# **Hanford Advisory Board**

Providing Advice on Hanford Cleanup to the U.S. Department of Energy, the U.S. Environmental Protection Agency, and the Washington State Department of Ecology



The 221-U Facility will be the first "canyon" facility in the DOE complex to be dispositioned.

2005 Annual Report

# glossarv

## Hanford terms and acronyms used in this report

Central The location of the 200 East and 200 West Areas and waste management

Plateau facilities located in those areas.

**CERCLA** Comprehensive Environmental Response, Compensation and Liability Act of

1980, also known as Superfund, providing statutory authority for cleanup of

hazardous substances.

DOE U.S. Department of Energy.

U.S. Department of Energy Headquarters in Washington D.C. Hanford cleanup is DOE-HO

overseen by DOE's Office of Environmental Management.

**DOE-ORP** U.S. Department of Energy - Office of River Protection.

**DOE-RL** U.S. Department of Energy - Richland Operations Office.

**Ecology** Washington State Department of Ecology.

EIS Environmental Impact Statement, a document prepared to comply with the

National Environmental Policy Act (see below).

**EPA** U.S. Environmental Protection Agency.

**HAB** or Board The Hanford Advisory Board.

Integrated Disposal Facility (IDF) The disposal facility for low-level waste (LLW), mixed low-level waste (MLLW), immobilized low-activity waste (ILAW), and failed or decommissioned melters

from the WTP (see below).

**K** Basins Water-filled basins located less than 1,000 feet from the Columbia River that

were used to store spent nuclear fuel from reactor operations.

**NEPA** National Environmental Policy Act of 1969 requiring federal agencies to use

> an interdisciplinary approach in planning and decision making for actions that impact the environment. NEPA requires the preparation of an Environmental Impact Statement (EIS) on all major Federal actions significantly affecting the

human environment.

Plutonium **Finishing Plant** (PFP)

Facility used for stabilizing and repackaging plutonium and plutoniumcontaminated material at Hanford. The PFP was used extensively during WW II and the Cold War to purify and convert plutonium-laced solutions into a

solid form to be used by nuclear weapons facilities.

River Corridor Hanford facilities and waste sites along the Columbia River.

Solid Waste EIS Final Hanford Site Solid Waste Environmental Impact Statement

(DOE/EIS-0286F).

**Tank Closure Environmental** Impact Statement (EIS)

The NEPA (see above) document currently under development to evaluate alternatives for retrieving, treating and disposing of tank waste and closing the

tanks.

**TPA** Tri-Party Agreement, the informal name for the Hanford Federal Facility

> Agreement and Consent Order signed by the U.S. Department of Energy, the U.S. Environmental Protection Agency, and the Washington State Department of Ecology in 1989. Cleanup milestones are identified in the TPA through numbered series, such as M-91 for transuranic waste disposal and M-24 for groundwater

monitoring.

**Transuranic** Typically plutonium-contaminated trash, such as discarded tools and equipment, (TRU) Waste

that is highly radioactive and can take thousands of years to decay to safe

radiation levels. Mixed TRU waste (TRU-M) is TRU mixed with hazardous

substances.

Vitrification A process that mixes radioactive waste with other materials to form glass.

The glass reduces the potential for radioactive and hazardous contamination

leaching into the environment.

**WTP** Waste Treatment Plant, the facility where tank waste will be vitrified.

100 Area 26 square miles of land along the Columbia River where the nine nuclear

reactors are located.

200 Area The location on the Central Plateau of the 177 underground tanks, principal

nuclear chemical processing facilities, and defense waste management

activities.

200 B/C Cribs A group of waste sites located south of the 200 East Area, where waste from

uranium reprocessing was disposed of directly into the ground.

A multi-storied, 810-foot-long building that was used for the recovery of 221-U Facility

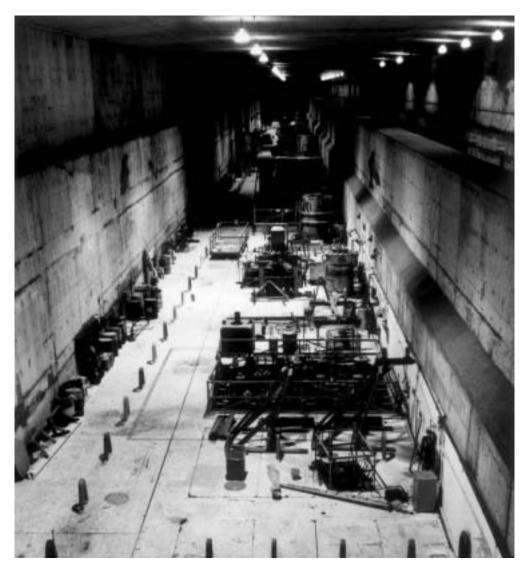
> uranium from tank farm wastes. The 221-U building is the focus of the Canyon Disposition Initiative, which seeks to collect technical data needed to determine the future of Hanford's five massive chemical processing plants, called canyons.

300 Area An area three miles north of the city of Richland, location of former research and

development laboratories and reactor fuel manufacturing facilities.

# Mission Statement

The Hanford Advisory Board is an independent, non-partisan, and broadly representative body consisting of a balanced mix of the diverse interests that are affected by Hanford cleanup issues. The primary mission of the Board is to provide informed recommendations and advice to the U.S. Department of Energy, the U.S. Environmental Protection Agency, and the Washington State Department of Ecology on selected major policy issues related to the cleanup of the Hanford site. Through its open public meetings, advice on agency public involvement activities, and the responsibilities of Board members to communicate with their constituencies, the Board is chartered to assist the broader public in becoming more informed and meaningfully involved in Hanford cleanup decisions.



Disposition activities will move equipment from the U Plant canyon into below-grade cells.

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# Chair's Message

## **Looking Back**

In 2005 the Board tackled an extremely difficult job: consensus guidance to the agencies on making decisions in the Central Plateau.

This goal was particularly challenging for several reasons. First, with thousands of waste sites that run the gamut of cleanup challenges-hulking radiochemical processing facilities, high level waste tanks, buried waste, contaminated soil and groundwater-the Central Plateau poses almost unfathomable cleanup challenges.

Second, the Department of Energy and the regulating agencies had been unsuccessfully wrestling with decision-making in the Central Plateau for some time. The agencies had developed differing cleanup approaches for some waste sites in addition to struggling with the huge scope of Central Plateau cleanup.

As a result, the timing of the Board's work on the decision-making process was occurring simultaneously with the agencies' considerations of the best path forward for the Central Plateau cleanup strategies. This in itself was a challenge as, generally, the Board is most successful when responding to work completed by the agencies. Creating a Board product in the absence of agency documents was a bold step for the Board.

The third, and last, challenge before the Board was the breadth of opinions on the Board itself. Given the questions at hand—How much waste can be left behind? Under what conditions can waste be left behind? Is it acceptable to cleanup one waste site but leave buried wastes at neighboring sites? If significant contamination is found deep in the ground, should it be left or excavated? Should earthen barriers be installed over waste sites to prevent migration of contaminants? If so, how big should the barriers be? How should they be designed? What waste sites should be fitted with barriers and what sites should be excavated? Where should the material for the barriers be obtained?—consensus across the breadth of interests on the Board posed a very significant challenge indeed.

The Board's overarching goal was to develop a decision framework based on stakeholder values that was broadly applicable to decisions in the Central Plateau. In this way, general stakeholder input could be applied to specific decisions at specific waste sites. In the event a waste site was particularly thorny (e.g., deep contamination threatening groundwater, contamination for which treatment technologies do not exist, etc.), the framework could serve as a base for dialogue between stakeholders and the agencies leading to a decision on the waste site.

The process of making decisions in the Central Plateau will continue for years. This understanding also played a part in the Board's work by requiring the final product to be applicable immediately and retain its value over time. The framework would hopefully ensure that, when the Central Plateau cleanup is complete, the overall cleanup is credible and protective of workers, the public and the environment.

Through a series of workshops and Board sessions with significant support from the agencies, the Board was able to achieve its Central Plateau goal. A Central Plateau decision flow diagram (Board Advice #173) was developed based on the following three Board biases:

- 1) The Board's ideal for remedial action at all Central Plateau waste sites is first to characterize, then retrieve, treat and dispose of all wastes.
- 2) Hanford waste that remains on-site must be left in a facility or configuration that will be protective of human health and the environment for generations to come. If there is any risk of contamination migrating to the groundwater, the Board has a bias to remove, treat and dispose.
- 3) Barriers should be a last resort remedy.

The Board added.

Although total retrieval, treatment and disposal is the ideal, the Board acknowledges the complexity and extent of contamination in the Central Plateau. The critical question is, "When is it appropriate to utilize a barrier as the remedial action?" The diagram is a policy tool that can only be used in the context of remedial decision-making that complies with all applicable environmental laws.

For instances in which a barrier should be considered, the Board developed an additional product outlining values to guide whether a barrier is the appropriate remedy.

With these two products, the Board overcame the challenges listed above and provided a landmark piece of advice to guide the challenging decision-making processes in the Central Plateau.

It is rare that the Chair's message focuses on only one or two pieces of advice. However, despite the other important work the Board completed in 2005, the Central Plateau work stands out. It is exactly the sort of work that adds to the Board's legacy of focusing stakeholder input for a better, more efficient Hanford cleanup.

# **Looking Forward**

In 2006, the Board plans to continue its work on Central Plateau decision-making. Additionally, and just as aggressive as the Central Plateau work in 2005, the Board plans on tackling the issue of cleanup priorities.

In the past, the Board has provided input on cleanup priorities in the context of setting technical priorities for cleanup strategy. For 2006, however, the priority discussion has taken on a new urgency and context.

The Hanford budget has been significantly reduced. These reductions result in questions about the ability of individual cleanup projects to meet TPA milestones or other cleanup requirements as well as to maintain overall cleanup progress. Should some projects be delayed? Should some be expedited? Should some cleanup projects continue at the expense of others? Answering these questions, as well as a host of others, will ultimately result in a cleanup strategy based on the current budget projections.

Given the Board's passion for cleanup, strategic priority setting will be difficult. The Board plans on developing products to aid the agencies in making these priority decisions.

In addition to the Central Plateau and priority setting products, the Board plans to...

- contract with technical assistants to evaluate Hanford risk assessments. The Board advised
  the agencies to provide resources for the Board to hire technical assistance to focus on
  the credibility and validity of risk assessment methodologies, models and results for risk
  assessments included in the Composite Analysis, the Solid Waste EIS and the Tank Closure
  EIS. This work has been delayed due to delays in the Tank Closure EIS. Given the release
  of the Technical Guidance Document for the Tank Closure EIS, the Board will hopefully
  undertake this technical assistance effort in 2006.\*
- continue to focus efforts on publicizing the work of the Board and Hanford cleanup in 2006, including taking steps to evaluate outreach activities and public participation in order to ensure they are as effective as possible; and, working to increase public meeting opportunities for citizens of the Northwest.
- cooperate with other sites on DOE complex-wide interdependencies. This priority focuses on the Board's efforts to ensure credible, comprehensive, common-sense solutions to DOE's nationwide treatment and disposal challenges.
- review the procurement processes for major cleanup contracts. Several major contracts will be entering the procurement process in the next year. The Board will focus on ensuring these contracting processes maintain the best interests of Hanford cleanup.
- increase its leadership and membership resources. The Board has undergone significant turnover in membership over the last two years. Many of the members that have left were long-time Board leaders. At the same time, the Board has experienced an influx of new membership energy. The Board will focus on developing new leadership and strong membership to secure the Board's place among stakeholders and organizations concerned with the Hanford cleanup.

As in past years, the Board will undoubtedly be thrown multiple curve balls which it will try to field throughout the year. 2006 will be a busy and challenging year and the Hanford Advisory Board accepts the challenge.

Todd Martin, Board Chair

\* Note: The Board is keenly aware of the changing nature of these documents and will adjust this priority as needed to respond to emerging plans and schedules.

## **Board and Committee Leadership**

### **Board**

Chair: Todd Martin

Vice Chair: Susan Leckband

### **National Liaison**

**Shelley Cimon** 

# **Budgets and Contracts Committee**

Chair: Gerry Pollet Vice Chair: Harold Heacock

## Health, Safety, and Environmental Protection Committee

Chair: Keith Smith

Vice Chair: Jim Trombold

# **Public Involvement and Communications Committee**

Chair: Norma Jean Germond Vice Chair: Helen Wheatley

### **River and Plateau Committee**

Chair: Maynard Plahuta Vice Chair: Pam Larsen

### **Tank Waste Committee**

Chair: Rick Jansons Vice Chair: Paige Knight

# **History of Hanford**

The 586-square mile Hanford Nuclear Site was the first and primary plutonium production facility for the United States' nuclear weapons program. The site, which began operations in 1944, includes nine reactors, four chemical separations plants, plutonium processing facilities, and 177 underground high-level nuclear waste tanks containing 53 million gallons of highly radioactive waste and 190 million curies of radioactivity. Between the start of operations in 1944 and the shutdown of the last reactor in the late 1980's, Hanford produced over two thirds of the nation's estimated 111 metric tons of plutonium.

The production of plutonium generated large amounts of radioactive and chemically hazardous wastes. Hanford has 60 percent of the volume of the nation's military high-level radioactive wastes and over 1,400 waste sites containing liquid and solid waste.

Currently, Hanford is engaged in the world's largest environmental cleanup project. The shift in mission from operations to cleanup became complete in 1989 when the U.S. Department of Energy (DOE), the U.S. Environmental Protection Agency (EPA), and the Washington State Department of Ecology (Ecology) signed the landmark Hanford Federal Facility Agreement and Consent Order, commonly known as the Tri-Party Agreement or TPA. The TPA outlines legally enforceable milestones for Hanford cleanup over the next several decades.

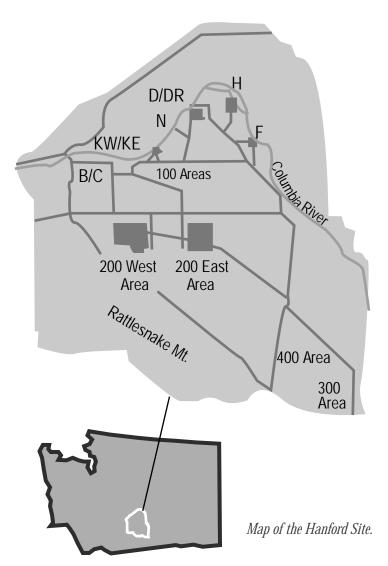
DOE's Richland Operations Office is responsible for environmental restoration and waste management activities at Hanford. DOE's Office of River Protection was established by Congress in 1998 to manage the complex project of retrieval, treatment, and disposal of Hanford tank wastes.

# **The Hanford Advisory Board**

In addition to the cleanup milestones, the TPA also contains a Community Relations Plan outlining the public participation processes designed to ensure the agencies include the public as partners in Hanford cleanup decisions.

Under the Federal Advisory Committee Act of 1972, DOE chartered the Hanford Advisory Board in 1994 to provide a forum for bringing together diverse local and regional interests to tackle the difficult issues associated with cleaning up the legacy of radioactive and chemical wastes left from 50 years of weapons production. The 31 seats on the Board include interests from the economic, environmental, tribal, public interest, local government, and health and safety communities. At Board and committee meetings, the Board works to define significant issues meriting public input and provide meaningful advice to the agencies on Hanford cleanup. Operating by consensus, the Board has produced over 175 individual pieces of advice.

This eleventh progress report of the Hanford Advisory Board highlights the work done in calendar year 2005 and outlines the issues the Board will focus on in 2006.



## **Board Work 2005**

The Board's main focus in 2005 was on defining its values and priorities for the Tri-Party Agreement (TPA) agencies as Hanford cleanup progresses. In particular, the Board worked over the course of several months to develop a decision-making flow path for use in considering how to clean up waste sites in the Central Plateau (see page 11-12). This values-based document represents a new and different product for the Board, and involved many iterations and consultation with the TPA agencies. The flow path emphasizes the Board's strong preference for retrieving, treating, and disposing of waste as opposed to capping waste sites. Reports from the TPA agencies indicate the flow path is being applied in remediation decisions and has proven to be a useful decision-making tool.

Board work in 2005 was also driven by the impact of increasing budget constraints on cleanup activities. The Board continued to advise DOE to request full funding for Hanford cleanup in accordance with previous DOE commitments. In addition, the Board worked to ensure the TPA agencies' process for communicating the Hanford cleanup budget to the Board and the public is adequate, timely, and as effective as possible. To address concerns about safety, workforce disruption, and delayed cleanup schedules, the Board also examined the DOE contracting process. With the pending expiration of several major Hanford contracts and the new procurements that will result, the Board emphasized a set of criteria for DOE to consider when exploring options for mitigating the impacts of major contract changes.

As DOE progresses with cleanup at Hanford, the Board continues to emphasize integration of site activities, risk-based decision-making, and compliance with the TPA as keys for successful cleanup.

## **Committee Meetings**

The Board's five committees tackle complex technical and policy issues and work to frame advice principles for Board consideration. The five standing committees include two technical committees, Tank Waste and River and Plateau, charged with synthesizing the vast array of information about ongoing and planned cleanup work; and three cross-site committees, Public Involvement and Communications, Health Safety and Environmental Protection, and Budgets and Contracts, whose role is to track broader, site-wide issues for Board consideration. A number of times in 2005, committees met jointly. In addition, the Board held one Committee of the Whole meeting in 2005, to consider wide-reaching budget and contracting issues that were beyond the scope of any one of the standing committees.

Issue manager work is an integral component of committee work. Issue managers on each committee have a strong interest and/or expertise in a certain area, and work with TPA agency liaisons and project managers to conduct background research and frame topics for committee discussions. The committees are also responsible for reaching consensus on advice principles and drafting language prior to Board meetings. This process encourages broader participation in advice development and consensus-building.



River and Plateau Committee meeting.

### **River and Plateau Committee**

The River and Plateau Committee took the lead on developing draft advice on several topics, including the 221-U Facility Proposed Plan, Integrated Disposal Facility Permit, Plutonium Finishing Plant, Central Plateau waste site remedial decision-making, and uncharacterized waste buried at Hanford. A highlight of the committee's work was the development of the values-based flow path for use in deciding whether or not to cap waste sites on the Central Plateau. The committee also continued to track ongoing work on cleanup plans at the K Basins, groundwater protection issues, status of transuranic waste, and cleanup plans for the B/C Cribs.

### **Tank Waste Committee**

The Tank Waste Committee tracks technical issues related to tank waste storage and retrieval, treatment, and disposal. Major topics the committee focused on in 2005 included changes to the alternatives in the Tank Closure Environmental Impact Statement (EIS) and technical design, construction, and funding challenges at the Waste Treatment Plant (WTP). The committee also followed the tank C-106 Appendix H process to determine the completeness of retrieval of waste from the tank, various tank retrieval technologies, and the progress of testing bulk vitrification as a potential supplemental technology for treating tank waste.

### **Budgets and Contracts Committee**

The Budgets and Contracts Committee continued to monitor the state of Hanford funding and focused specifically on contracting in 2005. The prospect of budget reductions in Fiscal Year 2006 (FY06) and 2007 (FY07) prompted the committee to draft advice on future budgets and the DOE contracting process. The committee also continued to voice the Board's belief in the importance of stakeholder access to and participation in near-and long-term Hanford budget planning.

### **Public Involvement and Communication Committee**

The Public Involvement and Communication Committee concentrates its efforts on ensuring the public is provided opportunities to participate in Hanford cleanup decisions. In 2005, the committee developed a static display board to be shown around the region, providing information on the Board's role in Hanford cleanup and inviting the public to participate in Board and committee meetings. The committee also initiated public outreach activities for Board meetings in Yakima and Seattle, and continued to explore additional potential public outreach and involvement opportunities for the Board.

# Health, Safety, and Environmental Protection Committee

In 2005, the Health, Safety, and Environmental Protection Committee reviewed current and former worker health and safety issues. The committee discussed topics such as beryllium exposure, services provided by the new site medical contractor, worker compensation programs, the management of occupational health and exposure records, and medical surveillance programs. The committee continued to emphasize the importance of worker health and safety in DOE contracting decisions. The committee is planning a Board tutorial in 2006 to share important information on historical worker health and safety performance and worker compensation programs.

### **Committee of the Whole**

Budget constraints and the potential funding reductions for several Hanford cleanup projects were a major focus of the Board's work in 2005. As it became increasingly clear that budget reductions would have far-reaching impacts on Hanford cleanup work, the Board convened a Committee of the Whole meeting in March to discuss the impacts of current and future budget reductions on baseline TPA cleanup plans, existing and future Hanford contracts, and TPA regulatory agency funding. The meeting provided the Board's committees a comprehensive review of the impacts of funding reductions on Hanford cleanup work as well as implications for committee-specific issues. The meeting also helped Board members frame planning for future DOE budget workshops.

### **Board Leadership**

In early May, Board leadership, including Board and committee chairs and vice-chairs, held a retreat to reflect on the previous year's work and to discuss priorities for the coming year. The retreat focused on clarifying some of the Board's internal operating procedures and defining a clear path forward for near-and long-term Board work.

### **Workshops**

Board members participated in several DOE-sponsored workshops in 2005 on a variety of Hanford cleanup issues. Workshop topics included the Tank Closure Environmental Impact Statement, 300 Area end states, waste site barriers (caps), groundwater, and the CERCLA 5-year Review. The workshops provided Board members the opportunity to participate in more specific discussions on timely waste cleanup issues and to provide personal perspectives and comments on those issues. These workshops were held by DOE to obtain feedback from the Board and the public on DOE's approach to cleanup activities.

Guided by its values and principles, the Board focuses on discussing and framing policy issues relating to Hanford cleanup activities, which manifests as advice to one or more of the TPA agencies. The genesis of advice occurs at the committee level, where issues are identified and framed through a consensus process. During Board meetings, members spend time discussing and considering draft policy principles developed by the Board's committees. Upon reaching consensus on principles for a particular issue, the Board issues advice describing its position and often recommending specific action. At five meetings in 2005, the Board produced 16 pieces of advice in response to Hanford activities. This advice ranged from discussion of specific remediation activities and facility plans to broader topics such as Hanford cleanup funding and future DOE budget requests, DOE contracting, and cleanup decision-making for the Central Plateau.

An index of and links to all of the Board's advice and agency responses can be found on the Board's website at: www.hanford.gov/public/boards/hab/.

### **Funding and Budget**

The successful scheduling and completion of Hanford cleanup activities relies on adequate funding and budget allocations. One of the Board's most significant concerns is that budget reductions and constraints could result in inadequate funding for Hanford cleanup activities and jeopardize cleanup agreements. The Board advised DOE to continue to request full funding for Hanford's cleanup program, including newly identified high-priority cleanup activities. "The Hanford cleanup budget must be viewed as part of a commitment to fund long-term baselines, contracts, work plans, and legal obligations." (Advice #171).

In addition to budget funding concerns, the Board maintains a strong commitment to promoting public involvement in the Hanford cleanup budget development process. The Board is concerned that the TPA agencies' process for sharing budget information with the public is insufficient and does not meet public involvement requirements under the TPA. Specifically, the Board advised DOE to provide early access to budget information, host a sufficient number of regional public meetings to gather public input, and provide feedback to the regulatory agencies, the Board, and the public about how public input was used. The Board notes that without adequate public involvement, "DOE will have failed in its effort to ensure that Hanford cleanup reflects the values and principles of the citizens of the Northwest." (Advice #169).

### **Contracting**

### **Contract Changes**

Changes to major contracts can have wide-sweeping impacts on cleanup activities at Hanford. Considering the number of scheduled contract changes in the near future, reduced funding for Hanford cleanup activities, and other Hanford site circumstances, the Board believes managing contract changes will be extremely difficult. In advice to DOE (Advice #172), the Board expressed its continuing concern about the impacts of major contract changes on safety, the workforce, and cleanup schedules. The Board advised DOE to consider all options

to mitigate the impacts of major contract changes, including extension or renegotiation of current contracts. In addition, the Board advised DOE (Advice #182) to examine "integration and agreements between the field offices at Hanford" in order to "prevent unnecessary expenditures and work disruptions."

### **Contract Management**

Considering several recent Government Accountability Office (GAO) reports highlighting Hanford contracting difficulties, the Board was encouraged that DOE agreed with many of the findings from these reports, as well as a recent memo from Energy Secretary Samuel Bodman requiring the implementation of DOE's project management Order 413.3. The Board advised DOE (Advice #182) to consider the GAO findings and implement recommendations from the reports to ensure improved contract management at Hanford.

### Safety Issues in Small Business Contracting

Although potential changes to large contracts have a significant impact on Hanford cleanup activities, the Board also recognized the importance of ensuring small business contracting adequately considers safety, health, and environmental issues. The Board believes DOE may overlook the important review of company safety records during evaluation of contractors for small contracts. Consequently, the Board advised DOE (Advice #176) to develop evaluation criteria for past performance, make expectations and responsibilities clear, provide guidance for implementing aspects of the site wide surveillance system, evaluate subcontractors, and encourage using existing successful safety programs.

### Board Advice 2005 -

Advice #168

Proposed Plan for Remediation of the

221-U Facility

Advice #169

**Budget Workshops** 

Advice #170

Hanford Buried Waste

Advice #171

Fiscal Year 2006 & 2007 Budgets

Advice #172

Contracts

Advice #173 Central Plateau Values Advice #174

Considerations for Barrier Application

Advice #175

**Integrated Disposal Facility Permit** 

Advice #176

Safety Issues in Contracting with Small

**Businesses** 

Advice #177

200-UW-1 Waste Sites Proposed Plan

Advice #178

Waste Treatment Plant

Advice #179

**Plutonium Finishing Plant** 

Advice #180

200 B/C Cribs and Trenches Focused Feasibility Study and Proposed Plan

Advice #181

200-UW-1 Waste Sites Proposed Plan

Advice #182

Contract Management and Upcoming

**Major Contracts** 

Advice #183

**Bulk Vitrification** 

# Central Plateau Cleanup

## Flow Path for Remedial Decision-Making

One of the Board's priorities in 2005 was to develop advice to guide Central Plateau decision-making. The Board's first product in this endeavor was a flow path intended to inform the agencies of stakeholder values in remedial decision-making (see pages 11-12). Based on Board biases and values, this product emphasizes the preference for removing, treating, and disposing of waste during remedial actions, storing remaining waste in a configuration that is protective of human health and the environment, and considering engineered barriers as a last resort remedy.

## **Considerations for Barrier Application**

Although one of the Board's values is that engineered barriers should be a last resort remedy, the Board recognized there will be circumstances where a barrier will be necessary, such as when removal, treatment and disposal is impractical. As a follow-on to the Central Plateau flow path issued in March, the Board developed a list of advice considerations for barrier application. The Board advised (Advice #174) considering barriers to be non-permanent, balancing the protection of human health and the environment with the need to conduct future waste retrieval, conducting performance monitoring, providing public review of ongoing barrier reviews, and maintaining federal government responsibility for sites with engineered barriers.

### Proposed Plan for Remediation of the 221-U Facility

Remediation of the 221-U Facility has been of continued interest and concern to the Board. The Board believes lessons learned from cleaning up and dispositioning this facility could inform plans and remedial actions for the cleanup of other similar "canyon" facilities at Hanford. However, the Board had several concerns with the Proposed Plan for Remediation of the 221-U Facility, including its inadequate consideration of all viable alternatives and an insufficient level of analysis. The Board's advice (Advice #168) suggested DOE should analyze additional viable alternatives before selecting a preferred alternative in the Proposed Plan and revise the Proposed Plan if the preferred alternative changes as a result of additional analysis. The TPA agencies should also explain more clearly how decisions are made in future planning and decision documents.

### 200-UW-1 Waste Sites Proposed Plan

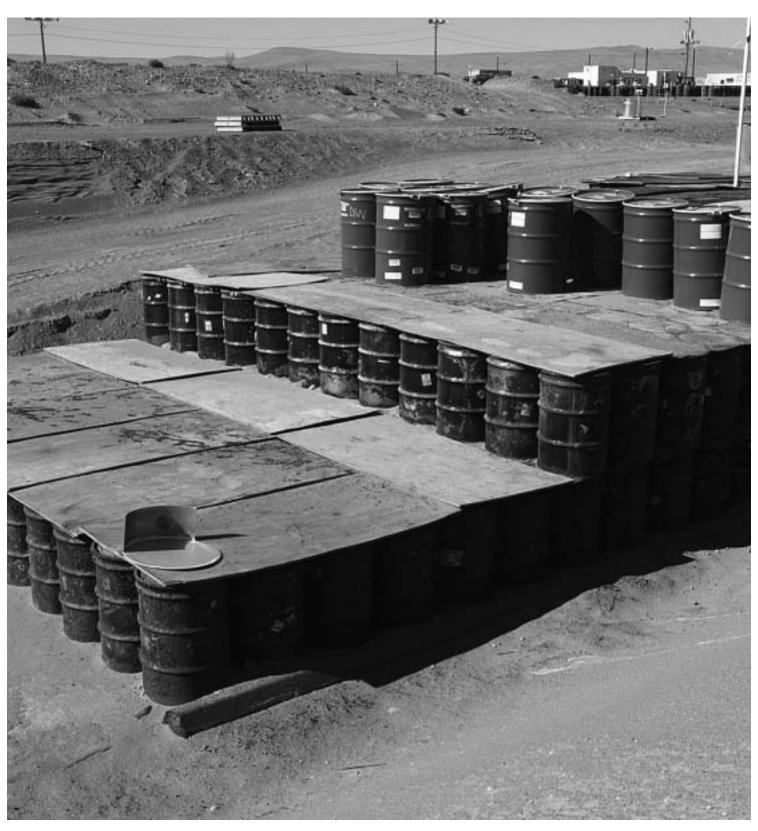
As the first soil site operable unit cleanup on the Central Plateau, the 200-UW-1 waste sites garnered public interest and have great potential to inform future operable unit cleanup

activities. Additionally, the 200-UW-1 Proposed Plan was the first opportunity for both the agencies and the Board to practically apply the Central Plateau decision flow path (Advice #173) to a specific waste site. For this reason, considering the Proposed Plan was a particularly iterative process for the Board, resulting in two pieces of advice during 2005 (Advice #177 and #181). The Board advised including considerations of additional analyses of viable alternatives, not assuming barrier application, analyzing discounted and undiscounted life-cycle costs, performing additional sensitivity analyses for uranium contamination, using data to substantiate a similar approach for similar waste sites, and using consistent models. (Advice #177).

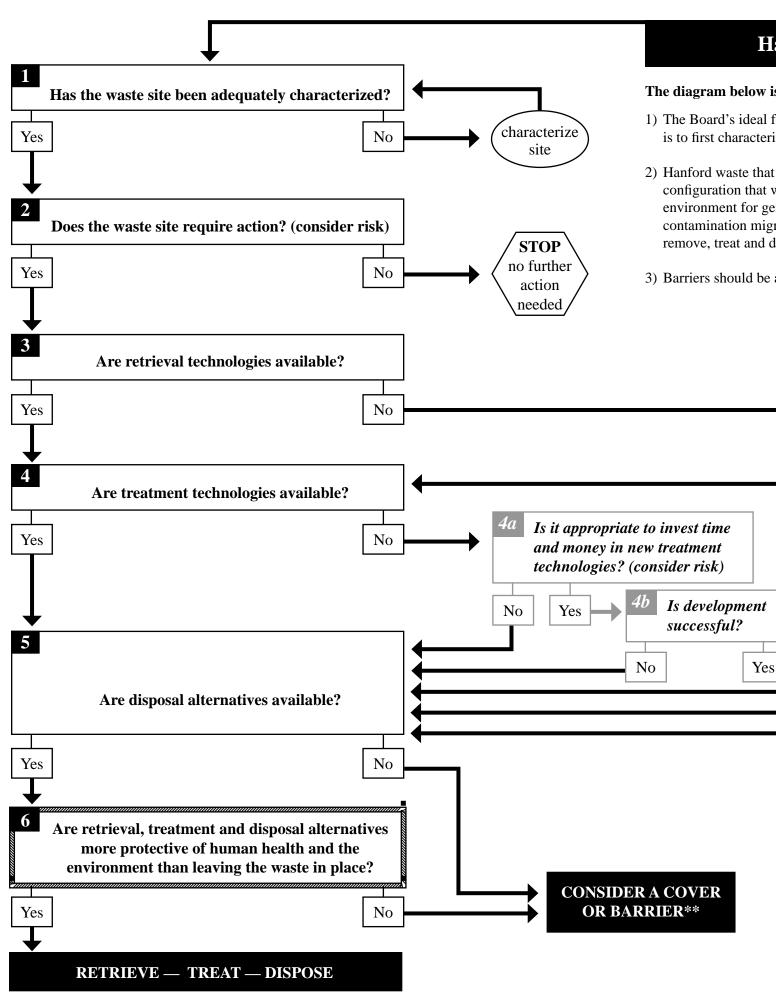
In September, the Board received an early response to its comments from DOE, ahead of an official response typically accompanying the Record of Decision. Although the Board appreciated receiving an early response from DOE, the response did not address all the concerns expressed in previous advice. In November, the Board issued additional advice (Advice #181) expressing the inadequacy of DOE's limited response to their June advice (Advice #177) and reiterating the concerns about and recommendations for the proposed plan. Advice #181 also advises DOE "demonstrate how it has applied Board Advice #173 in its decision-making process," before selecting a barrier as the preferred remediation for a waste site. This reflects both the TPA agencies' recognition that the flow path for remedial decisionmaking (Advice #173) is a useful tool, as well as the Board's successful implementation of its first values-based product to guide remedial decision-making in the Central Plateau.

# 200 B/C Cribs Focused Feasibility Study and Proposed Plan

An early draft Focused Feasibility Study and Proposed Plan (FFS/PP) for the cleanup of the 200 B/C Cribs and Trenches Waste Sites calls for capping some cribs and trenches without conducting waste retrieval. Citing Advice #173, the Board reiterated its preference for retrieve, treat and dispose remedies stating that DOE's decision to cap some cribs was not adequately supported by retrieval considerations. In Advice #180, the Board advised DOE to reevaluate the draft FFS/PP to include conducting an evaluation of the best available retrieval technologies using the Board's flow path for remedial decision-making product, reanalyze worker exposure risk, address all long-term stewardship needs, and analyze the likelihood and impacts of a failure of institutional controls.



Buried low-level and mixed low-level waste in the Central Plateau, most of it in 55-gallon drums.



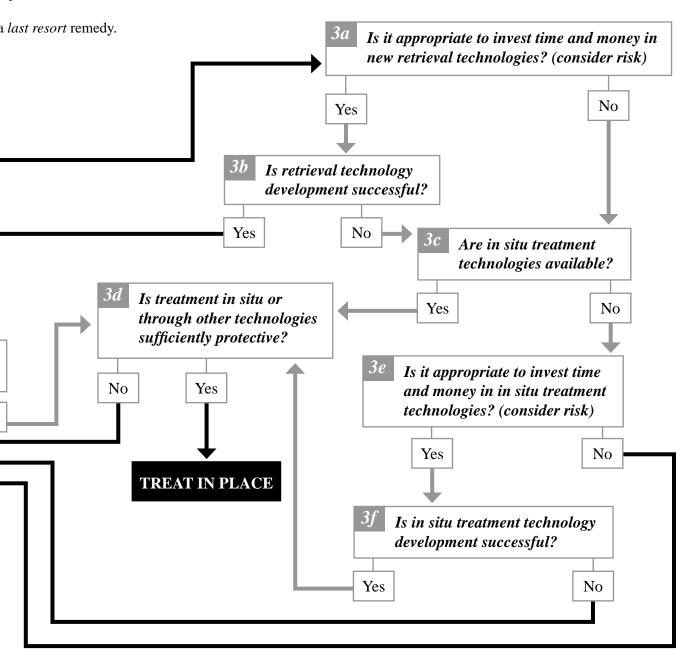
# anford Advisory Board — Central Plateau Remedial Action Values Flow

## s a values-based algorithm for Central Plateau remediation decision-making. It communicates three primary Board biases:

or remedial action at all Central Plateau waste sites ze, then retrieve, treat, and dispose all wastes.

remains on-site must be left in a facility or will be protective of human health and the nerations to come. If there is any risk of rating to the groundwater, the Board has a bias to ispose.

Although total retrieval, treatment and disposal is the ideal, the Board acknowledges the complexity and extent of contamination in the Central Plateau. The critical question is, "When is it appropriate to utilize a barrier as the remedial action?" The diagram is a policy tool that can only be used in the context of remedial decision-making that complies with all applicable environmental laws.



\*\* The Board will provide additional input on considerations for barrier application.

## **Waste Remediation Activities**

### **Hanford Buried Waste**

The Board continues to advocate for characterization and remediation identifying and remediating all of Hanford waste. Currently, the Board believes there is a lack of information and knowledge about the amount and condition of contaminated materials buried on the Hanford site. In Advice #170, the Board advised DOE to ensure proper remediation of all potentially hazardous waste by conducting adequate characterization, including currently uncharacterized material in planning processes for retrieval, treatment, and disposition of the material, and adequately funding these activities.

## **Integrated Disposal Facility Permit**

The Board was encouraged by the development of the Integrated Disposal Facility (IDF) permit, which limits acceptable waste for the IDF to bulk vitrified waste, immobilized low activity waste and IDF-generated waste. The successful collaboration in the development of the IDF permit demonstrated interagency cooperation and responsiveness to the Board's input and recommendations. However, "the Board remains concerned with the potential for expansion of the IDF without sufficient analysis." This concern exemplifies one of the Board's main priorities: a comprehensive risk analysis of all waste disposal activities on the Hanford site. The Board advised (Advice #175) a modification



Inspection of drum.

of the IDF permit to require a cumulative risk analysis of waste previously disposed of and proposed for future disposal at IDF. The Board reiterated the need to implement a site-wide requirement for cumulative risk analysis for all material disposed of at Hanford.

### **Waste Treatment Plant**

The Board continues to support the completion of the Waste Treatment Plant (WTP) as a high priority and essential component of overall cleanup success at Hanford. To maintain its support for the completion of the WTP, the Board emphasized the need to have access to accurate information as the project progresses. In September, the Board advised DOE (Advice #178) to request all necessary funding to ensure project completion in compliance with the TPA schedule and without impacting other Hanford cleanup projects. In addition, the Board advised DOE to continue testing and evaluating waste treatment alternatives while design issues are being resolved, as well as to share WTP cost and status information with Congress, the Board, regulator agencies, and the public.

### **Bulk Vitrification Demonstration Project**

The Bulk Vitrification Demonstration Project was funded as a research and development project to provide a waste treatment alternative to the WTP for low activity tank waste. This project would begin treating low activity tank waste earlier than other

proposed treatment processes in an effort to meet the 2028 TPA deadline for treating all tank waste. Although the Board has supported the demonstration project because of its accelerated treatment benefits, increasing cost estimates suggest the project may no longer be a cost-effective alternative treatment. In November, amid concerns the demonstration project competes with funding for other important activities, the Board advised DOE and Ecology (Advice #183) to develop necessary decision criteria for determining whether funding should continue if the project becomes too costly.

### **Plutonium Finishing Plant (PFP)**

To achieve successful cleanup at Hanford, the Board has continually emphasized the importance of consolidating plutonium storage and working towards permanent plutonium disposition. Advice #179 expressed the Board's concern that no national plutonium consolidation strategy has been developed. The Board advised DOE to continue working to develop a national strategy for plutonium consolidation, maintain funding for cleanup activities, and fully fund the demolition and decommissioning of PFP to keep cleanup on schedule. "Development of a credible national strategy for disposition of this material [plutonium] and a timely decision for implementation of that strategy is essential for insuring the continued success of cleanup efforts at Hanford and throughout the Department of Energy complex." (Advice #179).



Waste Treatment Plant construction.



Cleaned out glove box.

## **Other Board Products**

In addition to the Board's advice on Hanford cleanup activities, the PIC Committee produced two products to increase the Board's visibility and bolster its public outreach efforts. The first is a tri-fold brochure that provides general information about the Board, including its mission, structure, activities, and products. The second is a static display board that provides information about the Board and encourages public participation in the Board's meetings. Both products appear at Board meetings and brochures are also available at other TPA public events.

### The Hanford Advisory Board

A voice of Northwest citizens who care about cleaning up Hanford



The Hanford Nuclear Site served as a plutonium production complex for the United States' nuclear weapons

program for more than 40 years beginning in the 1940's with the Manhattan Project. The production of plutonium generated large amounts of radioactive and chemically hazardous wastes. Currently, Hanford is engaged in the world's largest environmental cleanup project. The U. S. Department of Energy, the U. S. Environmental Protection Agency, and the State of Washington Department of Ecology signed a comprehensive cleanup and compliance agreement for Hanford on May 15, 1989. This document is known as the Tir-Party Agreement and the three signatory agencies are commonly referred to as the Tri-Party Agencies.

The U.S. Department of Energy chartered the Hanford Advisory Board (Board) in 1994 under the Federal Advisory Committee Act of 1972 to provide a forum for bringing together diverse local and regional interests to tackle the difficult issues associated with cleaning up the legacy of radioactive and chemical wastes left from 50 years of weapons production.

Tri-fold brochure.

### /lembership

#### cal Government Interests

Benton County Benton-Franklin Council of Governments City of Kennewick City of Pasco City of Richland

# City of West Richland Grant & Franklin Counties ocal Business Interests

Tri-Cities Industrial Development Council

#### Janford Work Force

Central Washington Building Trades Council Hanford Atomic Metal Trades Council "Non-Union, Non-Management" Employees (2 seats)

Government Accountability Project

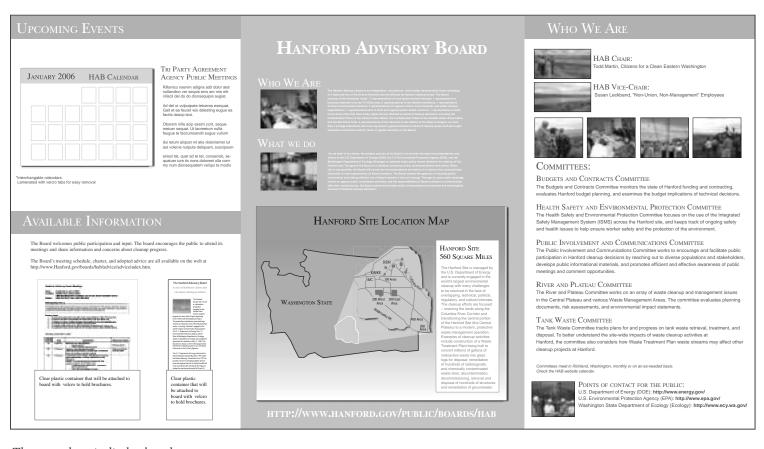
#### ocal Environmental Interests Richland Rod and Gun Club

#### egional Citizen Environmental & ublic Interest Organizations

Columbia Riverkeeper Hanford Watch Heart of America Northwest Washington League of Women Voters Citizens for a Clean Eastern Washington

#### ocal and Regional Public Health

Benton-Franklin Public Health
Physicians for Social Responsibility





A well decommissioning crew places a brass marker on top of a decommissioned well.



The 100th shipment of transuranic waste to leave Hanford this fiscal year left the Waste Receiving and Processing Facility on Sept. 28.



Demolition of 314 Building.

# Messages from the Tri-Party Agencies

U.S. Department of Energy Office of River Protection

U.S. Department of Energy Richland Operations Office

U.S. Environmental Protection Agency

Washington State Department of Ecology









## U.S. Department of Energy - Office of River Protection

The Department of Energy remains committed to safely completing the tank waste cleanup mission at Hanford, including the construction and operation of the facility many consider to be the cornerstone of Hanford cleanup: the Waste Treatment and Immobilization Plant (WTP).

This past year, the effects of national priorities and technical challenges were both felt at the Hanford Site. Most notably, the identification of technical issues and revised seismic criteria at the WTP project captured and held the attention of Congress, the media, regulators, the HAB, stakeholders and others for much of 2005. While these issues were significant and time-consuming to overcome, 2005 was a still a year of progress for the Hanford tank cleanup program.

We completed the retrieval of waste from our second and third single-shell tanks and started or continued retrieval operations on four others. We continued Bulk Vitrification testing with a focus on demonstrating its viability as a safe and effective supplemental waste treatment technology, and nearly completed construction of the first phase of the Integrated Disposal Facility. Construction at the WTP focused on the Low-Activity Waste, Balance of Facilities, and Analytical Laboratory facilities while engineering and design focused on the Pretreatment and High-Level Waste facilities. Overall, the WTP is over one-third constructed, and none of the construction to date requires modification or rework.

In 2005, the HAB continued its focus on values and principles for cleanup of the Central Plateau, in addition to its continued eye on worker health and safety, contracting and the prioritization of cleanup funding. The Board provided ORP advice on the WTP, Integrated Disposal Facility, contracts, budgets and safety.

In 2006, we look forward to the Board adding additional focus and definition to its advisory role for tank waste cleanup, and continued efforts to refocus operations with the goal of improving overall efficiency and effectiveness.

With respect to the Board's focus on tank waste cleanup, we would like to work with the Board to develop specific objectives for providing the policy level advice or recommendations that will best assist DOE. We further encourage the Board to remain flexible regarding specific requests for advice or recommendations, and we look forward to working with the HAB to identify those areas we believe the Board can best focus its energy.

In regards to efficiency, we reported in 2004 that the Board had taken several notable steps toward refocusing its advisory role and operations to match the pace of cleanup. Last year the Board continued that process by looking at how it could streamline committee meetings, appropriately match committees with cleanup work, avoid duplication and overlap at the committee level, and add overall clarity and focus to meeting topics.

We were also encouraged by the Board's willingness to visit the Hanford Site to see first hand the issues, challenges and progress, and we look forward to continued visits to the Site in 2006 and beyond. The Board also planned and conducted activities in Yakima and Seattle to increase overall public awareness and



Waste Treatment Plant construction — Pre-treatment Facility vessels.

involvement in the Board. Although the Board does not consider itself to be the primary vehicle for public involvement, we believe these efforts are promising and that the Board can play a greater role in involving and informing the public.

We also encourage the Board to continue its inward or operational focus in 2006 in addition to its advisory responsibilities. We believe the Board can continue to refine its attendance policy, bring added economy and efficiency to the agendas of full-Board meetings, address the roles of members versus alternates, and generally continue to streamline the committee structure.

We appreciate the Board's advisory function and willingness to strengthen its own effectiveness, and look forward to continued work with the Board on both of these fronts in 2006.

Roy Schepens, Manager DOE-ORP

## U.S. Department of Energy - Richland Operations Office

Heading into the New Year and looking back at 2005, I want to thank the Hanford Advisory Board for the work you accomplished.

The attention by Board members on a variety of objectives, particularly your work on Central Plateau remediation issues, was time well spent. The Central Plateau Values sound advice will be used as we evaluate and make 200 Area cleanup decisions. As the first site in the DOE complex to make decisions about dispositioning a canyon facility, the rest of the complex will be watching our progress, and the lessons learned from this work will lay the foundation to develop our cleanup plans for the remaining canyons.

Performing work safely is reflected in DOE's commitment to completing a cleanup that is protective of our environment, our workers and the public. The Board obviously agrees with this priority and has reinforced the importance of ensuring safety is the basis for all phases of our work.

The successful cleanup of Hanford requires that we all work together to address concerns and develop priorities so that cleanup remains on track. Although we have made progress in addressing the most urgent

environmental threats, a lot of tough work remains and there are a number of complex and critical decisions ahead, many of which would benefit from Board advice. In addition to the ongoing cleanup activities the Board is working on, I am also interested in the type of open and thorough airing the Board can provide on issues involving public policy values where there is potentially conflicting advice to DOE and there is no clear right or wrong answer. In this regard, some upcoming remediation and waste management decisions may need to balance Board advice, recommendations from the National Academy of Sciences, national priorities and other considerations.



A well decommissioning crew and rig are set up in central Hanford.

The transition from a materials production operation at Hanford to a coordinated portfolio of safe and efficient cleanup projects is nearly complete. The River Corridor contract is now in place and working well. The process of putting in place the new Central Plateau tailored contracts will define and organize that remaining work better than has ever been done before. I am very excited and proud thinking about where we will be once those contracts are in place and we are well down the path to a restored River Corridor, transitioned Central Plateau, and a future for the site, the community, and our workers that befits our proud past.

The dialogue of the Board, and the impact you have had on our decisions, are testament to the fact that the public process is alive and well. We look forward to working with the Board in the year ahead and obtaining your help as we evaluate future actions and make tough decisions about our work priorities.

Keith A. Klein, Manager DOE-RL

## U.S. Environmental Protection Agency

In the Central Plateau a major Environmental Restoration Disposal Facility expansion was completed which will accommodate continued soil and burial ground cleanup adjacent to the Columbia River, as well as the major soil removal activities and building decontamination and demolition that will be required on the plateau. A Superfund Record of Decision issued for the Canyon Disposition Initiative this year marks progress towards making cleanup decisions that will guide cleanup on the Central Plateau in the coming years. The decision process on U-Plant area soils and the B/C cribs is well underway.

Despite great progress on several fronts there are some areas where our vigilance will be required in the coming year. Funding is becoming a significant concern for Hanford cleanup. Completion of the Waste Treatment Plant is crucial to Hanford cleanup; funding has been slashed this year and threatens to delay both the start and completion of tank waste treatment. Implementation of a robust safeguards and security program, while absolutely critical from a national security perspective, is a significant drain on the cleanup program budget. Decreases in DOE-sponsored research and development programs make it difficult to find creative solutions to our most challenging technical problems. In aggregate, these budget impacts have the potential to slow Hanford cleanup.

Turning to the Board's work, I believe 2005 marked a year in which the Board produced advice that is having a real impact on cleanup decision making. The framework for Central Plateau cleanup and the capping advice will help the agencies factor in public values early in our decision process. The technical knowledge of Board members and your collective experience and passion on Hanford matters is always apparent in Board advice.



Hanford's groundwater remediation involves a variety of activities including mortar-lining of leaky water pipes.

Finally, the Board is to be commended for your efforts in reaching out to new communities in the Pacific Northwest. Outreach in the Yakima area helped to broaden Board and agency understanding of the public's perspective on Hanford, and we look forward to future initiatives to expand our appreciation of the vision for Hanford in the coming year. In 2005 the Board continued to demonstrate its critical role in Hanford cleanup, and EPA recognizes your dedication in helping us make the right choices for Hanford's future.

Nick Ceto, Project Manager Hanford Project Office U.S. EPA

## Washington State Department of Ecology

The Washington State Department of Ecology (Ecology) leads the state's efforts to achieve the effective and efficient cleanup of the Hanford Site, to ensure sound management of mixed hazardous and radioactive wastes in Washington, and to protect the state's air, water, and land at and adjacent to Hanford. Ecology provides regulatory guidance to align Hanford Site cleanup activities with state and federal environmental laws and the values of Washington's citizens and others in the Pacific Northwest impacted by Hanford cleanup decisions.

Ecology supports the work of the Hanford Advisory Board (Board) to establish a strong link between stakeholders, the public, and the Tri-Party agencies, and to advise on Hanford decision-making to guide cleanup actions. The Board's efforts are essential to Hanford's cleanup momentum and have helped Hanford remain visible as a top cleanup priority nationwide.

The Board continues to do an outstanding job serving as a voice for the people of the Pacific Northwest, framing important issues for discussion, and providing thoughtful and useful advice to the Tri-Party Agreement agencies. We value the Board's capacity to achieve consensus decision-making and its unwavering dedication to the cleanup of Hanford.

The Board has been active and productive during this past year. Issues of importance included characterization of pre-1970 unsegregated contaminated materials. The Board urged the Tri-Party agencies to perform characterization on all contaminated areas and use this information in planning retrieval, treatment, and disposition methods and future funding. As a regulatory agency, Ecology is working to ensure proper characterization of all contaminated materials. Characterization processes on key burial grounds are currently underway. The results will provide valuable information in planning the retrieval, treatment, and disposition of the waste.

The Board provided a flow chart that incorporated its values regarding more permanent solutions such as remove, treat and dispose (RTD) over other remedies such as engineered barriers. This document has assisted Ecology technical staff in their evaluation of proposed remedies for Central Plateau cleanup. The Boards goals and the goals of our regulations look first to more permanent solutions to the maximum extent practicable with the overarching goal of protecting human health and the environment.

The progress made to site and permit the Integrated Disposal Facility (IDF) is a success largely due to the partnership between the Tri-Party agencies and the Board. We encourage the Board to maintain its efforts and attention on this facility. We appreciate the Board's support of Ecology's efforts to include cumulative risk assessments of all new wastes brought to the IDF.

We value the Board's advice for the Bulk Vitrification Demonstration Project. Ecology agrees that the bulk vitrification process must produce a glass product that performs as well as the Low Activity Waste (LAW) Vitrification Plant. We also agree that the increased costs of the Bulk Vitrification Demonstration Project are a matter of concern. The State believes that bulk vitrification has the potential to provide "good as glass" tank treatment as well as additional advantages over a second Waste Treatment Plant LAW facility. Ecology will continue support for the Demonstration Project in order to develop a solid understanding of the capabilities of the technology. The demonstration will be stopped only when it is clear that the drawbacks and risks outweigh the benefits. An interim cost comparison will be reviewed in June 2006, with an accurate cost estimate for the full-scale facility.

The leadership group proposed seven "priorities" to guide Board work in 2006. Taken as a whole, they certainly represent a "full plate" for the Board, especially in light of ongoing concerns over current projects and the everpresent challenge of Hanford funding. Ecology remains hopeful and encouraging of the Board and its actions. We encourage the Board to focus its efforts on those areas where its consensus values can have the greatest impact on cleanup decision-making at the policy level. Critical issues include the Board's values for prioritizing cleanup work; values, principles, and strategies for Central Plateau remedy selection and waste management; and, groundwater remediation and restoration timeframes. We look forward to continued interactions with the Board and will need the Board's input on these and several other areas that we will be addressing in our policy and decision considerations in 2006.

2005 marked another transition within Ecology, one we hope will add additional value to Hanford's cleanup efforts. Mike Wilson will be moving to a new position where he will assist Ecology and the Nuclear Waste Program at the state and federal legislative level -- bringing a consistent presence for Hanford cleanup from one Washington to the other. Mike continues to support the Board and the public involvement process and we want to acknowledge and thank him for his many years of dedication to Hanford cleanup. I am pleased to serve as the new Nuclear Waste Program Manager. I will continue Ecology's tradition of support for the Board and its critically vital role in achieving the successful cleanup of the Hanford Site.

I look forward to the Board continuing its important work of assisting Ecology and all of the agencies in understanding and including stakeholder values in Hanford cleanup decision-making.

Jane Hedges Nuclear Waste Program Manager Washington State Department of Ecology



Buried low-level and mixed-level waste in the Central Plateau, most of it in 55-gallon drums.

## **Board Work 2006**

The Board's priorities for 2006, outlined in the Chair's message on page 3, include a number of discussions about values, principles, and priorities for Hanford cleanup. Impacts from Hanford on public health, safety, the economy, and the environment affect all the residents of the Pacific Northwest. Providing meaningful and useful public input to Hanford site decisions is an ongoing activity and the Board is a significant avenue for participating in these decisions.

Board meetings are open to the public and we encourage you to come and listen, learn, and participate. Ask questions, make a comment or even consider joining the Board.

Visit the Board's website at www.hanford.gov/public/boards/hab/ and see the back of this report for more information.

### **Board Meeting Schedule -**



River and Plateau Committee meeting.

**February 2-3, 2006** Richland, Washington

**April 6-7, 2006** Mission, Oregon

**June 1-2, 2006** Lewiston, Idaho

**September 7-8, 2006** Richland, Washington

**November 2-3, 2006** Hood River, Oregon



Waste Treatment Plant construction vessel installation.



Aerial view of roof construction of the H Reactor.

# **Meet the Hanford Advisory Board**

Current HAB Members & Alternates

Seat	Member	Alternate		
<b>Local Government Interests</b>				
Benton County Benton-Franklin Council of Governments City of Kennewick City of Pasco City of Richland City of West Richland Grant & Franklin Counties	Maynard Plahuta Gwen Luper Bob Parks Robert Davis Pam Brown Jerry Peltier Jim Curdy	Adam Fyall Wanda Munn Dick Smith Joe Jackson Vince Panesko Patrick Conley Art Tackett		
<b>Local Business Interests</b>				
Tri-Cities Industrial Development Council	Harold Heacock	Gary Petersen		
Hanford Work Force				
Central Washington Building Trades Council Hanford Atomic Metal Trades Council Non-Union, Non-Management Employees (2)	Mike Keizer Becky Holland Jeffrey Luke Susan Leckband	Dave Smith David Molnaa vacant Richard Jansons		
Government Accountability Project	Tom Carpenter	Allyn Boldt		
Local Environmental Interests				
Richland Rod & Gun Club	Gene Van Liew	Paul Kison		
Regional Citizen, Environmental and Public Interest Organizations				
Columbia Riverkeeper	Greg deBruler	Steve Roney Steve White		
Hanford Watch	Paige Knight	Robin Klein William Kinsella		
Heart of America Northwest	Gerald Pollet	Helen Wheatley Amber Waldref		
Washington League of Women Voters Citizens for a Clean Eastern Washington	Madeleine Brown Todd Martin	Betty Tabbutt Dr. Mark Beck Dr. Susan Babilon Cindy Meyer		
<b>Local and Regional Public Health</b>				
Benton-Franklin Public Health Physicians for Social Responsibility	Dr. Margery Swint Dr. Jim Trombold	Dr. Ross Ronish Dr. Charles Weems Jeanie Sedgely		

Seat		Member	Alternate		
Tribal Government	ts				
Nez Perce Tribe		Gabriel Bohnee	John Stanfill Kristie Baptiste Sandra Lilligren		
Yakama Nation		Russell Jim	Wade Riggsbee David Rowland		
State of Oregon					
Oregon Hanford Cleanup B	oard	Larry Clucas	Maxine Hines Wayne Lei		
Oregon Department of Ene	rgy	Ken Niles	Lynda Horst Dirk Dunning Susan Hughs Tom Stoops Deanna Henry		
University					
University of Washington Yakima Valley Community C	College	Mark Oberle Jane Twaddle	vacant vacant		
Public At Large					
		Norma Jean Germond Keith Smith	Nancy Murray Shelley Cimon George Jansen, Jr.		
		Bob Parazin	Jerri Main David Watrous		
- 46 · D		Martin Yanez			
Ex-officio Represe	entatives				
Confederated Tribes of the Washington State Departm	Umatilla Indian Reservation ent of Health	Armand Minthorn Earl Fordham	Debra McBaugh Allen Conklin		
		Karen Lutz Howard Gnann Nick Ceto Jane Hedges	Steve Chalk Erik Olds Dennis Faulk Nolan Curtis		
Members and Alternates Who Left the Board in 2005					
Leon Swenson Bob Larson Dan Simpson	Rick Leaumont Clare Gilbert Jeff Van Pelt	Sky Bradley Ross Ronish Gariann Gelston	Pat Sobotta Dr. Tim Takaro		

# For More Information

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Dennis Faulk U.S. Environmental Protection Agency 712 Swift Blvd. Suite 5 Richland, WA 99352 (509) 376-8631

> Erik Olds U.S. Department of Energy - ORP PO Box 450, H6-60 Richland, WA 99352 (509) 372-8656

## Additional Written Information

If you would like to receive additional copies of this report, please contact Tammie Holm, Envirolssues, (509) 942-1906. Information on the Board is also available on the Web at:

http://www.hanford.gov/public/boards/hab/

This report was compiled and designed by the staff at



## Hanford Public Information Repositories

### Portland

Portland State University Branford Price Millar Library Science and Engineering Floor 934 SW Harrison and Park Portland, OR 97202-1151 (503) 725-4126 Attention: Judy Andrews

### Seattle

University of Washington Suzzallo Library Government Publications Room Seattle, WA 98195 (206) 543-4664 Attention: Eleanor Chase

### Richland

DOE Public Reading Room 2700 University Drive CIC, Room 101 L Richland, WA 99352 (509) 372-7443 Attention: Janice Parthree

### Spokane

Gonzaga University Foley Center E. 502 Boone Spokane, WA 99258 (509) 232-6548 Attention: Linda Pierce