



HAB

Hanford Advisory Board

Annual Report 2014



Hanford Advisory Board 2014

Acknowledgements

The Hanford Advisory Board would like to acknowledge the following resources used for the content of the Board's Annual Report:

- Washington State Department of Ecology website (www.ecy.wa.gov/programs/nwp/index.html)
- U.S. Department of Energy Hanford Site website (www.hanford.gov)
- Hanford Facebook page (www.facebook.com/HanfordSite)
- Tri-Party Agreement agency representatives and Board Chair
- Hanford Advisory Board members
- Board advice and Agency responses (www.hanford.gov/page.cfm/hab)
- EnviroIssues photos

The Hanford Advisory Board: Mission Statement

The Hanford Advisory Board (HAB or Board) is a non-partisan and broadly representative body consisting of a balanced mix of the diverse interests 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 (DOE), the U.S. Environmental Protection Agency (EPA), and the Washington State Department of Ecology (Ecology), known also as the Tri-Party Agreement (TPA) agencies, on selected major policy issues related to the cleanup of the Hanford Site. The HAB strives to inform and involve the public in Hanford cleanup decisions through its open public meetings, advice on agency public involvement activities, and the responsibility of Board members to communicate with their constituencies.

The Board was chartered in 1994 by DOE under the Federal Advisory Committee Act of 1972. It is one of eight citizen advisory boards that make up the DOE Office of Environmental Management Site Specific Advisory Board (EM SSAB). The purpose of the charter and development of the Board is to provide a forum for bringing together diverse local and regional interests to tackle difficult issues associated with cleaning up the legacy of radioactive and chemical wastes left from 50 years of plutonium production.

Interests from the economic, environmental, educational, tribal, public interest, local and state government, and health and safety communities are all represented within the 31 members seated on the Board. At Board and committee meetings, members work to not only identify significant issues at Hanford deserving of public input, but to also develop meaningful advice to the agencies that will help guide cleanup at Hanford.

During its 20-year history, the Board has developed 280 pieces of consensus advice. This report highlights work accomplished by the HAB in Fiscal Year (FY) 2014 and describes issues the Board will focus on in 2015.

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At a Glance

What is the Hanford Advisory Board?

The Hanford Advisory Board is:

- **Mission-oriented:** The primary mission of the Board is to provide informed recommendations and consensus advice to the TPA agencies on selected major policy issues related to Hanford cleanup.
- **Policy-focused:** The Board focuses on difficult policy-level issues associated with a 50-year history of plutonium production and the resulting contamination from radioactive and chemical waste.
- **Diverse:** The Board is made up of 31 members representing a variety of constituencies from local interests, environmental perspectives, business groups, tribal nations, public health representatives, state of Oregon officials, university professionals, public-at-large representatives, and the Hanford workforce.
- **Collaborative:** The Board operates by consensus.
- **Dedicated:** The Board has been providing consensus advice to the TPA agencies for 20 years.
- **Robust:** The Board maintains five standing committees that routinely meet throughout the year to discuss issues of relevance to the site's cleanup. See page 13 for more information.
- **Inviting:** All Board meetings are open to the public. The Board actively reaches out to different communities to increase awareness of and involvement in Hanford cleanup. More information about the Board can be found at www.hanford.gov/page.cfm/hab.



The 586-square-mile Hanford Site is internationally recognized for its outstanding biodiversity.

Chair's Message: 2014

Welcome to the 2014 Annual Report of the Hanford Advisory Board. As you read through the report, it is important to remember that this is a summary of the Board's activities. The details of work captured here represent just a small part of the time and effort devoted to providing advice and recommendations on a wide variety of DOE DOE-EM site-specific cleanup issues by Board members, TPA agency support personnel, and the communities and interest groups they represent.

Looking Back

Before agreeing to seek the position of Chair of the HAB in 2013, I carefully weighed the demands and expectations of the position. I recognized that while serving as the chair of a mature, accomplished volunteer organization like the HAB might not prove to be as easy as some suggested, or as one might hope and anticipate, I also knew that without some surprising discoveries and some unanticipated obstacles, the process of learning the job would surely become far less stimulating and enjoyable. Furthermore, I had to admit that one was rarely given the opportunity to work closely with an experienced and intensely committed volunteer organization like the HAB and to serve an organization with a nineteen year history of successfully meeting its responsibilities as an independent, non-partisan, and broadly representative body providing quality policy recommendations and advice. Thus when offered the opportunity, I accepted; it was not a decision I regretted making.

As the HAB now approaches the conclusion of its twentieth year of service as an EM SSAB serving DOE, EPA, and Ecology, it is appropriate for the organization to devote time to some looking back. And whether that review consists of rereading the October 1993 Convening Report on the "Establishment of an Advisory Board to Address



Steve Hudson, Board Chair

Hanford Cleanup," thumbing through the HAB Process Manual and pausing to examine the "What is the Role of the Board Member?" section, tracing a particular theme through 280 advice and response documents, or revisiting the June 8, 2007, HAB Groundwater Values Flowchart, the specific content is not central. What is central is the opportunity to reflect on the HAB's twenty years of deliberations, and to thoughtfully consider the many products—pieces of advice, recommendations, white papers, letters, and related publications—that emerged from those deliberations. For example, it is a worthwhile exercise to briefly examine some of the similarities and differences the materials developed by the 1994 Board and those developed by the 2014 Board demonstrate.

In 1994 the HAB published ten pieces of consensus advice that included the Health, Safety & Waste Management Committee's concern for "the removal of spent fuel from the K-Basins" (Advice #06), the Environmental Restoration Committee's guidelines for an interim pump and treat system (Advice #03), and a detailed discussion of the values implicit in how Hanford cleanup and waste management practices identified by the Cultural & Socio-Economic Impacts Committee could affect "the region

Continued on next page

Chair's Message: 2014

environmentally, economically, culturally, and socially" (Advice #04).

As written, the ten pieces were relatively short—the background introductions rarely exceeded two or three sentences—were remarkably free of acronyms, abbreviations, and technical terms, and were characterized by careful, convincing writing suitable for a general audience. Essentially the advice presented information for consideration and rested that information on established Board values rather than on accumulated evidence in support of a particular conclusion.

In 2014, the HAB published eight pieces of advice that ranged from a detailed Tank Waste Committee (TWC) analysis of a path forward on tank waste (Advice #275), to a thoughtful Board commentary on the obligation of DOE and Ecology to consider the Board Values Statement when negotiating changes to the Consent Decree (Advice #279), to a brief but robust request for more openness and transparency when addressing Secretary Moniz's Hanford Tank Waste Retrieval, Treatment, and Disposition Framework (Advice #273) from the TWC, River and Plateau Committee (RAP), and Public Involvement and Communications Committee (PIC). In addition, the HAB considered and adopted five letters that provided specific responses to issues of importance and/or concern for the HAB. Thus David Huizenga, then Acting Assistant Secretary for DOE-EM, received a letter outlining Board diversity and effectiveness

activities and Kevin Smith, Matt McCormick, and Jane Hedges received letters that detailed the rationale for eliciting Board comments on the 100-N Remedial Investigation/Feasibility Study (RI/FS) through a round-robin activity. And finally, the Executive Issues Committee (EIC) introduced a revised Ground Rules Proposal, a revised Public Comment Guidelines document, and a revised National Liaison Position description and six pieces of advice from two EM SSAB Chairs' meetings to the Board for their discussion and acceptance.

When comparing 1994 with 2014, it was clear that each piece of advice, each revised document, and each formal letter represented an investment of concentrated information gathering, draft writing, and demanding intellectual effort by committee members, HAB facilitators, and TPA agency specialists. It was also clear that in 2014 the HAB produced longer pieces of advice, looked more to persuade and not to just inform, and was, at times, sometimes less attentive to issues of focus, the use of acronyms, abbreviations, and technical terms. However, it must be noted that the issues drawn from the HAB FY 2014 Work Plan were more complex, more technically involved, and more resistant to easy solutions. In addition, the 2014 issues also embraced earlier advice and the discussions framing those pieces of advice. As a result, writing about these issues was more difficult, and more demanding; committee and Board consensus was not easily reached. Yet, even with the difficult mix of budget, calendar,

"Your work has made a significant, positive impact on Hanford cleanup. You should be proud being a part of an advisory board that has seen and been a champion for extensive cleanup progress at the site during your tenure."



Doug Shoop

Deputy Manager

U.S. Department of Energy – Richland Operations Office

Chair's Message: 2014

sitewide cleanup, committee agenda issues—all intensified by changes in DOE, facilitator, and HAB personnel—the HAB continued to meet its obligations with a consistency of effort and the development of responsible, policy level products. 2014 was a demanding year for the HAB, but not a year lacking in progress and engagement.

Looking Ahead

As one looks forward to 2015, the Board is surely going to face issues and concerns similar to those encountered in 2014. Familiar problems—leaking tanks, groundwater contamination, deteriorating storage facilities, the Central Plateau Cleanup Strategy, system plans, 2017/2018 budget requests, delays in reopening the Waste Isolation Pilot Plant— populate the recently redesigned HAB FY 2015 Work Plan and shape HAB committee agendas and workshop discussions. Similarly, important decision planning documents such as the Waste Treatment and Immobilization Plant (WTP) High-Level Waste (HLW) Facility Design and Operability Review and Recommendation document, the Moniz Framework document, and the tank vapors report cannot be overlooked as source materials, which the public and the HAB must address. Unfortunately, until the Hanford DOE-Office of River Protection (DOE-ORP) and DOE-Richland Operations Office (DOE-RL) budgets expand to consistently cover the expected costs of cleanup, the dramatic improvements and project advances suggested by these documents will be stalled.

On a more positive note, I do believe that the HAB will continue to refine and improve how it goes about meeting its obligations and responsibilities. Already changes in agenda and work plan construction suggested by the DOE-RL Independent Assessment Report are being explored as are revisions and improvements to the HAB Process Manual including changes to the current guidelines

for advice writing, and sounding board protocols.

Changes have also been made in HAB membership in response to discussions with David Huizenga, stimulated by the HAB's Effectiveness and Diversity letter sent to him on March 17. In addition to working with DOE to identify viewpoints not currently represented on the Board, the EIC is at present also continuing to explore the possibility of creating a non-voting student position to engage local high school or community college students. Too, in response to suggestions and guidelines from the PIC, the importance of public participation in Board activities is no longer an afterthought, and the opportunity to use social media is not only accepted, but readily accepted and recognized as a reasonable tool for public involvement.

Finally, as the HAB begins its 21st year of providing advice that is accessible, unbiased, and relevant, I particularly want to thank Board members and the interest groups they represent for their discipline, their commitment, their sense of community, and especially their time. For as Ernest Hemingway once wrote in *The New Yorker*, "time is the least thing we have of."



Board member Maynard Plahuta is recognized for his contributions at the B Reactor 70th Anniversary Celebration.

FY 2014 Accomplishments

This section of the report recounts the major accomplishments of the HAB in FY 2014. These include a summary of the consensus advice provided to the TPA agencies during this period, as well as more detailed highlights of the significant work engaged over the course of the fiscal year.

Advice in FY 2014

The Board adopted eight pieces of advice in FY 2014. To read these pieces of advice and TPA agency responses in their entirety, visit www.hanford.gov/page.cfm/hab. For more information about the committees of the HAB, see pages 13-15.

ADVICE	# 273	Openness and Transparency Related to Tank Waste Treatment Date submitted: 12/12/13 Committee Development: TWC
	# 274	100 N Proposed Plan, Draft A Date submitted: 3/7/2014 Committee Development: RAP
	# 275	Path Forward on Tank Waste Date submitted: 3/7/2014 Committee Development: TWC
	# 276	2014 Lifecycle Scope, Schedule and Cost Report Date submitted: 6/5/2014 Committee Development: Budgets and Contracts Committee (BCC)
	# 277	2015 Presidential Budget and 2016 Budget Request Date submitted: 6/5/2014 Committee Development: BCC
	# 278	100 D/H RI/FS, Draft A Date submitted: 6/5/2014 Committee Development: RAP
	# 279	Proposed Amendments to the Consent Decree from DOE and Ecology Date submitted: 6/5/2014 Committee Development: TWC
	# 280	RI/FS and Proposed Plan for the 100-FR-1, 100-FR-2, 100-FR-3, 100-IU-2, 100-IU-6 Operable Units; DOE-RL-2012-41, Rev 0 Date submitted: 9/5/2014 Committee Development: RAP

“We are committed to completing our mission in a safe and compliant manner that is protective of our workers, the public and the environment.”



Kevin Smith

Manager

U.S. Department of Energy – Office of River Protection

Hanford Accomplishments: 100 Area

2014 was the year of the 100 Area! The Board continued their efforts of providing advice on the RI/FS and proposed plans for the 100 Area, having begun the process with Advice #268 in 2013. The 100 F/IO RI/FS and Proposed Plan was the first of the major decision documents in the 100 Area, and it set the tone for TPA agencies' actions and Board advice for future proposed plans. In Advice #268, the Board described proposed plans as "the culmination of the RI/FS process, [which] presents remediation alternatives designed by DOE and its contractors to address identified contamination and select one of the alternatives as the best solution." The decisions made in the RI/FS and Proposed Plan process inform cleanup actions on site for near-term and out-year goals, in some instances for as long as 175 years.

The TPA agencies solicited Board feedback on the plans as early in the process as possible, and in some instances, the Board was able to comment on multiple drafts. The Board addressed the proposed plans in multiple venues: in committee, in advice, and by sounding board. The sounding board process allowed each Board seat two minutes to express its unique opinions, expertise and concerns on a certain topic in front of TPA agency management and their fellow Board members.

By September 2014, the Board had provided three pieces of advice on the 100 Area Proposed Plans, specifically 100 F/IO (Advice #268 and #280), 100 D/H (Advice #278), and 100 N (Advice #274). Each piece of advice requested the TPA agencies to clean up Hanford groundwater as much as possible for future unrestricted use, restrict reliance on institutional controls (IC), and focus efforts on capturing strontium-90 and other major contaminants of concern with the appropriate technologies. The Board reiterated their support of as much remove, treat, and dispose technology

(RTD) as possible, an issue that is prominent in nearly all pieces of technical advice the Board brings forward. In addition to RTD, the Board focused their 100 Area advice on technology designed to trap strontium-90 from reaching the Columbia River, specifically with the use of an apatite barrier, or a permeable reactive barrier. The Board supported further analysis of alternatives and the selection of only alternatives that rigorously applied pump-and-treat technology, as it has been proven to "reduce contaminants and reduce the overall time needed until cleanup goals are attained" (Board Advice #280).

ICs are units of restriction used to keep the public and wildlife off site for as long as is needed for a contaminant to decay or be safe for public access. The Board has advised the TPA agencies to avoid cleanup actions that would require extended use of ICs, as they believe them to be unreliable and unproven to work over extended periods of time. Board advice on 100 Area Proposed Plans, especially Advice #280 on the 100 N Area, stress the need for better analysis of ICs and monitored natural attenuation (MNA), which would require TPA authority and control of parts of the Hanford Site for up to 264 years. The Board is hopeful for further information and analysis, as well as reduced reliance on ICs and MNA in the future. An examination of how to clean up and eventually turn over the property of the 100 Area to the public is a great place to continue the discussion.

The Board always aims for the safe, complete, and timely cleanup of the Hanford Site so that it may be returned to the public and tribes who once used it. The proposed plans for the 100 Area inform decisions that will lead to that goal, marking a beginning to the end of cleanup at Hanford.

Hanford Accomplishments: Tank Waste Path Forward

One of the most important ongoing topics of interest at the Hanford Site is tank waste – potentially dangerous chemical and radioactive wastes stored onsite in single- and double-shell tanks. Several tanks at the Hanford Site, including T-111 and AY-102, have active leaks. Although there is no immediate health and safety risk posed by these leaks, addressing the long-term environmental concerns associated with the leaks requires a robust and sustainable strategy for waste retrieval, treatment, and disposal for long-term storage.

Stored tank waste at the Hanford Site will eventually be treated at the WTP; however, ongoing design and technical issues have delayed the WTP's planned completion and startup schedule.

In the fall of 2013, DOE-ORP introduced the Hanford Tank Waste Retrieval, Treatment, and Disposition Framework (Framework) document to the Board. The document described a strategic framework for addressing the risks and challenges to completing the DOE-ORP mission as soon as practicable by implementing a multipronged,

phased approach that is designed to begin immobilization of the tank waste as soon as practicable through direct feed low-activity waste (DFLAW) and resolution of technical issues for the HLW and Pretreatment (PT) Facilities.

To maximize near-term risk reduction and to leverage the experience gained as the WTP facilities are completed, DOE is considering a three-phased approach to the tank waste mission. The Framework document describes what options could be taken and implemented. Although some work will proceed in parallel throughout all three phases, the Framework phases sequence the completion of the WTP facilities in a manner that allows DOE to apply resources to address the most mobile tank waste, supernate, in the near term while resolving the technical issues associated with the HLW and PT Facilities. As the technical issues are resolved, construction resources will move to the HLW Facility followed by the PT Facility. This approach will allow WTP tank waste Vitrification to begin as soon as practicable with the DFLAW. The scope and pace of work associated with each of these phases is dependent on a number of variables, including technical issues resolution and available appropriations.



Visitors to the Hanford Site receive a tour of the Cold Test Facility, an innovative, full-scale mockup of a Hanford single-shell waste storage tank. The Cold Test Facility allows new tank waste retrieval strategies to be safely tested.

In June 2014, the Board worked to emphasize ongoing tank waste concerns by highlighting the importance of a clear, transparent path forward for tank waste at the Hanford Site. Advice #275 recognized the complexity and interconnectivity that exists between tank waste and the ongoing construction of the WTP. The Board worked to provide the TPA agencies with input for finding safe and effective processes for successfully managing Hanford's pressing tank waste issues throughout the coming decades.

Hanford Accomplishments

Advice #275 acknowledged that one of the most important steps that can be taken in the process of securing tank waste and successfully planning and constructing the WTP is to ensure that an open, transparent dialogue is ongoing between all invested parties, including the Board and the public at large. In crafting this aspect of Advice #275, the Board advocated for an implementation plan that incorporates comprehensive risk assessment and operational plans, easy-to-understand diagrams, and updated project cost estimates to ensure that fruitful conversations on potential management plans may occur. The Board recognized that this open and approachable style of communication is important for fostering continued trust and support while also ensuring sound decision-making processes and enduring outcomes.

Through Advice #275, the Board suggested that there are issues that need to be addressed as soon as possible, including the emptying of Tank T-111 and the construction of new double-shell tank infrastructure. The Board believes new tank space is necessary to alleviate pressures on the current tank system, and the Board stressed that new double-shell tanks would provide enhanced protection to human health and the environment.

The Board has a long history of providing input and feedback on tank waste storage and treatment; Advice #275 adds to this legacy. The advice regarding a path forward for tank waste demonstrates the HAB's ongoing commitment to understanding cleanup and remediation processes that are targeted to the unique challenges presented by the Hanford Site. As the TPA agencies navigate evolving site conditions, funding challenges, and updates to the Consent Decree, the suggestions provided by the HAB for managing tank waste will inform both technical and public involvement efforts in FY 2015 and beyond.



Single-Shell Tank C-Farm under retrieval.

While DOE-ORP recognized the Board's concerns regarding openness and transparency, DOE-ORP requested the Board's continued understanding and patience while navigating the legal requirements of the Consent Decree in the case of *State of Washington v. Department of Energy*, Case No. 08-5085-FVS and associated litigation with the State of Washington. DOE-ORP recommended to the Board that they review DOE's March 31, 2014, proposal to amend the Consent Decree and its April 18, 2014, response to the State of Washington's proposal. The centerpiece of DOE's proposal is commencement of treating the tank waste as soon as practicable, combined with a rigorous tank integrity program. DOE believes that this is the most prudent use of limited resources to safely accomplish the tank waste cleanup mission.

DOE remains committed to updating the Board and other key stakeholders regarding the resolution of technical issues associated with the WTP and the technologies available for the immobilization and disposal of low-activity waste.

HAB Focus: 20 Years of the Hanford Advisory Board



HAB members tour the Maintenance and Storage Facility in Hanford's 400 Area.

HAB members have issued consensus advice to the TPA agencies on a wide-range of issues during the past 20 years and have made significant contributions to cleanup decisions throughout. The Board has weighed-in on the most important and timely policy issues spanning the majority of active cleanup at the site, ranging from actions to protect groundwater, treat tank wastes, and remediate contaminated uplands; appropriate necessary budget to fund cleanup efforts; and improve the ways the public are kept informed and involved. The HAB has remained dedicated to ensuring successful cleanup at every step of the process through a detailed understanding of the issues and providing the TPA agencies with a critical public perspective.

In July 1993, the TPA agencies launched an effort to form a standing, site-specific advisory board to address Hanford cleanup issues. The commitment to formally engage stakeholders was driven by new technical and policy issues and the need for greater public involvement in the midst of early cleanup actions. Other stakeholder efforts preceded the HAB, including the Hanford Future

Site Uses Working Group and Tank Waste Task Force. These earlier groups served as a model for public engagement and collaboration as the HAB was convened to advise the TPA agencies on an ongoing basis. The HAB met for the first time in January 1994.

Since the inception of the HAB, members have striven to operate from a values-focused position. In the Board's first piece of advice issued in June 1994, HAB members urged the TPA agencies to consider the value statements developed by their predecessor stakeholder groups to guide the overall cleanup effort. The HAB's values were subsequently expressed and referred to throughout its many pieces of advice. In 2012, the Board reaffirmed its commitment and accounting of HAB values within a white paper that listed key, fundamental principles related to the Hanford cleanup. The Board has returned to these values time and again, and will continue to rely on them to ground their policy-level perspectives.

Two pieces of the Board's advice issued during the past ten years, in particular, illustrate the HAB's commitment to this values-based approach and its utility to the TPA agencies. HAB members worked in a collaborative manner over many months, through technical committees and the Board, to produce detailed, values-based decision flow charts on Central Plateau cleanup (Advice #173, in FY 2005) and groundwater protection (Advice # 197, in FY 2007). These pieces of advice were offered as guidance for agency decision-making on critical areas of cleanup. They have been durable points of reference for the TPA agencies on these topics.

Another example of the HAB's value-based approach has been its position on protection of the Columbia River. HAB's advice has consistently

HAB Focus

“Twenty years ago there were many skeptics who said the Hanford Advisory Board would fail, but you all have proven them wrong! Viva la HAB!”



Dennis Faulk

Unit Manager

U.S. Environmental Protection Agency

addressed impacts to the Columbia River related to fish and wildlife habitat, drinking water, and its cultural significance. HAB members have long supported the strategy to prioritize cleanup along the Columbia River corridor, carrying on the work first established under the Hanford Future Site Uses Working Group.

The HAB has been an advocate for the funding necessary to achieve TPA negotiated milestones. Budget appropriations for cleanup have fluctuated from year to year and are a major controlling factor for progress on the site. Cost estimates for cleanup have also changed due to emerging information on site conditions and greater technical understanding of the cleanup effort. Through these changes, HAB has remained largely neutral on the prioritization of the budget. Instead, Board members have consistently backed the TPA process and advocated through their advice for full funding to achieve cleanup milestones.

The HAB's work has been an important component of Hanford cleanup history, reflecting shared values across a diverse perspective and advocating on behalf of public interests. As new cleanup challenges arise, members' continued ability to create a dialogue around difficult policy issues will be an important part of future progress made at the site.



In February 2014, Washington Closure Hanford successfully removed and disposed of the 340 vault from Hanford's 300 Area.

Since Hanford cleanup began in 1989,
1,239 waste sites have been
remediated, and **838** facilities have
been demolished.

Since the HAB's creation in 1994,
there have been...

6 DOE-RL Site Managers

8 DOE-ORP Site Managers

7 DOE Energy Secretaries

5 HAB Chairs

280 Pieces of HAB Advice

1 National Landmark Designation

Other Board Activities and Products

Beyond releasing advice, the Board continued to work on positively impacting Hanford cleanup throughout FY 2014. The Board worked to engage the public in new ways, bringing the Hanford cleanup story to an expanded audience and working to solicit feedback from a variety of new stakeholders. In June 2014, the Board hosted its very first evening meeting in an effort to expand public participation in Board proceedings. Other activities and products of note that the Board engaged in throughout FY 2014 include:



Hanford Advisory Board Chair Steve Hudson addresses current and past Board members at their 20-year anniversary celebration.

State of the Site Meetings. In April, the TPA agencies held four State of the Site (SOS) meetings in Washington and Oregon. These meetings provided Northwest residents the opportunity to speak with individuals most closely involved in the Hanford cleanup and to engage with regional organizations in an informational open house format. HAB membership attended the SOS proceedings and helped to get the word out to their constituencies. Following the meetings, the Board continued its engagement by compiling feedback from PIC membership and TPA agency representatives and working to identify important lessons resulting from the meetings. This information will be used to inform future outreach,

better target the evolving needs of the public, and incorporate new strategies and technologies to improve overall outreach effectiveness.

Board Diversity and Effectiveness. Sent to David Huizenga, Acting Assistant Secretary for the DOE-EM, in March 2014, the HAB Diversity and Effectiveness letter highlighted the continued need for efforts to increase the diversity of Board membership and perspective throughout FY 2014 and beyond. The letter recognized that the collective Board and its individual interest groups are working continuously to implement targeted strategies to ensure impactful succession and mentoring plans, each of which allows the diverse demographics of potential Board appointees to enter HAB service with a clearer understanding of the Board's role, history, and process. In addition, the Board is working to adopt **Round-Robin** and **Sounding Board** strategies at board meetings to ensure that all HAB members have a voice to provide feedback to TPA agencies at Board meetings. Public meetings (such as April's SOS) were also noted as providing an opportunity for diverse public interests to engage with and participate in the Hanford cleanup. In the future, the Board will continue to explore efforts to involve younger members of the population (high school and college students, for example), and it will continue to explore non-traditional meeting times to engage those individuals who may be unable to participate during mornings or afternoons. Through targeted diversity efforts, the Board will ensure that it is "open, committed, effective, and transparent," and able to serve current and future generations in the most effective ways possible (HAB Diversity and Effectiveness letter).

What's Next? Board Work in FY 2015

Key cleanup issues and decisions in the coming year are expected to drive policy discussion and potential advice from the HAB. The Board's work in FY 2015 is expected to focus on the following priority areas:

- Deferred maintenance and the status of infrastructure on the site in relation to minimum-safe maintenance
- 100 D/H Proposed Plan for Record of Decision (ROD) and consistency of proposed actions with HAB clean up values
- Central Plateau Inner Area Principles related to land use, exposure scenarios, points of compliance, and long-term ICs for the 200 Area
- Environmental Restoration Disposal Facility (ERDF) Proposed Plan for ROD related to in-trench macro-encapsulation
- Next DOE-RL vision and the direction DOE-RL plans to take based on feedback from the 2015 Vision and current priorities
- Safety culture improvement efforts and the improvement actions in response to the June 2014 follow-up assessment of safety culture
- Tank farm vapors and the results of a Savannah River National Laboratory-led independent team report



Board members Gary Garnant and Shelley Cimon enjoying a Board Meeting

- Risk-based retrieval, treatment, and closure and potential strategic improvements in the tank farm cleanup mission
- WTP progress and public communication strategy
- Cesium storage per current DFLAW plans and potential alternatives
- Budget or continuing resolution updates and potential impacts to work scope
- Area Management Plan and how it will be used to determine increased, controlled public and tribal access and uses

“The Board’s input on key Hanford cleanup decisions is as important now as it was when the HAB was chartered 20 years ago. The HAB has stood the test of time and will continue to be an invaluable sounding board for the TPA agencies as we face increasing cleanup challenges in the coming years. Thank you so much for your service.”



Jane Hedges

Manager

Washington Department of Ecology Nuclear Waste Program

Committees of the Board

The Board is composed of five committees that typically meet or hold conference calls monthly. At the committee level, members work on complex issues that are the underpinnings of the policies governing cleanup at Hanford and develop advice principles for consideration at full Board meetings. The committees develop draft advice based on shared information, discussion, and Board values, and then they work to identify and agree on specific advice points to reach committee consensus. Once advice has committee consensus, that committee brings it before the full Board for consideration.

The Board's two technical committees, the RAP and the TWC, are responsible for understanding and tracking current and planned cleanup work. Three other committees, the PIC, BCC, and Health, Safety, and Environmental Protection Committee (HSEP), are tasked with tracking broader, sitewide issues. The Board chair and vice chair and the committee chairs and vice chairs convene as the EIC to address leadership issues.

Committees respond to an overall work plan that identifies priority topics for discussion. Topics are brought forward as they are timely through collaborative discussions with committee members, TPA agency representatives, and Hanford Site contractors. Within a committee, individuals self-identify as **issue managers** when they have a

strong interest or expertise in a particular cleanup issue and wish to work with the TPA agency content experts and committee leadership to research and frame topics for committee discussions. Issue managers act on behalf of the committee and typically take the lead on advice development.

River and Plateau Committee

RAP considers issues related to contaminated areas along the Columbia River, ICs, waste disposition, Central Plateau facilities and burial grounds and groundwater contamination and remediation. RAP tracked the following issues in FY 2014:

- Proposed Plan for 100 N remediation
- Draft RI/FS work plans for 100 Area D/H
- Draft RI/FS and Proposed Plan for the 100-FR-1, 100-FR-2, 100-FR-3, 100-IU-2, and 100-IU-6 Operable Units
- Proposed strategies for macro-encapsulation at ERDF
- Deferred maintenance strategies at the Hanford Site
- The Consortium for Risk Evaluation and Stakeholder Participation review of the Hanford Site
- Long-term stewardship at the Hanford Site
- Plutonium Finishing Plant demolition

RAP drafted and sponsored three pieces of advice in FY 2014, all regarding the 100 Area (for additional information on this collection of advice, see page 6). RAP also met regularly throughout the year to receive updates on a variety of topics relating to the committee's purview.



Tom Rogers, Washington Department of Health, provides a demonstration of worker safety equipment to HSEP members.

Other Board Activities and Products



Since its construction in 1996, ERDF has accepted over 16 million tons of contaminated materials from the Hanford Site. ERDF is an anticipated Board discussion topic for FY 2015.

Tank Waste Committee

TWC tracks technical issues related to tank waste storage, retrieval, treatment, and disposal at the WTP. In 2014, TWC focused on:

- Design and construction of WTP
- Construction of additional double-shell tanks
- Updates to the system plan
- Tank waste retrieval technologies

In 2014, the TWC sponsored two pieces of advice: one relating to tank waste path forward (see page 7) and the other relating to proposed amendments to the Consent Decree.

Health, Safety and Environmental Protection Committee

HSEP considers how cleanup activities and DOE and contractor operations impact public health, worker safety, and the environment. In FY 2014, the committee worked on the following topics:

- Tank vapors
- Hanford Site safety culture
- Hanford Site policies and procedures for worker injuries and illnesses

HSEP also worked closely with RAP and TWC on joint topics such as macro-encapsulation strategies at ERDF and open air demolition at the Hanford Site.

Public Involvement and Communications Committee

PIC focuses on ensuring meaningful opportunities for the public to participate in Hanford cleanup decisions. The committee provides input and develops advice on the appropriate approach and format for public outreach and involvement activities, as well as long-range strategic public involvement planning efforts, documents, and schedules. The committee also coaches Board members to meet their commitment to inform and seek feedback from their constituencies. In 2014, PIC focused on:

- Public involvement strategic planning processes
- New public involvement tools and techniques
- SOS meetings
- 100 F Area Proposed Plan
- Resource Conservation and Recovery Act Permit modifications

Board and committee leadership

Budgets and Contracts Committee

BCC reviews and advises on the state of Hanford funding, focusing on DOE budgets, expenditures, requests for proposals, and contracts. In FY 2014, BCC focused on:

- Priorities for tightening cleanup budgets
- FY 2016 budget requests
- Review and advice on of DOE's Lifecycle Scope, Schedule, and Cost Report

The committee developed and brought two pieces of budget advice before the Board for adoption in FY 2014.

Executive Issues Committee

The Board leadership team is comprised of the Board chair and vice chair, the national liaison, and the committee chairs and vice chairs. A leadership workshop brings all of these individuals together once per year and allows them to review the previous year's work and outline upcoming priorities based on input from Board and committee members.

The Board leadership worked hard in FY 2014 to maximize its effectiveness, establishing targeted cleanup priorities in FY 2013 and then diligently tracking those priorities to ensure that each one will be addressed in a timely manner. At the 2014 leadership workshop and subsequent EIC meetings, Board leadership worked with TPA agency representatives to identify issues at the Hanford Site most in need of discussion or advice. TPA agency leaders pledged enhanced support for these recognized topics throughout the coming year, identifying content expert **agency leads** for each to help facilitate information-gathering and committee briefings.

2014 Board and Committee Leadership

Board leadership

Chair: Steve Hudson

Vice Chair: Susan Leckband

National Liaison

Shelley Cimon

Committee leadership

Budgets and Contracts Committee

Chair: Jerry Peltier

Vice Chairs: Gerry Pollet, Gary Garnant

Health, Safety and Environmental Protection Committee

Chair: Rebecca Holland

Vice Chair: Richard Bloom

Public Involvement and Communications Committee

Chair: Liz Mattson

Vice Chair: Ken Niles

River and Plateau Committee

Chair: Pam Larsen

Vice Chair: Dale Engstrom

Tank Waste Committee

Chair: Dirk Dunning

Vice Chair: Bob Suyama

Hanford Advisory Board Membership

New HAB Members in Fiscal Year 2014

Name	Seat	Appointment Date
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Derek Donley	Central Washington Building Trades Council	August 27, 2014
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Derek Donnelly represents the primary seat for the Central Washington Building Trades Council. The Washington State Building and Construction Trades Council is a voluntary coalition of over 60 construction-related labor organizations. Speaking for workers in a wide variety of crafts, the Building Trades Council provides organized and centralized representation before the State Legislature, as well as numerous boards and commissions. The Building & Construction Trades Council also performs research and member outreach for our affiliated locals. He is a supporter of labor and economic development that brings living wages to the Tri-City area.

Armand Minthorn	Confederated Tribes of the Umatilla Indian Reservation	August 27, 2014
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Armand Minthorn represents the primary seat for the Confederated Tribes of the Umatilla Indian Reservation on the EM SSAB at the Hanford Site, and he was appointed to the Board as a primary representative in February 2014. A resident of Pendleton, Oregon, Mr. Minthorn is an elected tribal government official and a representative of Cultural Resources for the Confederated Tribes of the Umatilla Indian Reservation Board of Trustees. He has an interest in environmental issues.

Jeff Hunter	"Non-Union, Non-Management" Employees	August 27, 2014
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Jeff Hunter has been selected as an alternate in a Non-Union, Non-Management seat on the EM SSAB at Hanford. Mr. Hunter has worked at Hanford for most of his career and believes being involved in the Board would be his way of giving back. He is a Health Physicist with a broad background associated with environmental cleanups. Mr. Hunter said he has worked for nearly every major contractor at the site and has spent a lot of time listening to the workforce. He has extensive experience dealing with demolition and tank farm issues, and he believes he can bring an "on-the-job" perspective to the Board. For 13 years, he worked for Energy Northwest, so Mr. Hunter also understands the issues and inner-workings of a public power agency formed to produce at-cost power for Northwest utilities. Mr. Hunter has a Bachelor's of Science in Nuclear Technology from Central Washington University.

Edward Mausolf	"Non-Union, Non-Management" Employees	August 27, 2014
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Edward Mausolf has been selected as an alternate in a Non-Union, Non-Management seat on the EM SSAB at Hanford. Mr. Mausolf has a Bachelor's in Chemistry and a Doctorate in Radiochemistry, both from the University of Nevada, Las Vegas. Recently, he has been working as a postdoctoral researcher for Pacific Northwest National Laboratory, specializing in nuclear waste forms, reprocessing wastes, and forensics and material science. He said he has a particular interest in legacy waste at sites like Hanford. As a career scientist, Mr. Mausolf will bring an analytical and technical perspective to board issues. He is also civic-minded, and he often spends his free time as a mentor at the Batelle Math Counts program and at the University of Nevada, Las Vegas' Radiochemistry Fuel Cycle Summer School Program.

Hanford Advisory Board Membership

Name	Seat	Appointment Date
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Janice Catrell	Public at Large	August 27, 2014
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Janice Catrell represents a primary seat for Public at Large and is a resident of Bellingham, Washington. She served as a U.S. Customs and Border Protection Officer from 1980 to 2008. Her interest in serving the community in the management of nuclear waste issues led her to the HAB. Ms. Catrell is an Academy of Life-leading and Learning instructor and is also a member of the Bellingham City Club.

Eric Clements	Public at Large	August 27, 2014
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Eric Clements has been selected as an alternate in a Public at Large seat on the EM SSAB at Hanford. Mr. Clements moved to the Tri-Cities in 1966, and he brings more than 33 years of experience in engineering, project management, and facility maintenance operations management to the Board. He has extensive negotiation experience with stakeholder groups, including tribal representatives and government entities. He also has extensive project management experience in the area of complex nuclear facility design, start-up, operations and information technology for the safe treatment, handling, transport, and storage of commercial and government-generated hazardous wastes. Mr. Clements has developed design and licensing strategies for international agreements to accept radioactive materials from the DOE. He has hands-on experience with quality assurance management and preparation of Nuclear Facility Safety Analysis Reports. Eric has stated that it is time for him to give back to the community; as a Board member, he can harness his knowledge and experience to make a difference.

Rodolfo Mendoza	Public at Large	August 27, 2014
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Rodolfo Mendoza has been selected as an alternate in a Public at Large seat on the EM SSAB at Hanford. Mr. Mendoza grew up in the Tri-Cities as the child of a migrant farm family, so he brings a unique agricultural perspective to his work with the Board. Throughout his career, he has worked for both large corporations and government agencies. He describes himself as a “factually-oriented” engineer and as someone who wants to see the Hanford region continue to grow and diversify. He sits on three local boards, including the Washington State Migration Counsel. His present job title is “Relationship Manager” for the U.S. Bank Commercial Lending Group, where he is the principle point of contact for the complete customer banking relationship. Mr. Mendoza is fluent in written and spoken Spanish.

Edward Pacheco	Public at Large	August 27, 2014
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Edward Pacheco has been selected as an alternate in a Public at Large seat on the EM SSAB at Hanford. Mr. Pacheco has been working at Hanford (Hanford Patrol) for more than 30 years. He is particularly interested in civic, minority, and labor issues at the Site. As a patrolman, he said he is a respected member of the community who is often approached by other Latinos seeking information about Hanford. He is Vice President of the International Guards Union of America and President of the Fraternal Order of Police. He specializes in conflict resolution and is a skilled mediator. Mr. Pacheco mentioned that his management does not support his desire to be involved in the Board, so he will be using his vacation days for Board involvement. Mr. Pacheco will be glad to do this, since he has been interested in being a part of the Board for a long time.

Members Who Have Left the Board (2010–2014)

Susan Babilon	Julie Jones	David Rowland
Kristie Baptiste-Eke	Robin Klein	Rebecca Rubenstrunk
Mark Beck	Wayne Lei	Paul Shaffer
John Beckstrom	Richard Leitz	Rosenda Shippentower
Karen Bowman	Sandra Lilligren	BC Smith
Phil Brick	Jeff Luke	Lyle Smith
Gerry Dagle	Gwen Luper	Keith Smith
David Davis	Todd Martin	Stan Sobczyk
Ken Gasper	Sarah McCalmant	John Stanfill
Norma Jean Germond	Robert McFarlane	Brett Vandenheutel
Laura Hanses	Doug Mercer	Rampur Viswanath
Maxine Hines	Cindy Meyer	Amber Waldref
Joe Jackson	Sarah Minkler	Helen Wheatley
George Jansen Jr	Gary Petersen	Jim Wise
Rick Jansons	Mark Reavis	

In Memoriam

Sue Avery
Harold Heacock
Tony James
Wade Riggsbee



Acronyms and Glossary

BCC: Budgets and Contracts Committee (HAB).

Central Plateau: The location of the 200 East and 200 West Areas and waste management facilities situated 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.

CP or Central Plateau Strategy: A DOE strategy to establish goals, objectives and principles to guide cleanup decisions for the Central Plateau. Its primary goal is to shrink the final cleanup footprint for the Central Plateau from 75 to approximately 10 square miles by 2015.

CRESP: Consortium for Risk Evaluation and Stakeholder Participation.

DF LAW: Direct feed low activity waste facility (WTP complex).

DOE: U.S. Department of Energy.

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

EIC: Executive Issues Committee (HAB).

EIS: Environmental impact statement, a document prepared to comply with the National Environmental Policy Act (see below).

EM: Environmental Management.

ERDF: Environmental Restoration and Disposal Facility, a massive landfill where low-level radioactive waste and mixed low-level wastes from Hanford cleanup are disposed.

EPA: U.S. Environmental Protection Agency.

FACA: The Federal Advisory Committee Act is a U.S. law (Pub. L. 92-463, Oct. 6, 1972) which governs the behavior of advisory committees. DOE chartered the Board in 1994 under FACA.

FS: Feasibility study.

FY: Fiscal year.

HAB or Board: The Hanford Advisory Board.

HLW: High-Level Waste Facility (WTP complex).

HSEP: Health, Safety and Environmental Protection Committee (HAB).

IC's: Institutional controls.

LAW: Low-Activity Waste Facility (WTP complex).

LTS: Long-term stewardship.

MNA: Monitored natural attenuation.

MTCA: The Model Toxics Control Act (1989) is Washington's state Superfund cleanup law, which establishes a process to identify cleanup sites, cleanup standards and management, and cleanup enforcement.

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 EIS on all major Federal actions significantly affecting the human environment.

PIC: Public Involvement and Communications Committee (HAB).

PFP: The Plutonium Finishing Plant was used for stabilizing and repackaging plutonium and plutonium-contaminated material at Hanford. PFP was used extensively during the Cold War to purify and convert plutonium-laced solutions into a solid form to be used by nuclear weapons facilities.

PT: Pre-treatment Facility (WTP Complex).

RAP: River and Plateau Committee (HAB).

RCRA: *Resource Conservation and Recovery Act of 1976.*

Acronyms and Glossary

RI/FS: Remedial investigation/feasibility study (EPA).

River Corridor or Columbia River Corridor:

Hanford facilities and waste sites along the Columbia River.

ROD: Record of decision; a required document administered by EPA under CERCLA.

RTD: Remove, treat, and dispose technology.

SOS: State of the Site meetings.

SSAB: Site-Specific Advisory Board, a board that provides advice and recommendations to DOE's environmental restoration and waste management activities. Nine local community boards are chartered under the EM SSAB Federal Advisory Committee Act Charter.

Tank farms: Underground waste storage tanks at Hanford are grouped into "farms." Hanford has eighteen tank farms with anywhere from two to sixteen tanks per farm.

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.

TPA agencies: Agencies party to the TPA: DOE, EPA, and Ecology (see above).

TRU: Transuranic waste.

TWC: Tank Waste Committee (HAB).

Vadose zone: The soil zone between ground surface and the top of the groundwater.

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 and Immobilization Plant, the facility where tank waste will be vitrified.

Waste Isolation Pilot Plant: Waste Isolation Pilot Plant, the world's first underground repository licensed to safely and permanently dispose of transuranic radioactive waste left from the research and production of nuclear weapons. It is located near Carlsbad, New Mexico.

100 Area: Twenty-six 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 PW-1, PW-3, and PW-6: Waste sites near PFP.

300 Area: An area three miles north of Richland, location of former research and development laboratories and reactor fuel manufacturing facilities.

400 Area: The Fast Flux Test Facility is located in the 400 Area and currently is undergoing deactivation (i.e. shutdown or transition).

618-10 and 618-11 burial grounds: Burial grounds in the 300 Area.

Hanford History



Aerial view of the D and DR Reactors, the Columbia River in the background.

The 586-square-mile Hanford Site was the first and primary plutonium production facility for the nation's nuclear weapons program. The site, which began operations in 1944, includes nine production reactors along the Columbia River, two test reactors, four chemical separation plants, and plutonium processing facilities. The Hanford Site also has 177 underground storage tanks containing 53 million gallons of radioactive and chemical waste.

Between the start of operations in 1944 and the shutdown of the last reactor in the late 1980s, Hanford produced more than 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 waste and over 1,400 waste sites containing liquid and solid waste.

Currently, Hanford is engaged in one of the world's largest environmental cleanup projects. The site mission shifted from operations to cleanup in 1989 when DOE, EPA, and 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-RL is responsible for environmental restoration and waste management activities at Hanford. DOE-ORP was established by Congress in 1998 to manage the complex project of removing, treating, and disposing of Hanford tank wastes and construction of the WTP.

For More Information

Steve Hudson, Chair
Hanford Advisory Board
713 Jadwin Avenue, Suite 3
Richland, WA 99352
(509) 942-1906

Dieter Bohrmann
Washington State Department of Ecology
Nuclear Waste Program
3100 Port of Benton Boulevard
Richland, WA 99354
(509) 372-7954

Emerald Laija
U.S. Environmental Protection Agency
Hanford Project Office
309 Bradley Boulevard, Suite 115
Richland, WA 99352
(509) 376-4919

Sharon Braswell
North Wind Services, LLC
Prime Support Services Contractor to
U.S. Department of Energy - Office of River Protection
(H6-60)
Richland, WA 99352
(509) 376-9292

Kris Skopeck
U.S. Department of Energy - Richland Operations
Office
825 Jadwin Avenue, A7-75
Richland, WA 99352
(509) 376-5803

Cathy McCague, Facilitator
Envirolssues
101 Stewart Street, Ste. 1200
Seattle, WA 98101
(206) 269-5041

If you would like to receive additional copies of this report, please contact Tammie Gilley, Envirolssues, at (509) 942-1906.

Information about the Hanford Advisory Board is available online at www.hanford.gov.

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Portland
Portland State University
Branford Price Millar Library
1875 SW Park Ave, Portland, OR 97207
Attn: Claudia Weston
(503) 725-4542

Richland
Department of Ecology
Nuclear Waste Program Resource Center
3100 Port of Benton Blvd, Richland, WA 00352
Attn: Valarie Peery
(509) 372-7950 or (800) 321-2008

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WSU Tri-Cities, Room 101L
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Attn: Janice Scarano
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