plans to accelerate deactivation of the 61 structures in the PFP compound.



In an historic moment, literally the result of years of preparation, the first spent nuclear fuel is moved out of K West Basin on Dec. 7, 2000.



To safeguard the river, most of the liquid waste has been moved from Hanford’s 149 older single-shell tanks to more durable double-shell tanks. The DOE Office of River Protection and contractor CH2M HILL Hanford Group are now focused on retrieving the remaining waste for treatment and closing Hanford tanks.

The Waste Management Project, also managed by Fluor, has responsibility for treating and disposing of mixed low-level waste and packaging and shipping transuranic waste off the site — work that is proceeding well ahead of schedule.

The Environmental Restoration Project, managed by Bechtel, has removed millions of tons of



Waste Encapsulation and Storage Facility personnel remove a manipulator from one of the hot cells that were used to fabricate radioactive strontium and cesium capsules.

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contaminated soil and debris from along the river and placed it into a huge lined trench called the Environmental Restoration Disposal Facility. It has also “cocooned” two of the nine former production reactors.

Making progress

Today, Hanford’s mission includes risk reduction, environmental protection and cleanup. After more than a decade of progress in its environmental mission, DOE and its contractors have made the important transition from simply managing the risks to actually reducing them and forging ahead on the cleanup efforts.

These are the significant accomplishments that have been made during that decade: resolving major safety issues associated with the underground radioactive waste tanks and enabling all Hanford tanks to be removed from a congressional “watch list”; removing all the pumpable liquids from 131 of the 149 single-shell tanks; deactivating two massive chemical processing plants; moving more than half of Hanford’s spent nuclear fuel out of underwater pools near the Columbia River to safe, dry storage in the center of the Hanford Site; stabilizing and packaging all of Hanford’s plutonium solutions and half of its plutonium residues for eventual shipment off the Hanford site for disposal; actively dealing with contaminated groundwater plumes; dismantling reactor complexes and cocooning two reactor cores for interim safe storage (three others are well under way); moving about four million tons of contaminated materials (about 40 percent) away from the Columbia River shoreline; and sending hundreds of drums of transuranic waste to the Waste Isolation Pilot Plant in New Mexico for permanent disposal.

Accelerating the cleanup

A plan to accelerate the cleanup holds the promise of a clean Hanford Site by 2035. To accomplish this, DOE is pursuing six “strategic initiatives.” The first involves speeding the cleanup of the Columbia River corridor by 20 years; the second would accelerate tank-waste treatment by 20 years at a tremendously reduced cost; the third would stabilize and “de-inventor” Hanford’s special nuclear materials much faster than previously planned; the fourth deals with accelerated disposal of waste; the fifth initiative would save time and money in cleanup up the central plateau area of the site; and the final initiative calls for accelerated cleanup and protection of the groundwater.



WTP skilled craft workers place concrete for a perimeter basement wall of the Low-Activity Waste vitrification facility in October 2002.



By the end of 2002, DR Reactor became the second of Hanford’s nine surplus reactors to be “cocooned” by the Bechtel-led Environmental Restoration Contractor team. Cocooning, one of the more visible signs of cleanup progress, places the old reactors in a safe-storage condition for up to 75 years.

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It is the largest waste-cleanup effort ever undertaken in human history. That, in itself, makes our work today historic and unique. And, just as there was no precedent for the wartime effort that led to the world's first atomic explosion and the nuclear bomb that ended World War II, there are no parallels for what we are doing today.

We are truly pioneers in our vital mission, like our wartime predecessors of 60 years ago. 🇺🇸



Plutonium Finishing Plant lead nuclear chemical operator Kathy Turner works at a glovebox where plutonium-bearing polycubes are being thermally stabilized.

Fieldwork under way on first waste tank to be closed

Geoff Tyree, CH2M HILL

As Hanford celebrates 60 years of history, one of the site's oldest radioactive waste tanks is poised to up-stage the once-infamous SY-101 (Hanford's "burping tank") in the Hanford history books. Major fieldwork is under way to prepare for retrieving waste from single-shell Tank C-106, the first Hanford tank selected for closure. It was built in 1943, the year Hanford's wartime mission began.

Like SY-101, Tank C-106 was once on the congressional watch list of dangerous tanks. After a misrouted transfer of strontium waste from the B Plant processing facility in the 1970s, the waste inside C-106 became so hot it boiled.

In the late 1990s, most of the waste — about 186,000 gallons containing 4.4 million curies of radioactivity — was transferred to another tank to solve the high-heat problem. Today, the 530,000-gallon tank is nearly empty, except for about 30,000 gallons of waste that remain for retrieval before closure.

Hanford's single-shell Tank C-106 (right, under construction 60 years ago) was among the first of 177 large underground tanks built over the decades to store a total of 53 million gallons of radioactive and hazardous waste. Below, a 50-year old "heel jet" pump is removed from C-106 to make way for new waste-retrieval equipment. The 1940s-era tank is the first at Hanford to be selected for closure.



Pioneer in tank closure

Tank C-106 is a trailblazer in terms of determining the future of Hanford tank closures. Retrieving the waste and closing the tank will take place under an agreement with Hanford's regulators called an "accelerated closure demonstration." According to the Tri-Party Agreement, all of the waste in C-106 must be retrieved by the end of this coming November

The experience and information gained as waste is removed from C-106 will help guide the Department of Energy Office of River Protection, CH2M HILL and Hanford's regulatory agencies and stakeholders in deciding the appropriate regulatory and technical pathway for closing the rest of Hanford's tanks. The decisions will be captured in the form of an environmental impact statement, which would support a decision by DOE in April 2004. Accelerated cleanup plans call for closing up to 40 of the older single-shell tanks by October 2006.

"A key to moving forward with cleaning up and closing Hanford tanks is to go through the waste-retrieval experience on the first tank," said Ryan Dodd, CH2M HILL Hanford Group deputy vice president of Operations. "As we gain that experience, we can begin de-

livering on our commitment to close Hanford tanks and reduce the potential threat to our workers, the environment and the public."

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Fieldwork under way on first waste tank to be closed, cont.

Preparations progress

Preparations for retrieving the waste from C-106 are in high gear. In order to make way for new retrieval equipment, crews pulled a 50-year-old pump from the tank, which was no easy task. Decades of heating and cooling cycles and the high humidity inside the tank had badly corroded the pump until it was literally stuck in place. Some eight different methods were used to try to remove the pump. The use of mechanical wedges, hydraulic jacks and a crane finally freed the stubborn pump from the tank opening.

“This is not just a job that went well. It is truly an example of how we are changing the way we do business to meet the accelerated cleanup goals,” said Dodd. “When the project team faced challenges, they found a way to work through them, and we did this job safely, quickly and for less money than expected.”

The entire evolution of work, from planning to actually removing the pump, was completed in a matter of months, significantly less time than similar jobs in the past. The high-hazard task was completed with no significant personnel safety problems, radiological-control or environmental difficulties, or chemical-exposure incidents.

Making way for new retrieval equipment in the tank’s central opening, called a riser, is a key step in the effort to remove the rest of the waste. The bottom of the tank has a dish-like shape, causing liquid waste to flow inward toward the middle of the tank.

“Getting the pump out was quite a challenge, but we used an enhanced work-planning process to come up with solutions as the challenge changed,” said Joel Eacker, CH2M HILL Hanford Group vice president of Projects. “Removing the old pump from the tank is a critical step to gaining access to the last of the waste inside and proceeding with accelerated tank cleanup.” ■

Display license plates on the front and rear of your vehicle

Site Security personnel working the barricades have observed that many vehicles are coming through the barricades without front license plates. Properly displayed license plates assist Site Security personnel in expediting access. Site Security and the Benton County Sheriff's Office would like you to be aware that Washington State-licensed cars and trucks are required to display both a front and a rear license plate.

Title 46 of the Revised Code of Washington deals with the issues of motor vehicles and their operation. Under RCW 46.16.230, two license plates are issued for most vehicles. Trailers, semi-trailers and motorcycles are issued only one license plate.



RCW 46.16.240 addresses how these plates are to be mounted and displayed on vehicles. If two plates are issued they "shall be attached conspicuously at the front and rear of each vehicle for which the same are issued and in such a manner that they can be plainly seen and read at all times." If only one plate has been issued for the vehicle, "it shall be attached to the vehicle's rear."

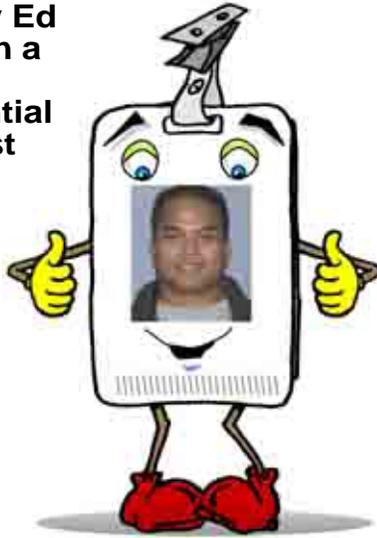
The State of Washington issues registration tabs that are placed on the rear license plate only. It is possible that some people may be confused by this fact and think only the rear plate is required. Not so. As the state law currently stands, two plates are required.

A vehicle may be stopped by a law-enforcement officer for having a missing license plate. The penalty for this violation is \$86. Check your vehicle to ensure that you are properly displaying the required license plates. For more information on traffic laws or to search the RCWs, go to <http://search.leg.wa.gov/pub/textsearch/default.asp>. ■

Dumlao meets the Security Ed Challenge

Congratulation to Elmer Dumlao of Fluor Hanford, the winner of the March 3 Security Ed Challenge. Dumlao won a Mini MagLight for correctly identifying potential precursors of a terrorist threat:

- Surveillance, sketching, photographing or videotaping our property and building entrances
- Unexplained loss of security badges, uniforms or other “identity theft” items
- Requests for current information on security operations.



Security Ed would like to remind all personnel to stay alert. If you have a security concern you can contact your security representative or the Hanford Patrol at 373-3800. Pacific Northwest National Laboratory personnel can call their single point of contact at 375-2500.

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.

Security overkill?

Security in the 400 Area has gone beyond reasonable-ness and is approaching a level of paranoia that is not only a gross misuse of taxpayer funds but is a hindrance to the efficient performance of the staff.

At some level we should be able to tell the persons responsible for the continuing escalation of requirements that they have far exceeded any real or perceived threat level. I personally don't know at what level this is accomplished. Everyone here just shrugs and says, "It's security."

Kevin Russell
Fluor Hanford

Rumbling on

We know that the rumble strips work because there haven't been any accidents at the barricades since they were installed ("Rumble strips help prevent accidents," *Hanford Reach*, March 17).

I had a deer run into the side of my vehicle on the 200 East hill. And since I have installed those deer whistles on my automobile, I haven't had a deer run into my vehicle. So I know that the deer whistles work! Maybe if we had some of those rumble strips on the 200 East hill I would have been traveling slow enough to avoid the deer.

As for the rumble strips slowing you down, I have found that the faster I drive, the less bumpy the ride and the shorter the duration. Raised speed bumps will certainly slow you down. Or wider and deeper grooves than are presently in existence will slow you down. *Oops!* Maybe I shouldn't have made any suggestions.

Instead of punishing those who do wrong, or devising a solution that will solve the problem without creating other problems, we tend to make others suffer also. That is like spanking all of your children for what one does wrong! *Oops!* Maybe I shouldn't have mentioned spanking either.

John Faulkner
Fluor Hanford

Quit your whining

This letter concerns the two letters to the *Hanford Reach*, "Getting in the groove" (March 3) and "Commuter is tough on cars" (March 10) about grooving the pavement at various places on the Hanford Site last year. I hope this will clear up John Faulkner and Howard Keck's questions.

Last winter I was heading north on Route 3 in very foggy and dark conditions. I was traveling at a reasonable speed and watching for the lights of the Hanford Weather Station because I knew the intersection would come soon after that. But I could not see the lights. The next thing I knew, I was skidding right through the T-intersection of Routes 3 and 11A. (In case you are not familiar with that intersection, it is down the road from the Hanford Weather Station.) Realizing that I could not make it, I proceeded to "thread the needle" through the power pole guy wire and the signs on the other side of the road. I went out through the sagebrush, periodically airborne.

This intersection has been the site of two rollovers — one with injury during good conditions and one in icy conditions. Other people have done exactly the same thing I did under similar conditions. One time the guy wire for the power pole was hit and power to the 200 West Area was knocked out.

In response to the accidents at this intersection, signs were moved further back and rumble strips were added. It was the best thing that could be done.

If the rumble strips had been there before, I would not have had to get my truck realigned and the seats cleaned.

Maybe you should quit whining and think about the lives and injuries that may be saved because we now have somewhat safer roads.

At the Hanford Fire Department, where I work, we do not enjoy hauling people to the hospital.

Dennis Demitruk
Fluor Hanford



CALENDAR

Hanford Technical Library demonstrations

The Hanford Technical Library staff members will present the following demonstrations:

- Electronic Chemical Encyclopedias, Dictionaries and

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Regular Features

CALENDAR continued

Handbooks — Wednesday, March 26, 12 to 1 p.m., Nez Perce Room in Sigma V. The library staff will show you the electronic products aimed at making chemical research easier. Featured items will be the new electronic edition of the *Handbook of Chemistry and Physics* and *The Combined Chemical Dictionary*, the Kirk-Othmer *Encyclopedia of Chemical Technology* (4th Edition) and *Ulmann's Encyclopedia of Industrial Chemistry*. Contact Mary Frances Lembo at 372-7441 or at mf.lembo@pnl.gov for more information.

- How to Find Information on the Internet — Thursday, March 27, 1 to 1:50 p.m., classroom 29 at the Volpentest HAMMER Training and Education Center. The library staff will show you how to tunnel through mountains of information and discover Internet sites that are useful for your day-to-day work. Contact Karen Buxton at 372-7451 or at karen.buxton@pnl.gov for more information.
- Engineering Resources — Thursday, March 27, 2 to 2:50 p.m., classroom 29 at HAMMER. You will learn how to locate and retrieve journal articles, conference papers, standards, reports, and other information from the Hanford Technical Library from your desktop. Contact Karen Buxton at 372-7451 or at karen.buxton@pnl.gov for more information.
- Technical Reports Databases — Thursday, March 27, 3 to 3:50 p.m., classroom 29 at HAMMER. The library staff will show you the databases that specialize in technical reports so you can locate reports from Pacific Northwest National Laboratory and other Hanford Site contractors. Contact Karen Buxton at 372-7451 or at karen.buxton@pnl.gov for more information.

AQP/ASQ scholarship applications available

Applications for the local chapters of the Association for Quality and Participation (AQP) and American Society for Quality (ASQ) \$1,000 scholarship are being accepted now through April 15. The scholarship will be awarded to a college-bound high school senior pursuing a career in a field related to quality and participation. Applicants must be seniors, graduating from high

school in Benton or Franklin County, with an overall GPA of 3.5 or higher and a combined SAT score greater than 1,000. The application process includes a written essay as well as submittal of two letters of recommendation. For more information, check the AQP Web site at http://www.3-cities.com/~gates/AQP_ASQscholarship.html.

Donate blood March 25

The American Red Cross Bloodmobile will be at 2261 Stevens Drive for a blood drive on March 25 from 9 a.m. to 3 p.m. To schedule an appointment to give blood, contact Kelly Layfield at 376-6785.

City University holds open house March 27

City University will hold an open house on Thursday, March 27, 5-7 p.m. The open house is an opportunity for current and prospective students to meet with department representatives and faculty and to learn about the various services available at City University. The address is 303 Bradley Blvd., Suite 202, Richland. The City University campus is located at the north end of the golf course at Comstock and George Washington Way. Call 943-9887 for more information.

Conference for office professionals s April 15-16

Registration is open now through April 8 for the 17th Annual Hanford Office Professionals Training and Development Conference, April 15-16 at the Royal Hotel (formally the Tower Inn) on George Washington Way in Richland. The two-day conference has identical programs each day to allow flexibility in scheduling companies and participants. "Learning Curve for a Lifetime" is the conference theme. JoAnne Nai-che of nai-che & associates, inc., will provide the morning motivation; Scott Lerch of Microsoft will discuss smart living in the digital decade; Kathy Dechter will punch up your punctuation; and Barry Weaver of the U.S. Department of Energy will "Lighten up" the afternoon. The conference can accommodate up to 200 participants each day. Limited seating is available for each company, so register early. For more information, visit the Web site at www.hanford.gov/misc_info/professional/index.html. The conference is hosted by Fluor Federal Services and Eberline Services Hanford.

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Regular Features

CALENDAR continued

May 10 golf tournament to benefit Girl Scouts

Girl Scouts Mid-Columbia Council is holding the Fourth Annual Girl Scout Golf Classic Tournament on May 10 at the Tri-City Country Club in Kennewick. The Girl Scouts Mid-Columbia Council supports programs for girls — camps, sports activities, cultural and science and engineering events — in more than 14 counties in Washington and northern Oregon, including the Tri Cities.

The shotgun start is at 1 p.m. Entry fees are \$100 per player, \$400 per foursome. Prizes will be awarded. A silent auction will be held. For more information, call the council office at 783-7721.

Fish-tagging crew wanted at Hanford town site

A crew of four to six people (over age 16) is needed for up to 12 days starting approximately May 12 to assist the Yakama Indian Nation in tagging 200,000 juvenile wild fall chinook salmon at the old Hanford town site at Hanford. No prior experience is necessary. Wages are \$9.50 per hour. Weekend work may be required. For further information, please contact the Columbia River Inter-Tribal Fish Commission at (503) 238-3566 or via e-mail at tagfish@critfc.org.

'Healthy Ways to Healthy Days' seminar in April

The CH2M HILL Hanford Group Administrative Accident Prevention Council and the Hanford Environmental Health Foundation are sponsoring a "Healthy Ways to Healthy Days" information seminar to be held in April. The seminar will cover topics such as improved health, good nutrition, good sleep habits and exercise. Alanna Brandon of HEHF will demonstrate exercises that can be done in the office to relieve stress and to help with ergonomics. The seminar will be held on Thursday, April 3, at 2440 Stevens, room 1305-ABC, 3-4 p.m. and on Wednesday, April 9, in the 200 East Area, 2704-HV, room G-206, 1-2 p.m.

Stargazers welcome at Astronomy Club April 4

The Tri-City Astronomy Club will sponsor a public star gaze on April 4 from 7 to 10 p.m. in Lynwood Loop

Park in north Richland. Club members will have telescopes set up to view the moon, Jupiter, Saturn, and other celestial objects. The planet Mercury may be visible to those who come early — just after the 6:30 p.m. sunset. Families and children are welcome. If it is cloudy, the club will reschedule for the next night, at the same time and location. For more information, contact Roy Gephart at roy.gephart@pnl.gov or at 376-1421.

April 8 AQP/ASQ meeting features ISO 14000

At the April 8 meeting of the local Association for Quality and Participation and the American Society for Quality at the Richland Shilo Inn, James L. Smith and Dominic Canazaro of Bechtel National will discuss International Standards Organization 14000 — why it was developed, its benefits, and what ISO 14000 can teach quality professionals. Check-in and networking start at 5:30 p.m., the buffet dinner is at 6, and the presentation is at 7. The cost is \$16 for AQP and ASQ members, \$18 for non-members, or \$5 for presentation only. Make your reservation by April 3. Call 372-1442, send an e-mail to lynn_l_gates@rl.gov, or register via the AQP chapter's Web site at <http://www.3-cities.com/~gates/AQPQuest.htm>. Click on "What's Next" for additional information about the program, speakers and the dinner menu.

NMA Fashion Show scheduled for April 24

The Hanford Chapter of the National Management Association will hold a fashion show and wine-tasting on April 24 at the Red Lion Hotel in Richland to raise funds to support community youth programs such as the Boys and Girls Club, Mid-Columbia Science Camp, Crystal Apple Awards, Washington Business Week, Partners and Pals, Junior Achievement and the Boy Scouts and Girl Scouts. The social begins at 7 p.m. and the fashion show is 7:30-8:30. Wine-tasting will precede and follow the fashion show. Tickets are \$15 for the fashion show only, \$25 for the fashion show and wine-tasting, and \$10 for donation and an opportunity to win door prizes. Contact Brenda Pangborn at 372-3841 or Karen Welsh at 376-2151 to purchase tickets.

Calendar continued on next page.

Regular Features



CALENDAR continued

Volunteers needed to judge student business projects

Judges are needed to judge Pasco High School students' business projects during Enterprise 2003, May 1 and 2. Enterprise 2003 is a week-long program in which all Pasco High School juniors form mock companies and learn to make decisions about product development, marketing and finances. Volunteers are needed to judge marketing presentations on May 1, 9:30-11:30 a.m. at the Trade, Recreation and Agricultural Center in Pasco; stockholder presentations on May 2, 8-10:30 a.m. at Pasco High School; and trade shows May 2, 11 a.m.-12:30 p.m. at TRAC. For more information, contact Kelly Greenhalgh at 547-5581, ext. 4612. ♦

CLASSES



CBC offers CAD courses

Columbia Basin College is offering computer-aided drafting courses in the spring quarter beginning March 31, on weekdays from 6 to 10 p.m. AutoCAD I will be offered on Tuesdays, AutoCAD II will be offered Thursdays and 3-D will be offered Mondays.

For more information, call Steve Jette at 547-0511, ext. 2274, or send an e-mail message to Paige Wyatt at pwyatt@cbc2.org.

PROTRAIN offers the following software classes:

- **Primavera Project Planning**
P-3 601 — March 24-26
P-3 602 — March 27
P-3 603 — March 28

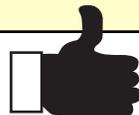
Office XP classes are now available. For more information call 375-0414.

MicroShield course offered May 6-8

Project Enhancement Corporation will conduct a MicroShield course, all-inclusive level, at the Volpentest HAMMER Training and Education Center May 6-8. MicroShield is used for analysis involving gamma and X-ray radiation. The software

has been applied to problems involving shielding design, waste calculations, decontamination effectiveness, source inference, ALARA decisions and many other situations where exposure of personnel or equipment is to be analyzed. The cost is \$1,050 per participant. The course offers 10 continuing education credits for certified health physicists in the recertification program. To register or for more information, contact Yvonne Miller at (240) 686-3059 or at ymiller@pec1.net. ♦

BRAVO



CH2M HILL Hanford Group announces award winners

The CH2M HILL Hanford Group Employee Recognition Council honored January and February performance award winners during a luncheon held March 26 in the 200 East Area.

For the month of January, **Scott Sutton** was the individual winner in the safety category, and the team of **Steve Chapman, Dan Niebuhr, Loyd Petty, Mike Sumsion, Scott Sutton** and **Ron Wright**, plus the team of **Tom Ardamica, Darin Ebberson, John Senger, John Lund, B.J. Dabling, Bill Guidice** and **Glenda Davis** also won in the safety category.

January winners in the individual category were **Jason Green, David Kummer, Mary Van Dorn, Donna Serrano** and **Jerry Borrowman**. Winning in the team category was the team of **Dan Garza, Dave Kirby, Chad Whiting, Teresa Brighton, Debbie Fish, Mark Sims** and **Ron Klein**.

For the month of February, **Jeff Marks** was the individual winner in the safety category, and the team of **Ed Caraway, Tim Nearing, Alicia Galliher, Dale Lunceford, Verne Farley** and **Troy Taylor** also won in the safety category.

Other individual February winners were **Odexter Robinson, Mike Haggerty, Howie Humphrey, Tom Ardamica, Dave Braun, Merilynn Erhart, Jennifer Simon** and **Susan Harrington**. The team of **Steve Davis, Lou Morales, Sallie Ham-Huebner, Jesse Perez, Chuck Peoples, Vince Rhodes** and **Chris Parmentier** won in the team category.

Nomination forms are available on Site Forms: A-6001-358. ♦

Features continued on next page.

Regular Features



NEWS BRIEFS

Changes in bottled water orders effective April 1

Effective April 1, orders for bottled water and other related products from Paradise Bottled Water Company must be made through the Paradise Bottled Water Company Web site and with a P-Card as the payment method. The last day to order these products in BMS PassPort is Wednesday, March 26. Any orders you enter in BMS PassPort after this date will be canceled, and you will be contacted and asked to reorder on the Paradise Web site. You can log onto the Paradise Bottled Water Company Web site at http://www.paradiseinc.biz/secure_html/public/login.php now to obtain your user ID and password. For more information, call the Special and Stores Delivery Transportation Services contact, Jinny Howser, at 376-6306, or send an e-mail message to ^Bottled Water. For general product and user process questions, contact Chris Hopkins at 372-0286 or Rita Magnaghi at 373-0323, or send an e-mail message to ^eStore Support.

Hanford employees can buy WattStoppers™ for home use

Hanford employees can purchase Isole's WattStopper™ power strips (see *Hanford Reach* issues of March 3, "Saving Power" and Feb. 10, "Energy-saving power strips available on site at no cost") for use at home at a special discounted price. Through June 30, employees may order the units by calling (800) 323-9371, ext. 528, and asking for Lisa Bishop, inside sales associate for the western region. Callers must identify themselves as Hanford employees and Bishop will process the order on the phone with a credit card as payment. The price is \$50 per unit, discounted from the regular price of \$90. The offer is limited to three units per household.

Interested in serving on the Hanford Advisory Board?

The Hanford Tri-Party agencies (the U.S. Department of Energy, the U.S. Environmental Protection Agency and the Washington State Department of Ecology) are seeking applications or nominations for two "public at-large" positions on the Hanford Advisory Board. The HAB provides advice and recommendations to the Hanford Tri-Party agencies on issues relating to the cleanup of the Hanford Site.

For more information about the vacancies and application process, or about the Hanford Advisory Board, visit the Nuclear Waste Programs Web site at <http://www.ecy.wa.gov/programs/nwp/index.html# hab>.

Free bicycle safety checks at Hanford Health and Safety Expo

Richland Schwinn & Trek will be providing FREE bicycle safety checks at the 2003 Hanford Health and Safety Expo Bike Rodeo on May 6 and 7, 3:30 to 6:30p.m. ♦



Tuesday night golf at West Richland still has openings

The Tuesday night golf league at the West Richland golf course, which is open to all Hanford employees, retirees, family members and guests, still has some openings. The league will run from April 1 to Sept. 9. There is a one-time entry fee of \$20. Weekly greens fees for nine holes are \$9 and \$8.50 for seniors (over age 55). Cart rental is \$10. Weekly prizes are given for KP, long drive, least putts and net quota points for each flight. Contact Leroy Kelsch at 376-4375 or Joe Quinn at 373-4428 for entry forms and more information. ♦



VANPOOLS

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

Day and Zimmermann Protection Technology Hanford reminds employees to wear their badges. Vanpool and carpool drivers are responsible for ensuring their passengers are badged. If a passenger forgets his or her security badge, access is denied at the barricade. The individual is required to go to a badging station for a temporary badge or go home to retrieve the badge. For more information visit the Safeguards and Security Web page at <http://apweb02.rl.gov/phmc/sas>.

KENNEWICK

Vanpool No. 97 has an opening for one 8x9 rider. Leaves from Shopko in Kennewick with a pick up at the Federal Building in Richland and drops off 2750-E and 2704-HV. Rate as low as \$54.20 per month. Call **Mike Bryden** at 373-4624. 3/24

Vanpools continued on next page.

Regular Features



RICHLAND

8x9 vanpool to 200E needs a rider. Rate as low as \$33.50 per month. Leaves former Hanford bus lot (across from 2440 Stevens) at 6:25 a.m. and drops off at 2750-E and MO-276 (behind 2750-E). Arrives at bus lot at 5 p.m. on Mondays through Thursdays and at 4 p.m. on Fridays worked. Contact **Dave Hedengren** at 373-5094. 3/24

Vanpool No. 183 from Richland Wye to 100K is seeking riders and backup drivers, 8x9, 7 a.m. to 4:30 p.m. Leaves the Richland Wye Park 'n Ride and makes one stop at the West Richland Bypass Highway exit. Drops off at 100K central parking lot by MO-500. Contact **Amy Hay** at 373-9962, or at 528-0477 (cell phone). 3/17

Megavan No. 181 to 100K has openings. Picks up at the Ben Franklin Transit lot on Columbia Drive in Richland and the former Hanford bus lot. Drops off at MO-293, MO-500, and MO-401 at 100K. The best ride in the fleet to and from work. Contact **Ginger Petaschnick** at 372-2820. 3/17

WEST RICHLAND

Van No. 120 on 8x9s is looking for two riders. Van leaves at 6:10 a.m. from Flat Top Park for the following locations: 272-AW, MO-273, 2750, 272-B and 2727-E. Contact **Glenn Garman** at 372-0054 or **Curt Hedger** at 373-7935. Sit back and enjoy the ride and keep your gas bill down. 3/17

ZILLAH

Looking for a vanpool or carpool from Zillah area to 100K, 8x9s, 7 a.m.-4:30 p.m. Will also consider catching a ride with a van or car coming from Yakima/Moxee areas. Contact **Nancy Zeuge** by e-mail or at 373-3651. 3/24 ♦