

FINAL MEETING SUMMARY

**HANFORD ADVISORY BOARD
HEALTH SAFETY AND ENVIRONMENTAL PROTECTION COMMITTEE MEETING
December 8, 2005
Richland, WA**

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This is only a summary of issues and actions in this meeting. It may not represent the fullness of ideas discussed or opinions given, and should not be used as a substitute for actual public involvement or public comment on any particular topic unless specifically identified as such.

Welcome and Introductions

Keith Smith, Chair of the Health Safety and Environmental Protection Committee (HSEP) welcomed the committee and introductions were made. He explained that the purpose of the meeting is to understand past and current worker compensation and workplace monitoring programs. The information presented at this meeting serves as preparation for a committee presentation at the Hanford Advisory Board (Board) meeting in February.

The committee adopted the August meeting summary.

Worker Health Compensation Programs

Steve Beehler, Hanford Energy Resource Compensation Center (HERCC), presented information about the Federal Former Worker Compensation Program (FFWCP). The FFWCP was created under the federal Energy Employees Occupational Illness Compensation Program Act (EEOICPA), to compensate former federal workers who may have become ill as a result of working in plutonium production. The FFWCP is divided into Part B & Part E.

Part B covers three illnesses: cancer caused by radiation exposure, Chronic Beryllium Disease (CBD) and sensitivity, and Chronic Silicosis. Compensation includes \$150,000

for each eligible case, medical care for covered conditions, and medical monitoring for Beryllium (Be) sensitivity. To date, Part B has paid out \$1.3 billion to eligible claimants. Of this total, Hanford families have received \$50 million. Although it has taken three years and eight months to make payouts on claims, the FFWCP is making progress for Hanford employees and their families.

Part E replaced the former Part D of the program in October of 2005. Part E covers any occupational illness determined to be caused by exposure to a toxic substance. The U.S. Department of Labor administers compensation under Part E. Compensation, up to \$250,000 for each eligible case, is administered based on the percentage of whole body impairment and lost wages. Each percent of whole body impairment receives \$2,500. Medical care is also provided for covered conditions, and compensation is also available to survivors if the death of a worker was caused by a covered illness or condition. To date, \$255 million has been paid out nationally, with \$15 million going to former Hanford workers and their families. All payments are tax free.

To identify eligible former or current workers, HERCC distributes contact information cards, which allows people to provide the contact information for potentially eligible workers. These workers receive a letter listing websites that provide further information on the compensation programs, and give workers the opportunity to talk with case workers or have onsite presentations about compensation programs. Steve said this approach has been successful, and HERCC has begun to see workers respond to informational letters. He indicated the next major task is to conduct impairment ratings and wage loss calculations for eligible workers. Washington State Department of Labor and Industries (L&I) has made remarkable progress setting up the compensation programs over the past year, including a special claims unit to deal with old claims in addition to new claims. Steve commended the Department of Energy (DOE) for their assistance with the FFWCP, especially regarding workers getting their employment verified. He has not heard of any problems with verifying worker employment.

Joyce Gilbert, DOE- Richland Operations Office (DOE-RL), and Julianna Yamauchi, DOE-RL, presented information on the Washington State Worker's Compensation Program (WSWCP), including the history of compensation under WSWCP, current claims services, and DOE's oversight role. Contract Claims Services, Inc. (CCSI) operates under a fixed unit price services contract for workers' compensation claims service at the Hanford site. CCSI is responsible for administering all claims and has to comply with all state and federal requirements. CCSI submits claims and recommendations to L&I to make final claims decisions. CCSI is reimbursed 75% of the fixed price for opening a claim and 25% at closing.

L&I performed an audit of DOE compliance and oversight of workers' compensation coverage in August of 2001. The audit resulted in a few minor findings, which were resolved with L&I. A DOE response describing how findings were corrected erases the findings from the record. A Federal Occupational Health Independent Audit conducted in February of 2004 resulted in no non-compliance findings.

In response to feedback from workers at the June State of the Site (SOS) meeting, DOE committed to arrange an independent review of worker compensation programs at Hanford. DOE asked the state to perform the review. To ensure the independent review is credible, the state issued a request for proposals (RFP) to select a qualified company in a competitive bid process. Currently, the RFP is closed and the state is in the process of making a selection. Interviews are scheduled for January and the report is scheduled for release in March.

Committee Discussion

- *Does asbestos count as one of the covered illnesses?* Steve explained that only radiation-related illnesses are eligible for Part B compensation. Under Part E, all causes of cancer are eligible for compensation. Steve will send the addresses of informational websites to EnviroIssues for distribution to the committee.
- *Why was asbestos exposure not included as a special exposure illness covered by the FFWCP or included as an eligible illness in the EEOIC?* Steve explained that the illnesses included in the FFWCP were driven by the needs expressed by a significant group of interested employees.
- *Why were compensation payments made at Hanford broken out from payments made nationally?* Steve said the FFWCP tracks workers based on several things, such as where a worker currently works or where they currently live. For each worker claim, the last site at which they worked is where the district office will manage the claim. If an individual worked at more than one site, totals will show up as being attributable to both sites. Therefore, the national compensation totals will not correspond to the sum of the compensation totals from each site.
- *Do both Part B and E provide compensation for beryllium (Be) illnesses?* Steve explained that compensation for Be is under Part B. Part E involves an impairment calculation for a given condition, which is the basis for compensation.
- *Several committee members suggested there is confusion among workers that the FFWCP and the WSWCP are tied together.* Steve clarified that there is no connection between the programs; however, he said if a worker receives money from the WSWCP, that compensation could be off-set from compensation made through the FFWCP. He said the FFWCP does not provide compensation until WSWCP compensation is exhausted.
- *What is the time frame for medical coverage under parts B and E?* Under Part B, there are only three eligible diseases, so coverage begins quickly. Typically, within about 90 days, eligible workers receive a medical card. Claims have come in between 90 and 120 days. Under Part E, if a worker has an approved condition, they have already started receiving medications. He reiterated that HERCC's goal is to get all old claims processed by 2006.
- *Does Part E consider impairment and wage loss separately or together?* Steve said compensation for whole body impairment and wage loss would be processed simultaneously; however, receiving compensation will depend on the timing of impairment determination.

- *Will workers who expressed concerns with the federal and state compensation programs at the June SOS meeting receive a response to their concerns and a notice of the independent review?* Joyce said several announcements have been set out advertising the review. Ginny Wallace, University of Washington Hanford Tank Farm Worker Medical Monitoring Program, said she has talked with a lot of the workers, and they have not received a response. Joyce replied the audit is being performed in response to worker comments, but each individual concern did not receive a response.
- *Is it normal for CCSI and the contractor to review worker claims?* Julianna said CCSI and the contractor would only review a claim if the employee requests a meeting. The job of any third party administrator is to receive a claim, do the investigation and review, gather information to meet state requirements, and make a recommendation for approval or non-approval to the state.
- *A concern was expressed that some workers who request their records have not received their records, or significant portions of their records have been blacked out. This raises a concern that doctors may be making decisions about workers' conditions without full access to records or being able to consult with past physicians.* Julianna said attending physicians always have the full suite of records and are always involved in decisions made about a worker's condition. DOE does not make any medical decisions, and most claim denials are based on medical findings.

Environmental Monitoring Program

Roger Dirkes, Pacific Northwest National Laboratory (PNNL); John Dorian, Duratek; and Debra McBaugh, Washington State Department of Health (DOH) briefed the committee on environmental monitoring programs conducted at Hanford by DOH and DOE. Dana Ward, DOE-RL, is the technical contact for all monitoring contracts.

Debra described the history of environmental radiation monitoring at Hanford. Monitoring activities began in the early 1940s, and the state began monitoring at Hanford in 1960 under Revised Code of Washington (RCW) 70.98 to develop a state-wide radiological baseline and verify the adequacy of DOE monitoring programs. Debra explained DOH's role in environmental monitoring at Hanford: they perform both near-field and far-field environmental monitoring, but do not do any in-facility monitoring. DOH's monitoring program samples air, water, soil, biota (vegetation, aquatic and terrestrial animals, and farm produce), and naturally occurring radiation exposure.

Debra discussed other activities DOH is responsible for including responding to worker concerns. Workers become members of public when they call DOH with concerns from home. In such cases, DOH, the worker, and contractor visit the work area to determine the cause of contamination. DOH also conducts special studies, often jointly with contractors, and monitors a small percentage of groundwater monitoring wells, which are chosen for their ability to ensure public health.

Debra demonstrated how PNNL and DOH data results can be compared to determine consistency. She explained that PNNL and DOH recognized that observed discrepancies are due to their use of different analytical methods, which cause a consistent discrepancy, which can be tracked.

John presented information on the site-wide, near-facility environmental monitoring. The objectives of the program include compliance with federal, state, and local requirements; monitoring the performance of effluent controls and radioactive waste-confinement systems; and evaluating trends in radioactive materials in the environment at and adjacent to nuclear facilities. Multiple sampling stations in several locations sample air, water, soil, vegetation, and external radiation. Several radiological and investigative surveys are performed to monitor and prevent the spread of radiological contamination. Preoperational sampling and monitoring is also conducted on new or modified facilities. Currently, John said, radionuclides are detectable in low concentrations in ambient air, but radiation levels continue to decrease and significant cleanup progress has been made along the Columbia River Corridor. Waste site surveillance and maintenance is an ongoing requirement.

Roger provided information on far-field environmental monitoring, assessment, and modeling activities. Currently, several risk assessments and impact statements are underway. He said work is being done to integrate risk assessments to streamline the use of similar information. Roger discussed particular drivers for monitoring and assessment work, indicating that regulations are the primary driver. Comments and recommendations from the Board and stakeholder groups are incorporated into the assessment work wherever possible; however, one of the biggest problems is the effort to communicate assessment results to the public. Although multiple exposure pathways are monitored, Roger indicated that far-field monitoring focuses on water sampling more than air sampling. Several entities use monitoring data, including federal, state, and local agencies, contractors, public interest groups, and educational institutions.

Committee Discussion

- *What is the impetus for environmental monitoring?* John said DOE regulations are the main driver of the monitoring program.
- *How frequently is monitoring done?* John said monitoring frequency depends on what is being monitored for, so some monitoring is done at least once a year and other monitoring is performed constantly.
- Some committee members said there is a lot of monitoring going on, but they would be interested to hear more about the results than the activities themselves.
- *Are results from monitoring activities considered a characterization of a site?* John said monitoring results are not used to characterize a site.
- *Would the data discrepancy between PNNL and DOH have an impact on Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)*

cleanup levels? Debra said PNNL's results would be used to determine official cleanup levels.

Historical Overview of Workplace Monitoring Programs

Ron Kathren, retired professor from Washington State University, provided the historical context for the radionuclide monitoring program at Hanford. He emphasized the impacts of changing exposure risk standards and increased technical knowledge over time. When the program began in 1940, there were no regulations for radiological safety, and public health and epidemiology were in their infancy. Tolerance dose (i.e., level of exposure the body could withstand and overcome) and blood counts of white cell diminution were the standard, prevailing theory for radiological safety control. Radiological monitoring badges were first used for workers at Hanford; however, badges only detected beta and gamma rays. Concern for plutonium radiation prompted the first monitoring of radiation in the air. Hanford was also the first site to use the maximum exposed individual (MEI) as a safety measure. Initial radiological studies done at Hanford caused a reduction of acceptable exposure limits and an increase in standards and guidance documents.

Margery Swint presented further historical information about medical monitoring at Hanford. The medical monitoring program started at the Oak Ridge National Laboratory, and was brought to Hanford. When they started, Hanford workers received a full baseline physical. A worker's distance from the source of radiation determined their exam schedule. Chemicals were considered by the program from the beginning, because many workers were from chemical companies with extensive safety programs.

Jack Fix, retired Battelle employee, presented information on the health effects studies relevant to Hanford workers. He explained the typical study guidelines and parameters for radiation health studies. Primary studies include those done on Japanese atomic bomb survivors, studies on occupational exposed worker populations (including mortality studies at Hanford, Oak Ridge National Laboratory, and Rocky Flats) and two multi-country studies. From the study results, it is difficult to determine very precisely the level of radiation risk. The Hanford radiation health study began in 1965 and was most recently updated in July 2005. The Hanford study is included in several past and ongoing radiation studies. Currently, no research in the U.S. has produced valid statistical results to determine the health effects of radiation.

Current Worker Health Screening/Monitoring

Dr. Myron Mills, AdvanceMed Hanford (AMH), presented information on the process of medical screening and monitoring for current workers. He believes the public's general perception is there are no medical monitoring programs at Hanford. He described the differences between the Medical Qualification Program, Monitoring Clearance Program, and Surveillance Program. The Medical Qualification Program is designed to determine if workers have the medical status to perform their jobs. The Medical Clearance Program involves periodically looking at specific exposures for individual workers and ensuring they do not exceed acceptable doses. The Surveillance Program looks at particular

groups of worker to identify health issues before they become a problem (e.g., the Beryllium Program). Current medical surveillance programs include 23 medical qualification programs, and 41 medical monitoring/clearance programs. AMH has made some changes to the programs, including updating protocols and adding testing. A separate medical screening program for tank farm workers is operated by the University of Washington.

Current Workplace Monitoring Programs

Wayne Glines, DOE-RL, described the dosimetry programs at Hanford, including external and internal dosimetry, area monitoring, and nuclear accident dosimetry. External dosimetry measures exposure to sources of radiation external to the body, but cannot detect alpha radiation. External dosimetry monitoring involves two types of monitoring: whole body (deep and shallow) and extremity. Internal dosimetry measures exposure to sources of radiation inside the body, and involves “in vivo” (whole body) and “in vitro” (excreta) monitoring. Area monitoring ensures unmonitored workers do not exceed a threshold in areas adjacent to radiological work areas. The Nuclear Accident Dosimetry Program estimates exposures in the event of a nuclear accident.

Several types of dosimeters are used at Hanford, including the Hanford Standard Dosimeter, Hanford Combination Neutron Dosimeter, Extremity Dosimeter, and Thermoluminescent Dosimeters. Dosimeters are used according to the expected radiation exposure for an individual. Most dosimeters are issued and processed annually, some are done quarterly, but all can be processed over shorter time periods as necessary. PNNL provides and processes all Hanford Site dosimeters, and houses and manages a dosimeter database and records back to 1944. The database currently has over 5 million records.

Steve Bertness, DOE-RL, presented information on non-radiological monitoring at Hanford. The Employee Job Task Analysis (EJTA) is a process that involves employees, supervisors, and safety and health professionals. Each worker analysis is signed by the worker, his/her supervisor, and a safety and health professional. The analysis is sent to AMH, who then decides what type of monitoring program the worker should receive. Steve added this is an iterative process and EJTA’s are reviewed periodically.

Employee exposure monitoring involves Job Hazard Analysis, which includes discussing work tasks with the workforce, identifying potential hazards, taking samples as necessary, and developing monitoring plans accordingly. Exposure monitoring is an evaluation of workplace conditions to determine if corrective actions need to be implemented.

DOE oversight includes evaluating contractor programs based on contractual requirements. Onsite activity spot-checks are performed roughly every two weeks, using Operational Awareness Field Inspections and Planned Field Assessments.

Committee Discussion

- *To monitor an individual with the right dosimeter, are areas well-characterized?* With such a broad spectrum of potential sources of radiation, efforts are made to use dosimeters able to measure a wide variety of radiation sources. There are onsite check points to ensure dosimeters are worn.
- *Where do workers receive dosimeter testing?* Wayne said whole body counts can be done at the facility in downtown Richland. Excreta sampling is performed through a home delivery and pick-up service.
- *What happens if a worker's dosimeter reading is high?* Wayne said a high exposure reading would not preclude a worker from continuing work. Under current regulatory standards, there is no lifetime exposure limit. An individual can receive up to 5,000 millirems (mrem) of annual exposure. DOE permits 2,000 mrem of annual exposure before requiring DOE-HQ approval for participation in a particular work activity. Pete Garcia, DOE-RL, said that workers may be given a quarterly dosimeter on jobs with high expected exposure readings.
- *Do contractors have industrial hygienists?* Steve said all Hanford contractors have industrial hygienists. There are around 50 industrial hygienists site-wide, all subject to the same standards and requirements. DOE performs a third-party evaluation of industrial hygiene work activities. Contractors are bound by the stipulations in their contract, and are responsible for oversight of their subcontractors.
- *Are contractors informed when a problem with subcontractor is identified?* Pete said DOE notifies contractors of problems with subcontractor work, and outlines expectations for correcting the problem. Contractors are ultimately responsible for work onsite, and they have stop work authority.
- *Does OSHA conduct inspections at Hanford?* Steve said OSHA does not conduct inspections at Hanford.
- Although DOE says worker health and safety policies and procedures are functioning well, Vince Panesko expressed concern about worker descriptions of disincentives to report injuries and health problems onsite.
- *When there is a lack of capacity to measure all potential hazards to employees, is there a communication process for employers to explain unknown hazards to employees before they enter such areas?* If workers are going into an uncontrolled area where hazards are unknown, Steve said employers will put employees in a protective state.

Progress on Tank Vapor Issues Resolution

Susan Eberline, CH2M Hill Hanford Group, presented information on the tank vapor issues resolution. Tank vapors have been a concern since the 1980s. Filter pipes above the ground remove radiological particles, but not vapors, which can leave hazardous chemical concentrations at the end of the pipe. DOE has identified a number of locations where chemical concentrations exceed occupational exposure limits. Hazardous chemical concentrations decrease below limits five feet from the end of the pipes. In the late 1990s, as tank farm activities increased, health concerns prompted questions about

tank farm characterization data. Beginning about a year and a half ago, workers are required to wear protective equipment and use supplied air in the tank farms. To date, 1,800 chemicals have been identified in the vapors. Challenges remain trying to protect workers while continuing to measure and gather data. OSHA has operational limits for several chemicals, but there are chemicals in the tank farms that do not have OSHA limits. DOE has to determine operational limits for these chemicals, which will inform the process for identifying limits for new chemicals. DOE is close to having limits for all chemicals in the tank farms. DOE will be receiving more data in the next several months, and will bring new information to the committee. Susan indicated the primary driver of the work to identify operational limits was workers identifying the need to do something about chemical hazards.

Committee Discussion

- *Could pipes be raised to limit worker exposure to chemicals?* Susan said it is easier to change the filters and take readings when the pipes are near the ground, but procedures could probably be developed to do that work without compromising safety.
- *How many chemicals have been verified, and will there be additional chemicals added to the list?* Susan said about 1,200 chemicals have been verified, and others are added as they are identified.
- *Of the identified chemicals in the tank farms, how many have not been adequately characterized?* Of the 1,800 potential chemicals in the tank farms, Susan said roughly 1,200 chemicals have been measured and the other 600 either do not exist, or have not yet been identified. There are still 1,100 chemicals that do not have occupational limits. Susan said a list of tank farm chemicals appears in the chemical basis document.

NOTE: There was significant interest in issues pertaining to worker health compensation programs and workplace and environmental monitoring programs from members of the public. Interested members of the public were invited to share their comments with Board members and agency representatives following the meeting. A list of members of the public who attended the meeting appears at the end of this summary.

Committee Planning for February Board Meeting

The committee discussed options for communicating information to Board at the February Board meeting. Topics for Board education include compensation programs, environmental monitoring, historical perspective, and current programs. The committee discussed using presentations versus having groups rotate to different information stations on specific topics. Using a combination of approaches was also discussed as a possibility.

The committee will have a conference call on Monday, December 12 at 1:30 p.m. to further discuss the February Board meeting and the time they will request on the agenda. Karen Lutz, DOE-RL, offered DOE's help to provide more clarity to topics from the committee meeting in preparation for the February Board meeting.

Action Items and Commitments

- Steve Beehler, Hanford Energy Resource Compensation Center, will send the addresses of EEOICPA informational websites to EnviroIssues for distribution to the committee.
- EnviroIssues will distribute the link to the website and CD copies of the annual monitoring report to interested committee members.
- Margery Swint will develop a timeline and produce a handout on the history of the medical monitoring program for the February Board meeting.
- Erik Olds, DOE-ORP, can provide copies of the chemical basis document that lists tank farm chemicals.

Handouts

- Energy Employees Occupational Illness Compensation Program Act, Hanford Energy Compensation Resource Center, 12/8/05.
- Beryllium Exposure handout, Hanford Energy Compensation Resource Center, 12/8/05.
- Workers' Compensation Coverage for the Hanford Site Contractors, Joyce Gilbert, DOE-RL, 12/8/05.
- The Department of Health's Roles at Hanford, Debra McBaugh, DOH, 12/8/05.
- Near-Facility Environmental Monitoring at Hanford, John Dorian, December 2005.
- Public Safety and Resource Protection Program, Dana C Ward, DOE-RL, and Roger Dirkes, PNNL, November 2005.
- Hanford Dosimetry Programs, Wayne Glines and Pete Garcia, DOE-RL, 12/8/05.
- Non-Radiological Employee Exposure Monitoring, Steve Bertness, DOE-RL, 12/8/05.

Attendees

HAB Members and Alternates

Gerald Dagle	Debra McBaugh	Keith Smith
Harold Heacock	Vince Panesko	Margery Swint
Rebecca Holland	Mike Priddy	Jim Trombold
Jerri Main	John Stanfill	Charlie Weems

Others

Keith Benguiat, DOE-RL	Beth Rochette, Ecology	Susan Eberlein, CHG
Steve Bertness, DOE-RL		Dave Roberts, CHG
Steve Chalk, DOE-RL		John Dorian, Duratek

Pete Garcia, DOE-RL		Lynn Lefkoff, EnviroIssues
Joyce Gilbert, DOE-RL		Jason Mulvihill-Kuntz, EnviroIssues
Julianna Yamauchi, DOE-RL		Ron Oak, FH
Karen Lutz, DOE-RL		Barb Wise, FH
		Roger Dirkes, PNNL
		Gai Oglesbee, Public
		Linda Celdiron, Public
		Faye Vlieger, Public
		Ginny Wallace, UW