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# Tracking the Hanford Cleanup FY 1995



A progress report by the  
**Hanford Advisory Board**

# ERRATA SHEET

Tracking the Hanford Cleanup  
A Progress Report  
Hanford Advisory Board

1. Page 1, Foreword, second column, last paragraph, eighth line: "contaminates" should be "contaminants."
2. Page 2, second column, first full paragraph, third line: "...the 200 Area's K Basins" is incorrect. It should be "...the 100 Area's K Basins."
3. Page 2, second column, third full paragraph, third line, "...2024" is incorrect. The Tri-Party Agreement does not specify when total cleanup is to be finished.
4. Page 8, Tom Engel quote, second paragraph, second sentence should read: "At some time down the road, an instrument is needed that can read out the levels of a number of contaminants in the field and allow an on-site decision to determine if the cleanup level is sufficient."
5. Page 23, second column, first full paragraph, seventh line: "...by 2024" should read, "...by 2018."
6. Page 24, second column, 10th line under #3. Fast Flux Test Facility, "hazards" should read, "hazardous."
7. Page 26, second column, under Local Environmental Interests, "Audobon" should read, "Audubon."

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Questions and comments should be directed to Bill Sanderson, 1 509 372 3457.

# Foreword

By Marilyn B. Reeves  
Chair, Hanford  
Advisory Board

During the last four years, citizens in the Pacific Northwest have won unprecedented access to information about the U.S. Department of Energy's (DOE) Hanford Nuclear Reservation — its past, present and future. More than four decades of secrecy surrounded nuclear weapons materials production at Hanford.

Hanford now has a new mission: the cleanup and management of dangerous radioactive and chemical wastes. DOE Secretary Hazel O'Leary has replaced secrecy with an Openness Initiative. It seeks to foster public participation in Hanford cleanup decision-making.

This report describes how citizens from divergent interest groups resolved differences and developed a set of fundamental values. These are values that DOE and federal and state regulators should use to guide cleanup and waste management at Hanford. This report documents important cleanup progress. And it describes how government and citizens work together to achieve cost-effective

protection for public and worker health and safety and the environment.

The process of selecting the correct cleanup path is similar to the process of building a new highway in an urban area. It takes many years to

reach agreement on the highway route as citizens and interest groups, politicians, and engineers debate the need, design, cost, and impact of the project. More time is needed to acquire and deploy special equipment, stockpile materi-

als, and award bids. Legal challenges, information research and development, design changes, and unforeseen technical problems increase delay and costs. More delays and higher costs can be expected if decision-makers lack public trust.

Finding the right route for Hanford cleanup and waste management is far more complicated than building a highway. Northwest citizens know there is a need for cleanup. They understand it will be costly and long term. They know that the Richland-Pasco-Kennewick area made important contributions to national security. They know the Tri-Cities area has value for future economic development and that post-cleanup economic strategies must be developed now.

A fragile level of public trust has been achieved as government agencies recognize that public involvement can help solve problems quicker, smarter, and cheaper. The Hanford Advisory Board was created in 1994 to advise DOE, the Washington Department of Ecology and the U.S. Environmental Protection Agency on major Hanford cleanup policy decisions.

Each month, the 32-member Board grapples with complex public policy issues that almost defy solution. Members must understand the details but not get bogged down in them. Members receive no pay for the long hours they spend helping build substantive consensus on difficult issues.

This report demonstrates strong and widespread regional support for safe and cost-effective cleanup. The nation must understand that the Columbia River is a precious resource that must be protected from future Hanford contaminates. Once this area produced plutonium for the nation's nuclear weapons arsenal. Now it must be made ready and available for future economic, recreational, and cultural uses.

One problem experienced by all those interviewed...was difficulty in securing useful information from DOE. Sometimes the information is too technical, sometimes it is too general, often it takes too long to obtain, sometimes it is classified, sometimes people do not know what to ask for, and often people are not sure they can trust information they get from DOE.

*1991 Report  
Center for Technology Assessment and Policy  
Washington University*

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# Nuclear Weapons Production: The Hanford Legacy

**F**our decades of plutonium production at the Hanford Nuclear Site helped end World War II and kept the U.S. in the post-war nuclear arms race with the Soviet Union. Over the years, production provided jobs for tens of thousands of Hanford workers and spurred economic development and growth in Richland, Pasco, and Kennewick—the Tri-Cities. But it left a legacy of hazardous and radioactive waste.

According to DOE's 1995 Baseline Environmental Management Report, Hanford's 560 square miles contain 1,391 individual contaminated sites. About 140 sites contain radioactive waste; another 140 sites contain chemically hazardous waste. One-hundred sixty-six sites contain nonhazardous waste. More than 1,040 contain mixed radioactive and hazardous waste.

Most of Hanford's waste volume was generated by the chemical processing of irradiated nuclear fuels. The resulting high-level waste slurry was piped into underground storage tanks. Other contaminated waste streams also were discharged to the ground. Large and concentrated volumes of waste were created by nuclear fuel fabrication and irradiation work.

Between 1944 and 1980, a witch's brew of nearly 92 million gallons of waste was pumped into 149 single-shell tanks. By 1995, more than 10 percent of that volume—9.2 million gallons—leaked from 67 different tanks into the soil. These toxic wastes may remain bound up in the soil. To date, monitor wells have not detected any leaks from tanks in ground water.

But monitors in some tanks did detect worrisome accumulations of gases that posed explosive potential and serious risk to people and the environment. Dealing with tank wastes has been and will continue to be a vexing, high-priority concern at Hanford.

During production years, Hanford handled enormous volumes of contaminated process water. More than 118 million gallons of low-

level waste water was piped to drain fields called cribs. Cribs were engineered to allow soil layers to filter contaminated waste water and trap radionuclides before the waste water reached groundwater—most of which feeds into the Columbia River. But the natural filters did not work as well as was hoped. Large amounts of contaminated water did reach groundwater and some reached the river.

DOE stores highly radioactive spent nuclear fuel from production reactors in the 200 Area's two K Basins. Some of the fuel is damaged. DOE strengthened the basins to better withstand a major earthquake. DOE stores plutonium at the Plutonium Finishing Plant. DOE also stores huge volumes of low-level waste and transuranic (TRU) waste elsewhere on the site. In some cases, pre-1970 wastes are not well quantified, inventoried or mapped.

Radioactivity's capacity to impact human health and safety and the environment for tens, hundreds, or thousands of years makes cleanup a remarkably complex and costly job. In some cases, the cleanup technique is relatively straightforward. For others, like removing radioactive tritium from groundwater, there is no known technology; tritium cleanup will have to wait. In the meantime, human intrusion at tritium-contaminated sites must be avoided.

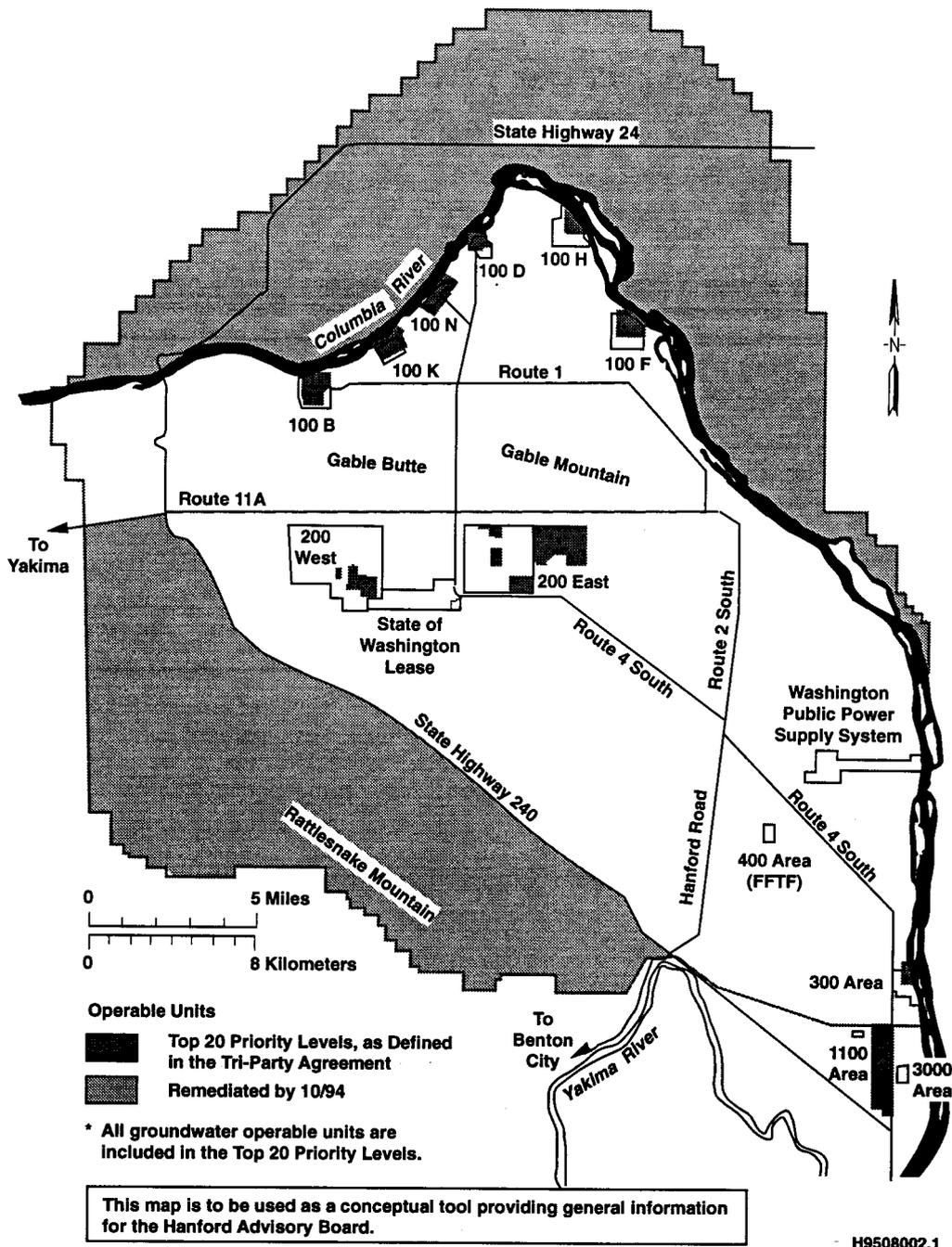
According to the Tri-Party Agreement, or TPA, Hanford cleanup is to be finished by 2024. The Future Site Uses Working Group defined "finished" as:

- getting contamination away from the Columbia River, and
- cleanup sufficient to result in unrestricted surface use of the land outside the 200 Area Plateau.

The Columbia River has been tainted by Hanford's contaminated ground water. Contamination in the 100 Areas still holds the river at risk. Damaged spent fuel stored in the aging, leak-prone K Basins is Hanford's

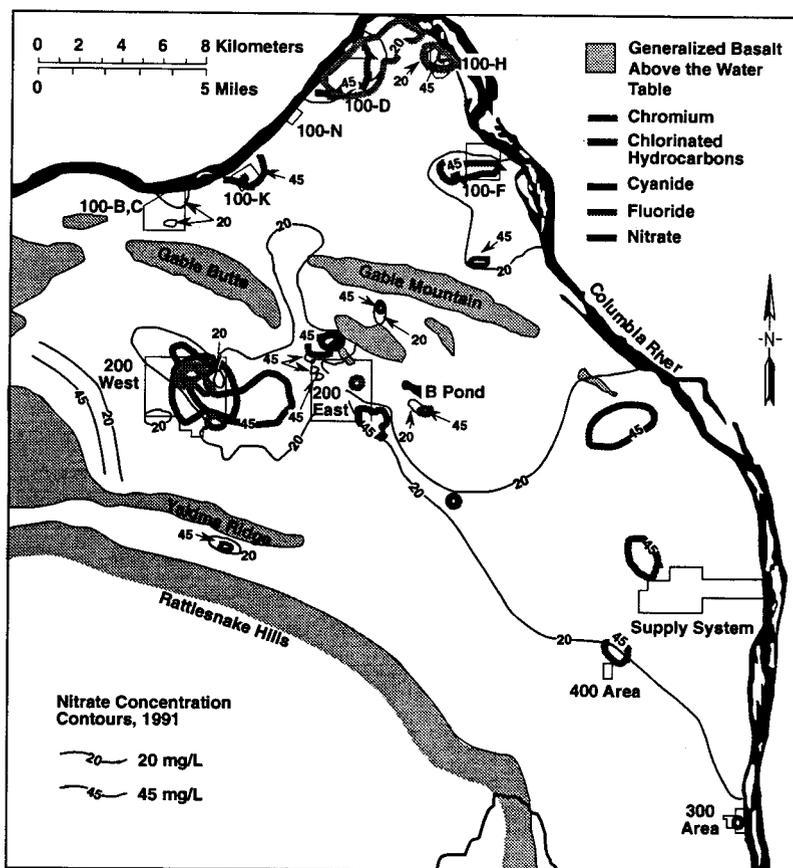
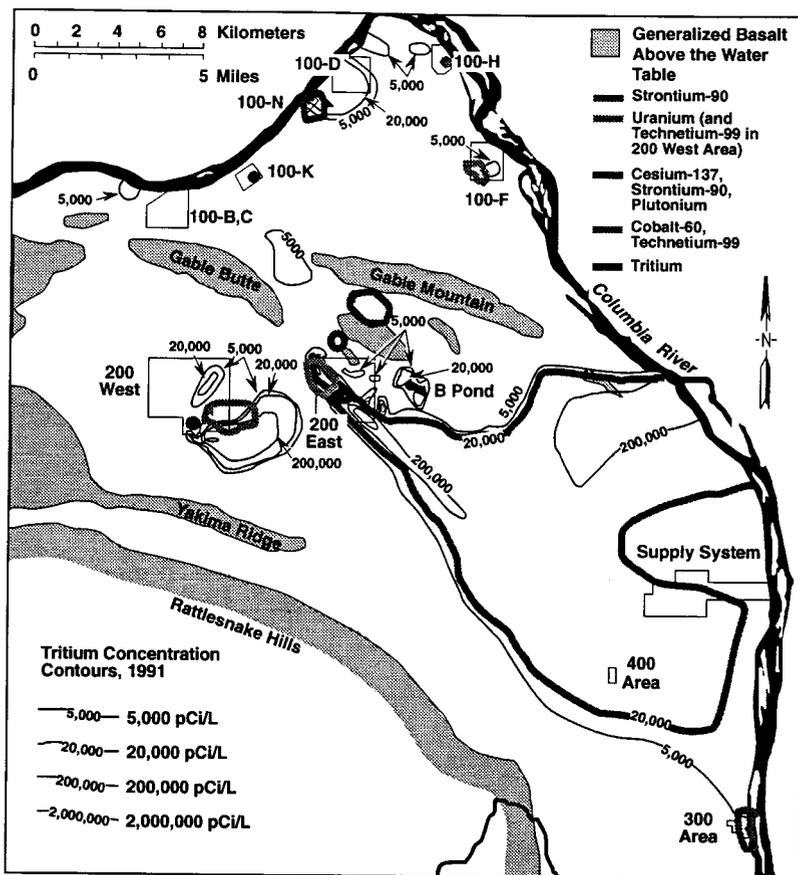
most dangerous risk to people and the environment. Old production facilities, although becalmed by the mission change, must be

made ready for decommissioning, demolition and disposal. Even idle, they carry enormous costs as well as health risks for workers.



**Figure 1.** By any measure, the residuals of a 40-year plutonium production campaign have stunning proportions. By volume, Hanford manages three-quarters of USDOE's national spent nuclear fuel inventory. One hundred seventy-seven huge underground tanks contain millions of gallons of high level radioactive waste. Many of the tanks leak.

**Figures 2 and 3.** Huge volumes of low-level waste await final disposal. There are nearly 1,400 contaminated sites on the 560 square miles that comprise Hanford. Contaminants include hazardous chemicals like carbon tetrachloride. Among dangerous radioactive contaminants are strontium 90, tritium, and uranium. The Columbia River has been tainted by Hanford's contaminated ground water. Contamination in the 100 Areas still holds the river at risk. Damaged spent fuel stored in the aging, leak-prone K Basins is Hanford's most dangerous risk to people and the environment. Old production facilities, although becalmed by the mission change, must be made ready for decommissioning, demolition and disposal. Even idle, they carry enormous costs as well as health risks for workers.



# Public Involvement: The End of Secrecy

After more than 40 years of producing plutonium for nuclear weapons, Hanford's mission changed abruptly to environmental restoration — cleanup.

It was more than the end of an era. For thousands of USDOE and Hanford contractor employees, it was the end of a way of life. For many, the transition would be both painful and awkward. For most others, the opportunity to focus on worker and public safety and restoring the Hanford environment was and is a welcome challenge.

Secrecy in the name of national security had been the overriding priority at U.S.

public trust, OTA suggested that site-specific advisory boards be established. OTA recommended the boards have full-time technical staff. The boards would provide both policy and technical advice to DOE, the U.S. Environmental Protection Agency and state regulators.

The report noted: "These boards could consider issues relating to cleaning up past contamination, assessing and reducing public health risks, and safely storing and disposing of past waste. By having access to the information, technical support, and other resources needed to participate effectively in

all aspects of the cleanup decision-making process, the boards could foster openness, trust, and cooperation among interested parties. From that and recommendations from other groups, DOE established several

The 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 Department of Ecology on major policy issues related to the cleanup of the Hanford Site.

*Mission Statement  
Hanford Advisory Board*

weapons sites. Environmental protection was ignored and neglected. When cleanup became Hanford's new mission, public and political leaders demanded information on waste volumes, types, and degrees of contamination.

New DOE leadership insisted that the agency and its contractors would build credibility and public trust through openness, candor and effective public involvement in key decisions.

The U.S. Senate Committee on Armed Services asked the Office of Technology Assessment (OTA) to conduct an independent evaluation of the concerns and possible solutions to the vast problem of defense wastes.

One aspect of the 1991 OTA report dealt with public skepticism of DOE's decision-making process on waste management and cleanup. To improve credibility and develop

site-specific boards in 1994, including one at Hanford. Chartered under the Federal Advisory Committee Act, the Hanford Advisory Board was charged to "provide input and recommendations on DOE decisions that impact future use, risk management, economic development, and budget prioritization activities."

DOE first began to seek public advice on Hanford issues in 1986-87.

The Northwest Citizens Panel was convened to provide advice on the Draft Defense Waste Environmental Impact Statement. This was followed in 1992 by the Future Site Uses Working Group (FSUWG) and, in 1993, by the Hanford Tank Waste Task Force (TWTF).

There were significant differences between the Citizens Forum and the subsequent groups.

The latter were jointly sponsored by DOE

and the regulators; members were selected to represent a broad range of interests in a process that DOE did not control; and the efforts were independently facilitated.

Since its creation in January 1994, the Hanford Advisory Board has met almost monthly. More than 100 committee meetings have been held as members seek information, resolve differences, and draft advice for action by the full Board.

By the end of FY 1995, the Board produced 38 packets of consensus advice on issues re-

lating to proposed actions by DOE Headquarters, by DOE-Richland, or by the Tri-Party agencies.

The Board also has commissioned an in-depth technical report and provided numerous informally-structured opportunities for the Tri-Party agencies to get the Board's reaction on specific issues.

The Board has evolved into a cost-effective forum for public involvement, but it is not the sole conduit for public involvement on Hanford issues.

## ***The October Breakthrough***

Until late 1994, DOE's complex budget-making process baffled and frustrated Hanford stakeholders. The process afforded the public only a fleeting opportunity—usually in late January or February—to review, understand, and try to influence multi-billion-dollar budgets. Until late 1994, DOE did not reveal budget data before release of the President's budget to Congress.

Stakeholders steadfastly insisted on timely and meaningful involvement in budget issues and decisions—and a fair chance to influence those decisions. Site Manager John Wagoner's presentation to the Board concerning a proposed reprogramming of FY 1994 funds, became known as the October Budget Breakthrough. In an unprecedented move, Wagoner opened up his budget books months ahead of schedule for the new Hanford Advisory Board's inspection.

The Board's Dollars and Sense committee worked through marathon meetings with Wagoner's budget experts and program managers to learn how the agency decides spending priorities — and whether those decisions reflect public perspectives and values. The committee worked hard to give DOE timely and useful reprogramming advice.

DOE-RL's cooperation won applause from

the committee and the Board. The new working relationship continued into 1995 when the committee began working with DOE-RL on the agency's FY 1997 budget proposal. Again, the committee had access to DOE-RL budget and program officials at the same time those officials prepared FY 1997 budget requests. The lead-time provided the committee opportunities for in-depth involvement. The result: detailed consensus advice for the FY 1997 budget. The Board told DOE-RL that the advice, if followed, would allow the agency to keep its commitments in the Tri-Party Agreement, reduce costs, and make more than \$300 million available for safety and cleanup priorities in FY 1997.

The Board commended DOE-RL "for its efforts to create an open and productive dialogue with regional stakeholders." The Board acknowledged that this new approach "undoubtedly has been unsettling for DOE.

"As a result, however," the Board said, "the values of citizens on the Hanford cleanup budget and priorities have been recorded. The Board has offered many constructive recommendations, some representing significant cost savings."

The Board's formal budget advice was delivered to DOE-RL in May 1995.

# Enforcing Cleanup

Before the mission change at Hanford, DOE answered to no regulatory authority but itself. That too would change. Cleanup would be conducted in accord with federal and state environmental laws. Two regulatory agencies—the U.S. Environmental Protection Agency (EPA), and the Washington Department of Ecology (Ecology)—enforce those laws.

In the late 1980s, environmental groups and other interests, including the State of Oregon, pursued enforceable cleanup standards through the courts. In response, DOE, EPA, and Ecology in 1989 entered into a legally-binding compact—the Tri-Party Agreement. It set cleanup standards and target dates, or milestones, for achieving specific tasks. The agreement has been amended many times, but the legal framework remains in place.

The agreement is to ensure that environmental impacts of past and present activities at Hanford are thoroughly investigated and action taken to protect worker and public health and safety and the environment. The agreement provides for compliance with the Washington Hazardous Waste Management Act, including requirements for permitting, compliance, closure and post closure care, and the state's clean air standards.

The agreement is sufficiently flexible to allow for reality checks and adjustments. The

Tri-Party agencies have negotiated more than 170 milestone changes. From 1989 to late 1995, DOE completed 442 of 448 enforceable milestones under terms of the agreement.

Negotiated changes to the agreement in 1994 allowed DOE to give protecting the Columbia River a higher priority for cleanup dollars. That change was in response to consensus advice based on public values adopted by the Board and other advisory groups.

"The situation prior to the Tri-Party Agreement presented a dilemma. There was a tradeoff between suing to get a consent decree (rather than a voluntary consent order) and getting on with the job. The consent decree would likely have been limited to only those areas where state statutory authority was unchallengeable, and would have taken longer to get, especially since DOE and the Washington State Department of Justice were prepared to fight. It was a tough choice; however, we'd probably make the same choice again."

**Max Power**  
*Liaison to the Hanford Advisory Board  
Washington Department of Ecology*

# Hanford Cleanup: Moving Forward - 1989-1995

## The way it was

- Hanford ended 45 years of nuclear materials production for national defense in the Cold War.
- In many cases, production activities simply stopped in mid-stream; toxic chemicals and radioactive materials were left in process lines and temporary containers.
- 457 million curies of radioactive materials had been released to the environment. 440 billion gallons of liquids, more or less contaminated, had been disposed of to the soil. Groundwater under more than 230 square miles was contaminated.
- Only USDOE regulated safety, waste management, and environmental protection at Hanford. A series of internal reviews, including the "Tiger Team" review, found serious safety, health, and environmental shortcomings.
- Hanford employees who publicly raised issues about safety, health, and the environment were subject to employer retribution, ostracism, and security investigations.
- Hanford had not been required to comply

with environmental laws protecting air and water, and laws regulating hazardous wastes that had applied to the private sector and to other government units since 1970.

- Upgrades to improve safety in aging facilities and waste tanks, improved waste disposal practices, and cleanup of environmental contamination had been consistently low among budget priorities, often being deferred or under-funded.
- Maintenance and operations contracts were "cost-plus," with minimal supervision by the government and few incentives to improve efficiency.
- Public and external regulator access to information about the site and to the site was very limited.

## The way it is now

- Environmental cleanup and safe waste management are the primary missions at the Hanford Site.
- Under the Tri-Party Agreement, Hanford is moving toward compliance with the same environmental laws with which the rest of

## ***Technology: Timing is Critical***

One of the great challenges for the Hanford cleanup in the coming years is to ensure that the technologies necessary for field work are available as they are needed. Many of the tasks which must be carried out in order to satisfy the Tri-Party Agreement milestones are not now supported by mature and cost-effective technologies.

For example, we need to bypass the costly analytical laboratory work used today. At some time down the road, an instrument is needed that can read out the levels of a number of contaminants in the field and allow an on-site sufficient. Who is directing the development of such a technology?

Smart technologies need to come out of the significant amount of research and development which DOE funds. The Board needs to take a look at whether this is being done as aggressively, rapidly, an efficiently as needed.

*Tom Engel*  
Board Member  
University of Washington

the country must comply. Given the immensity of the problems, achieving cleanup at Hanford will take at least 30 years.

- Hanford is subject to external regulations of emissions to the air and water, and its management of dangerous wastes.
- Information about Hanford, its production history, its wastes and contamination, and its programs and expenditures, is complex, but readily available. There is active public involvement, including a standing citizen advisory board.
- Site contracts have begun to include incentives for improved safety and more efficient performance.

## What's been achieved

- Better management of radioactive tanks wastes has reduced risks of leaks and explosions. However, cost of maintaining Hanford's aging tank farms now exceeds \$300 million per year.
- Cleanout and removal of toxic materials from closed Hanford plants has reduced risks to workers and maintenance costs.
- More than 100,000 pounds of carbon tetrachloride, as well as uranium, technetium, cesium, strontium and chromium have been removed from ground water beneath Hanford.
- Before cleanup, Hanford facilities discharged 4.5 billion gallons of contaminated liquids to the soil. All such discharges have been stopped. All contaminated waste streams are or soon will be treated in modern, state-of-the-art facilities.
- Contaminated sites in the Arid Lands Ecology Reserve and the North Slope have been cleaned up. Nearly half the Hanford site can be shifted to other uses.
- Work is ahead of schedule on removing 2,100 metric tons of spent nuclear fuel from the K Basins. The Basins are less than one-quarter mile from the Columbia River.

## The Public Speaks:

# Adopting Values to Guide Cleanup

Workers, the general public, and the environment are at potential risk from Hanford waste. Eliminating or reducing those risks are the drivers behind cleanup.

There are many groups interested in various aspects of Hanford waste management and cleanup. Local and regional governments, Indian tribes, business interests, workers, environmental organizations, the State of Oregon, health agencies, public interest groups and the public-at-large are stakeholders.

In general, these diverse groups share a

"Consensus from this Board means something. It has political clout because it has such a broad and diverse constituent base. Decision-makers like to work with clear expressions of opinion from a broad cross-section of constituents. That's what we deliver."

*Ralph Patt, Chair  
Environmental Restoration Committee*

common concern about Hanford issues. But each stakeholder group has a specific and distinct interest that reflects the policies or goals of the constituency. The interests of one group of stakeholders may sometimes conflict with the interests of other groups.

Through intensive and innovative consensus-building during the past three years, the many diverse interest groups have agreed on a common set of values that provide clear guidance to Congress, the State of Washington, USDOE, EPA and Ecology.

The first set of values were formulated in 1992 by the Future Site Uses Working Group:

- Protect the Columbia River
- Deal realistically and forcefully with groundwater contamination.
- Use the Central Plateau wisely for waste management

- Do no harm during cleanup or with new development
- Cleanup of areas with high future use value is important
- Clean up to the level necessary to enable future use options
- Transport wastes safely and be prepared for emergencies
- Capture economic development opportunities locally
- Involve the public in future decisions about the Hanford Site

In 1993, the Tank Waste Task Force reinforced the first set of values by adding these:

- Get on with cleanup!
- Protect the environment
- Protect public and worker health and safety
- Use systems design approach that keeps endpoints in mind as intermediate decisions are made

- Establish management practices that ensure accountability, efficiency, and allocation of funds to high priority items

The first major action taken by the Hanford Advisory Board in early 1994 was to endorse and adopt both sets of values. In, September 1994, acting on a recommendation from its Cultural and Socio-Economic Impacts Committee, the Board adopted these additional values:

- Historic and cultural resources have value. They should not be degraded or destroyed. Appropriate access to those resources is a part of their value.
- Workforce stability and reasonable stability in the demand for public services are important for the affected communities. In decisions on projects and contractors, consideration should be given to affected workforce and population shifts.

- Cleanup and waste management decisions should be coordinated with the efforts of the affected communities to shift toward more private business activity and away from dependence on federal projects that have adverse environmental or economic impact.
- The importance of ecological diversity and recreational opportunities should be recognized; those resources should be enhanced as a result of cleanup and waste management decisions.
- These concerns should be considered while promoting the most effective and efficient actions that will protect environmental quality and public health and safety now and for future generations.
- Cleanup activities should protect to the maximum degree possible the integrity of all biological resources, with specific attention to rare, threatened, and endangered species and their related habitat.

These sets of values form the foundation and the context for the Hanford Advisory Board's deliberations and Consensus Advice to the Tri-Party agencies.

**VALUE:** Protect the Columbia River by giving 100 Area cleanup a higher priority.

The Columbia River is a vital resource in the Pacific Northwest. The river supports agriculture, commerce and transport, recreation, a regional fishery, hydroelectric power generation, and provides drinking water to downstream communities. Protecting the Columbia from present and future contamination is a major goal of all stakeholders and the Tri-Party agencies.

Contaminates from N Reactor's cribs and trenches have reached the river via N Springs, a natural ground water flow that extends about one mile along the river bank near N Reactor.

The K Basins are two storage pools built to accommodate spent fuel from two earlier riverside reactors. Some of the fuel in K Basins is damaged. In combination, these flaws pose risks to workers, the public, and the environment.

The Board advised the Tri-Party agencies to accelerate the removal of radioactive and

hazardous wastes from the K Basins, N Springs and N Reactor—the last of nine production reactors built on the river's edge.

Specifically, the Board's advice included:

**A. Spent Fuel/K Basins:** Spent Fuel stored near the river must be recovered and prepared for long-term, interim dry storage at Hanford. The old storage site must be cleaned up and decommissioned. Progress to date:

The Board endorsed DOE's plan to hasten the removal of damaged spent nuclear fuel from the K Basins and away from the Columbia River.

The Board advised DOE to give this approach high funding priority. This action gets on with cleanup, protects the Columbia River and worker and public health and safety, and reduces transport risks. Moreover, the Board's advice acknowledges that Hanford will have long-term interim waste storage.

DOE Headquarters approved DOE-Richland's Path Forward strategy and funding. DOE-Richland now intends to begin to move the spent fuel to interim storage by December 1997. The fuel move is to be finished by 2002, ahead of the Tri-Party Agreement target milestone.

"Public involvement considerations need to be part of each committee's agenda. We need to find ways to integrate public involvement issues and questions earlier in the process."

*Betty Tabbutt, Chair  
Public Involvement Committee*

**B. 200 Area Treated Effluent Disposal Facility (TEDF).** Contaminated waste water was discharged, untreated, to Hanford soils, a threat to ground water resources and the river. Completion of the treatment facility allowed DOE to:

- Stop all untreated discharges to Hanford cribs
- Achieve a major step in meeting Congressional mandates and Tri-Party Agreement progress requirements
- Meet 12 milestones ahead of schedule, thereby saving \$25 million

**C. Environmental Restoration Disposal Facility (ERDF). Cleanup along the Columbia River requires a permanent disposal site for contaminated dirt and industrial rubble.**

- The facility, situated in the 200 Area, is under construction and will receive 100 Area waste for disposal in September 1996.

"The longer we work together, the less threatened each of us feels by other points of view."

*Patty Burnett, Chair  
Cultural and Socio-Economic  
Impacts Committee*

**D. 100 Area Pump and Treat Programs are intended to keep a bad problem from getting worse. In this case, the intent is to keep contaminated ground wa-**

**ter from migrating to the Columbia River.**

In December 1994, the Board's Environmental Restoration Committee evaluated DOE's carbon tetrachloride pump-and-treat project. Acting on the committee's recommendation, the Board advised the Tri-Party agencies to:

- Emphasize the removal of volatile organic compounds from the ground above groundwater
- Pump liquids from the highest concentration areas
- All treated water returned to the ground should meet drinking water standards
- Increase pumping if contamination continues to spread

**For more examples of Board advice, see Appendix 2.**

# Hanford Cleanup Progress: The Tri-Party Agencies Evaluate the Board's Role

This section discusses the manner in which the Hanford Advisory Board's presence and its advice influences the way each of the Tri-Party agencies conduct Hanford cleanup business.

## U.S. Department of Energy

"Just the presence of a Hanford Advisory Board has substantially changed the Department's outlook and attitude. The Board and its mission have sensitized DOE-RL and our contractors to the importance of applying public perspectives and public values in our decision-making. In the old days, that seldom was the case. Now, when a key decision is to be made, we ask ourselves: does this issue have a public constituency? If so, how can we involve those people in the decision? What information do they need in order to be effectively involved and to give us sound, informed advice?"

"Most Board members are natural skeptics, as they should be. Working with skeptics gives us daily reminders of the importance of building trust relationships — call it credibility. We're working on that. We're a ways from our goal, but I believe we're making real progress."

**John Wagoner**  
Site Manager, USDOE-Richland

## Washington Department of Ecology

"The Hanford Advisory Board has affected the way we do business at Hanford in several ways. The Board holds us accountable for what we're doing at Hanford. We feel this as individuals and collectively as an agency. The accountability makes us think through how we work together, and to be clear about

why we disagree when we do disagree. The Board focuses a spotlight on Tri-Party cooperation—as we expected it would.

"The Board, especially through its committees, provides a sounding board reflecting a wide range of views and values where our staff can test out new approaches and preliminary thinking. We get a reality check early in the decision-making process, before being locked into a position we have to de-

"The Board holds us accountable for what we're doing at Hanford. We feel this as individuals and collectively as an agency."

**Dan Silver**  
Assistant Director  
for Nuclear Waste Management  
Washington Department of Ecology

fend. The Board has closed the gap between the people and the government.

"The Board helps us keep focused on key items—and prevents us from getting lost in a technical or regulatory thicket. The Board consistently brings us back to basic principles. We need to stay focused on these core public values.

"To some degree, each of the Board's Advice Packages impacts what we do. However, I think two stand out: Advice #17, on USDOE's Fiscal 1997 budget provides a good sense of priorities for cleanup and identifies a number of specific strategies for making cleanup more efficient. This advice guided Tri-Party Agencies at the St. Louis meeting, where we worked out an approach to find sufficient savings to allow us to move ahead and meet basic Tri-Party Agreement cleanup commitments under a reduced budget.

"Advice #24, on privatization of the Tank Waste Remediation System, will make a significant contribution to ultimate tank waste

retrieval and disposal. This advice provides parameters, values, and sequencing of a very complex set of decisions. The framework is excellent. It helps us make dozens of administrative decisions without getting bogged down in details.”

**Dan Silver**  
Assistant Director  
for Nuclear Waste Management

## U. S. Environmental Protection Agency

“The best thing about the Board is the open communication that it promotes—among the various stakeholders and with the agencies. The Board’s committees are especially helpful. EPA’s Hanford staff have found them an effective sounding board for us to get a sense of public interest and concerns on issues.

“The work the Board did on the Environmental Restoration Disposal Facility (ERDF) illustrates the impact of the Board on Hanford decisions. EPA, DOE, and Ecology were struggling with some tough issues in developing a facility to dispose of Hanford cleanup waste. The Board’s advice directly affected the regulatory approach for approving the construction and operation of the fa-

cility. The Board helped produce a consensus on such issues as the size of the ERDF, its location, limiting it to Hanford-only wastes, and building it in phases. Without the Board, it would have taken months of costly delay to reach resolution on these issues.

“The Board has really rolled up its sleeves and dug into tough issues. For example, the Board’s review of proposed new double-shell tanks used an expert technical consultant, Dr. Glenn Paulson, to produce a report full of valuable insights for the tank waste program. The work of the Dollars and Sense Committee has been quite helpful as we wrestle with the tough budget issues that confront the site, and as we push hard to cut costs and make the cleanup more efficient.

“One of the phrases that EPA, DOE, and Ecology hear from the Board is to ‘get on with it’—to get moving on cleanup and to break through the obstacles to progress. I think the Board has been a major force for ‘getting on with it’. By facing hard issues and pushing for their resolution, the Board is not a bystander in the Hanford cleanup—it is a major contributor to progress.”

**Randy Smith**  
Director, Hazardous Waste Division,  
Region X

## Review and Prospectus

# Interviews with Committee Chairs

**Dr. Richard Belsey**, of Portland, chairs the Board's Health, Safety and Waste Management Committee. Dr. Belsey, a retired physician, represents the Oregon Physicians for Social Responsibility on the Hanford Advisory Board. He is a member of the Oregon Hanford Waste Board and chairs that board's Waste Management Committee.

### **How would you rate the Board's effectiveness today?**

It's good. Better than some expected. The Board began to accumulate some successes in late 1994. Our committee approach has come together. We're getting work done. We're getting to the heart of what the Board should be all about. I'm really impressed and moved by the way the Board has started contributing.

### **How do you respond to the criticism that the Board delves too far into details instead of taking a "global view" on major policy issues?**

This Board can't do policy work unless we ourselves know and understand the details. I've worked on other boards that develop policy level advice. Those boards had staff to do the leg work, feed us the facts, and sometimes even draft our advice. This Board doesn't have that kind of staffing. Still, somebody has to do the pick and shovel work. The work has to be done so we do it.

### **What can the Board do better?**

We need to be more efficient to be more effective. We have to deal with cleanup issues in real time. That means we have to get advice back to the decision-makers before their decisions are made. I think our committees have to focus on getting the work done. The Board has to focus on decision-making and decision review.

### **You feel strongly about alternate members.**

I do. Were it not for alternates and the workloads they took on—and are still handling—this Board would have died in the early days. I think it would be fatal to eliminate alternates.

### **How is the Board handling the workload?**

This Board begs burnout. Nothing that we're doing is worth our health. We've lost some real contributors. We can't afford that. Knowledge and understanding are not replaceable modules. You build them over time, like relationships. We can build effectiveness by promoting longevity.

### **How is DOE doing? Better?**

Better. In the early days, DOE looked to us for management strategies. We're not good at that. What we can do is a management study with a focused question, like the work our committee did on privatization. John Wagoner's new management team demonstrates that he's trying to do business like a business. That's good.

### **How would you plead Hanford's case to Congress?**

I am pleading Hanford's case to Congress. And I'm saying, yes, DOE made mistakes here. The Blush Report makes a point. But that's old history. Now things are starting to happen. This is the bottom of the market. This is where you buy in.

**What's been your committee's best work so far?**

Privatization, TWRS issues, and K Basins. We're comfortable with our approach and the

results we've achieved. I'm very proud of our committee members. They've worked hard on tough issues, and I think we've produced sound and useful advice.

**Ralph Patt**, Salem, OR, a hydrogeologist with the Oregon Department of Energy, chairs the Board's Environmental Restoration Committee. Patt is an alternate on the Hanford Advisory Board to Oregon member Michael W. Grainey. Patt served on the Hanford Future Site Uses Working Group.

**Where do you see the impacts of budget cuts?**

First, I want to say that I think DOE and taxpayers are getting a real bargain in the Hanford Advisory Board. The market value of our time and expertise is worth our budget several times over.

lease 95 percent of the corridor for fully unrestricted surface use by 2018. That's much more realistic and achievable.

**But can the Board succeed despite the cuts?**

No. We're not going to be able to continue to work at this level. Perhaps we ought to keep working until the budget is spent—and then stop. DOE then might realize how important the Board is.

**But what about the term "unrestricted?" The definition seemed clear to the Future Site Uses Working Group.**

I think the Tri-Party agencies will have to come to the Board and ask for an amplification of (1) the Future Site Uses Working Group's advice, and (2) how do we address an unrestricted land use standard if we lack, for example, the technology to clean up tritium contamination or the money to pay for it? I think the ER committee can bring the Board a useful clarification of the issues with which the Tri-Party agencies are struggling.

**Where do you see the Environmental Restoration Committee's focus in the near future?**

We need future land use issues clarified before we can make significant cleanup progress. Terms like residential, commercial, agricultural and recreation and unrestricted must be defined.

The Yakamas and some Board members have interpreted "unrestricted" literally: all of Hanford must be restored to its original, pristine condition. DOE says that can't be done by 2024, the Tri-Party Agreement milestone.

**How's the Board doing overall?**

The Board really proved its worth this year. We have a democratic process that somehow accommodates more than 30 broad fields of interest that are sometimes in sharp disagreement. Amazingly, we're able to build a tremendous amount of consensus on difficult issues.

**And you agree?**

Yes. But a satisfactory, reasonable agreement is possible. For example, the committee developed advice to the Tri-Party agencies, which the Board endorsed, that said the goal for cleanup in the 100 Area should be to re-

**What does the Board do best?**

Consensus. Without a doubt, that's our most important product. Consensus from this Board means something—it has political clout because it has such a broad and diverse constituent base. Decision-makers like to work with clear expressions of opinion from a broad cross-section of constituents. That's what we deliver.

**Betty Tabbutt**, of Olympia, chaired the Board's Public Involvement Committee. She represents the Washington League of Women Voters and is a former Chair of the Washington Nuclear Waste Advisory Committee.

**What's been the focus of the Public Involvement Committee's work?**

We see our role as advising the three agencies about what public involvement should be and how it should be done. That involves trying to change the way the agencies think.

**And?**

I think there's been some good progress. The three agencies have very different styles, you know. The public involvement strategy our committee recommended to the Board will help the agencies rank their public involvement priorities. That's an important step. Better coordination will bring better paybacks.

**What do you think the Board has done very well?**

Committee work. Our committees make very productive use of their time and the Board's time. For example: The Board has managed to get deeper into DOE's budget and its budget processes than any other pub-

lic agency in history. DOE deserves some credit for giving us that access and helping us understand how the process works. The Board deserves credit for making a huge difference. We've been able to line up public concerns with real decisions. Whether that does any good, time will tell.

**What do you think the agencies have learned from the Board's budget work?**

I think they're beginning to realize that public involvement doesn't mean anything if you're not willing to discuss dollars.

**The Board will take a budget cut in FY 1996. What's your reaction?**

I think we must be more creative. I don't see a lot of waste, but I know we'll have to cut back. Perhaps part of the answer is more committee meetings and fewer Board meetings. I don't believe that cutting back on facilitation is the absolute answer. Our working committees need really good staff support.

**Patty Burnett** is Vice-Chair of the Board and chaired the Cultural and Socio-Economic Impacts Committee. Ms. Burnett, a restaurateur, lives in Benton City, WA., and has served on the Benton City Council and the Benton-Franklin Regional Council.

**What the most significant achievement so far in the Hanford cleanup?**

I believe it was the clear recognition that the Site's Central Plateau would be used for waste disposal. That was a judgment of the Future Site Uses Working Group, of which I was a member. I think the judgment was based on common sense, but I don't think the Tri-Party agencies expected us to reach consensus so quickly and so decisively.

**Why not?**

Nobody likes the term "sacrifice zone." We

tend to avoid terms like that. I think the agencies felt that the concept would spook us. But our conclusion was: put dangerous waste where it can be monitored under institutional control. The Central Plateau was and is the logical site.

**Any other achievements?**

Yes. The Tri-Party Agreement has become a real working document. In 1989, when the agreement was signed, there were dire predictions that it wouldn't work and that cleanup would forever be paralyzed in the

courts. That hasn't happened. I think there's more confidence in the agreement because there's a growing consensus that it's in the best interests of the Pacific Northwest for Hanford cleanup to proceed. The agencies appear to share a sense of wanting the agreement to work and they're willing to make it work through negotiated compromises.

### **What about the Board's achievements?**

I think there have been three: One, the Board's endorsement of the Environmental Restoration Disposal Facility. We surprised the agencies on that one. Two, our help in elevating the priority for K Basin cleanup. And three, our reaffirmation of commitments to protecting the Columbia River and meeting the TPA milestone for stopping the discharges of liquid effluents.

### **How well is the Board working?**

We're doing better. The mere fact that 32 different points-of-view and values can work together toward consensus—and achieve it—is phenomenal.

### **Why is the Board working better?**

Trust. Confidence. Respect. The longer we work together, the less threatened each of us feels by other points of view. We don't feel we have to use radical and drastic measures to get attention. We've found commonalities. People listen to each other with patience and respect.

### **Does anything about the Board bother you?**

Sometimes I sense that the Board is mov-

ing too quickly. There's a widening gap between those who can work Hanford issues full time and those who can't. On the other hand, we seem to get a tremendous amount of work done in a short time. We're able to do that because of the high level of technical expertise of some Board members. Perhaps the frustration is my own. I would like to see a broader approach to some major topics. For example — privatization: the Dollars and Sense Committee would determine cost-effectiveness; Health, Safety and Waste Management would research health and safety issues; and Cultural and Socio-Economic Impacts would look at those issues.

### **Local governments appear to have down-scaled their Board involvement. If that's true, why?**

I don't believe we have. There are a number of Hanford issues with which local governments deal. The Board is only one of the arenas in which these issues are discussed. I believe that the Board provides tremendous opportunities to influence major policy decisions that impact our local communities. We are not using that opportunity to its fullest potential. We are not recognizing the strength of a regional voice and consensus. As we move ahead to the next year and review the proposed Management and Integration contract, privatization, the Workforce Restructuring Plan, and the Hanford Remedial Action EIS, I think you'll see the local seats come alive and you'll hear a much stronger voice.

Board member **Gordon Rogers**, of Pasco, is a retired Westinghouse Hanford Company engineering manager who holds one of the Board's public-at-large seats. Rogers was interviewed as a member of the Board's Dollars and Sense Committee. Rogers stressed that he speaks for himself, not the committee.

### **What's the score card on the Dollars and Sense Committee?**

Our budget work has certainly been important. I think our work has had an effect and I'm personally pleased with that. I know that the experience has been extremely diffi-

cult for DOE. That's understandable because the agency has never had outside critics involved in its internal budget-making. The committee needs better integration with the Health, Safety and Waste Management Committee and the Environmental Restoration

Committee for budget input in the future. The beautiful part is that we've created a wonderful model that other citizens can use to gain more control of their government. All you need is enough people who are willing to try...and an agency that's willing to let them try.

**The Board is almost two years old. What does it do well? What does it do not so well?**

The thing that I'm happiest about is the diversity of opinion on important issues. Not every citizen or Hanford employee feels able to speak up publicly, much as he or she might want to. The Board, because of its independence, can bring those kinds of issues to the surface.

But we don't ration and prioritize our time very well. Marilyn Reeves is extremely capable. She runs a tight ship. But our shortcoming is our failure to limit our activities to a few major topics. I believe we have not given appropriate attention and priority to the major issues identified for us by the Tri-Party Agreement agencies. For example, DOE asked the Board for comments and advice on prioritizing cleanup activities, but we haven't really given them anything usable. We have been late in responding to the 1995 Strategic Plan and Mission Plan.

**Won't budget cuts force the Board to do less with less?**

Of course. The important thing for us to do is to do the best work that we can within the time and funding available. I have no patience with the suggestion that DOE will come up with more money if we stop when the budget runs out. This relates to the importance to carefully reviewing proposed topics for Board action to assure that we work on the most important policy issues.

**Do you believe the Board has had an impact on the way DOE operates?**

Oh, yes. Definitely. The budget process is just one example. I think it's clear that the word has gone out among DOE and contractor employees to be responsive to the Board and its inquiries.

**What things need attention from the Board?**

We need to bring reality to the three agencies regarding getting the most risk reduction to public health and the environment for the funds spent. This requires reviewing and rethinking cleanup standards, risk assessment scenarios and assumptions, and input on cost-per-acre to clean up waste sites. Why spend \$500,000 per acre to clean up land valued at \$500 to \$10,000 per acre?

# Consensus Advice to the Tri-Party Agencies

In brief summary, this describes other Hanford Advisory Board advice given to DOE and cleanup regulators in 1994 and 1995:

In early 1994, one of the Board's first official acts was to adopt and reaffirm principles and values developed by the Future Site Uses Working Group and the Tank Waste Task Force. One of those values was protect the Columbia River. To accommodate that value, the Tri-Party agencies agreed to shift environmental restoration emphasis to the 100 and 300 Areas.

In July, the Board formally agreed that if the Tri-Party agencies are to pursue cleanup completion by 2024, DOE needs to build the proposed Environmental Restoration Disposal Facility.

**July 1994:** Guidelines for Interim Use of Pump and Treat. The Board advised the Tri-Party agencies that treated water from pump and treat tests should not be discharged to the Columbia River or to lower aquifers, but only to contaminated aquifers when necessary.

**September 1994:** The Board's Cultural and Socio-Economic Impacts Committee recommended, and the Board adopted and forwarded, advice to the agencies on preserving historic, cultural, recreational and biological resources. The package also advised the agencies to consider economic and environmental impacts of cleanup decisions on local communities.

**September 1994:** The Board said DOE failed to make an Environmental Restoration budget request adequate to meet its Tri-Party Agreement commitments. Members advised the agency that the Board will not sup-

port budget-driven renegotiations of the Environmental Restoration scope of work.

"...Greater (funding)priority must be given to Environmental Restoration...by transferring funds, increasing efficiency or removing artificial bureaucratic barriers" the Board said.

**November 1994:** The Board's Health, Safety and Waste Management Committee, after a five-month study, concluded that DOE-RL's "expedited path forward" in the K Basins/Spent Fuel project is in accord with important relevant values, including protecting the Columbia River, and worker and public health and safety. In adopting the committee's recommended advice, the Board also advised DOE and the public to accept that long-term "interim" storage of spent fuel will occur at Hanford.

**December 1994:** The Board endorsed a systems engineering approach to Hanford cleanup, but warned the Tri-Party agencies against "studying (the problem) to death." That, said the Board, "would certainly be viewed at best as a DOE delay tactic, or at worst, an attempt to circumvent the provisions of the Tri-Party Agreement.

**December 1994:** After weeks of study and technical briefings on DOE's budget, the Board's Dollars and Sense Committee prepared detailed advice on 1995 funding reallocations. For Tanks, the Board advised DOE to justify program staffing levels, evaluate the need for new tanks, and keep citizens informed on tank leaks and potential consequences. The Board also advised DOE that

tank waste decisions should be in accord with previous advice issued by the Hanford Tank Waste Task force. The Board's budget advice also included these points:

- DOE should fully fund the Spent Fuel Program's Path Forward. "Fiscal Year 1995 reallocation, and FY 1996 and FY 1997 budget requests should not jeopardize achieving this goal," the Board said.
- Hanford's cleanup budget should not subsidize USDOE Defense and Energy programs, the Board told DOE. As to reallocating funds for DOE-RL's Facilities Transition programs, the Board said highest priorities should go to facilities that have the highest payback for safety, savings, and future re-use.
- The Board was highly critical of DOE's and Hanford contractors' overhead costs. Those costs should be made public—especially costs for "communications"—public involvement, media relations, legal costs and contract fees.

**December 1994:** The Board commended the Tri-Party agencies for heeding advice from the Future Site Uses Working Group to protect the Columbia River as an "immediate priority." However, the Board advised the agencies of its concern about budget shortfalls. Lack of funding, the Board said, will delay critical cleanup activities, "despite assurances to the contrary by the Tri-Parties." The Board said it would monitor the manner in which the renegotiated Tri-Party Agreement "carries out the explicit advice of the Future Site Uses Working Group, the Tank Waste Task Force, and the Board itself."

**December 1994:** The Board's Environmental Restoration committee developed advice concerning DOE's carbon tetrachloride pump-and-treat project. In adopting the advice, the Board recommended goals and criteria by which DOE could measure results and success, including:

- Emphasize the removal of volatile organic compounds from both the vadose zone and the unconfined aquifer
- Commence to pump liquids from the highest concentration area(s) to achieve mass reduction and containment

- All returned effluent should meet the drinking water standard; do not suggest any lesser criteria
- Pumping efforts should be increased if outward migration continues; this requires the use of sufficient monitoring wells to measure conditions in both the ground water plume as well as the vadose zone cloud. All monitoring wells must be sealed to prevent the downward movement of contaminants

**January 1995:** Following budget announcements, the Board told DOE Secretary Hazel O'Leary that her decisions "demonstrate a disturbing disregard for legal commitments made after negotiations with the Tri-Party agencies and after extensive public input." The Board advised DOE to honor its commitments in the recently-renegotiated Tri-Party Agreement. "The Board unanimously urges that the USDOE and the Congress not delay actions to stop the spread of contamination and to accelerate the final cleanup at Hanford," the Board told O'Leary.

**January 1995:** In a letter to Assistant Secretary Thomas Grumbly, the Board intervened on behalf of DOE-RL flexibility in reallocating Hanford cleanup funds. "Artificial barriers prevent the movement of funds to achieve cost efficiencies or address higher priority problems," the Board noted. Advising Grumbly to remove internal budget barriers, the Board said such action would "allow local operations offices more flexibility in order to proceed with cleanup in the most effective manner possible."

**February 1995:** The Board laid out criteria that DOE and the Washington Department of Ecology should impose on the acceptance of off-site mixed waste at Hanford.

Three key points:

- Hanford must have the capacity and funding to accept, process, and store off-site wastes, the import of which must have a neutral or positive impact on Hanford cleanup
- When DOE proposes to treat off-site Wastes at Hanford, there must be a written agreement between the state of origin, the

State of Washington, and DOE

- Prolonged storage of off-site wastes prior to treatment, or prolonged storage of post-treatment residuals, generally should not be approved

**February 1995:** The Board advised the Tri-Party agencies that private ventures, such as the development of medical radioisotopes, should be encouraged, so long as they met state and federal compliance standards.

**March 1995:** Agreeing with a recommendation from its Environmental Restoration committee, the Board told DOE that the agency should not compare one site's health, safety and environmental risks to another's "to justify politically expedient budget cuts." The Board also reminded DOE that the Board, native tribes, the Tri-Party agencies, land trustees and the public had not been sufficiently consulted in a recent study of risk assessments across the DOE complex.

**March 1995:** Expediting Hanford's Spent Fuel Project's Path Forward required "reprogrammed" funding from Congress. The Board advised the Tri-Party agencies of its support for new funding. The advice, however, said that DOE should not take the funds from some other part of the Tri-Party Agreement scope of work.

**April 1995:** "The priorities described by the milestones of the Tri-Party Agreement are believed to be DOE's moral and legal contract with the region." So begins the Board's most ambitious and sweeping advice to the Tri-Party agencies and to DOE Headquarters.

The advice, compiled and drafted by the Dollars and Sense Committee, deals with the FY 1996 and FY 1997 budgets and budget processes. It covers general budget advice to DOE-RL and DOE Headquarters, and specific program advice on Environmental Restoration, Tank Wastes, Spent Fuel, Facilities Transition, Overhead, Waste Management (Non-tanks) and Technology Development.

The Board said its specific advice, if fol-

lowed, would "preserve the Tri-Party Agreement, reduce DOE's costs, and make more than \$300 million available for safety and cleanup priorities in FY 1997."

An example of specific advice was the Board's conclusion that DOE's ER budget fails to fund the agency's commitments to the Tri-Party Agreement.

**March/June 1995:** Privatization is a concept by which private companies would own and operate cleanup facilities and sell ready-for-disposal products like glassified high-level waste to DOE. In this case, DOE-RL proposes to privatize Hanford's Tank Waste Remedial Systems (TWRS).

While the Board endorsed the concept, members worried that DOE's specific plan disregarded alternative ways to meet TWRS milestones. In March, DOE asked for Board advice with just 20 days left in a comment period. The Board won a 60-day extension and delivered its advice to DOE in June. The Board advised DOE to proceed with these conditions:

- Evaluate promising alternatives, and
- Create an open decision process with early and frequent public involvement opportunities

In a related move, the Board's Cultural and Socio-Economic Impacts Committee in June asked DOE to share economic impact studies and to involve the committee in drafting a Request for Proposals from private firms.

**April 1995:** The Board endorsed specifics in the Tri-Party Public Involvement Strategy. In so doing, the Board reminded the Tri-Party agencies of their commitments to conduct public budget meetings to broader audiences than just the Board.

**April 1995:** After flawed process tests on Tank 241-C-106, DOE and the Westinghouse Hanford Company (WHC) conducted management investigations. DOE undertook corrective actions, which the Board supported. In addition, the Board advised DOE to direct WHC to implement all "Lessons Learned"

recommendations in the investigation report. Also, the Board advised DOE to improve the way it communicates issues of grave concern to the public.

**May 1995:** The Board, based on recommendations from its Environmental Restoration Committee, called DOE's attention to flaws and inaccuracies in a report on risks at Hanford and throughout the DOE complex. The Board was particularly concerned that DOE would use unreliable risk assessments to decide cleanup funding priorities among DOE weapons sites.

**May 1995:** DOE-RL, in summer 1994, planned to build six new double-shell high-level waste storage tanks and a new tank waste transfer pipeline connecting the 200 East and 200 West tank farms. The Board's Dollars and Sense Committee questioned the cleanup program's need for that many tanks. The Board hired a technical consultant to review the issue and offer recommendations. In

late 1994, DOE decided not to build any new tanks, a decision announced in January 1995. The Board's study concurred in that decision and offered specific technical recommendations on a Cross-Site Transfer System, quantitative risk analyses, evaluating new waste volume projections, and the possible need to build new, smaller tanks.

**May 1995:** The Board advised the Tri-Party agencies to continue to place a high priority on cleanup on the 100 Area, in accord with Tri-Party Agreement schedules. The goal of the cleanup, the Board said, should be to release 95 percent of the 100 Area corridor for fully unrestricted surface use by 2024. Earlier phased release of significant portions of the corridor should also be considered.

The Tri-Party agencies pledged to tell the Board how or if the Board's advice influenced a major decision. If the Board's advice isn't used, the agencies will explain why.

## Cleanup Progress in FY 1995: The DOE Perspective

Hanford Site Manager John Wagoner used these examples to illustrate major strides in Hanford cleanup in FY 1995.

### I. Urgent risks

#### 1. Tanks:

- Five of six safety issues mitigated or near mitigation
- Mitigated hydrogen safety risks in Tank 101-SY
- New technology for improved monitoring
- Pressure testing of cross-site transfer line for pumping waste out of single-shell tanks. 102 SY was pumped in summer 1995.

#### 2. Spent fuel:

- Isolated vulnerable construction joints from K-West/K-East, resolving a seismic safety concern
- Accelerated spent fuel removal plan by four years, to 1997
- Removed first fuel elements from K-West Basin for hot cell characterization
- Conducted extensive and effective public involvement on K-Basin issues

#### 3. Plutonium:

- Achieved interim sludge stabilization 85 days ahead of schedule
- Placed up to a metric ton of plutonium at the Plutonium Finishing Plant under the control of the International Atomic Energy Agency
- Reduced total worker radiation exposures by 25 percent
- Demonstrated testing to convert liquid plutonium nitrate to a stable, solid form

### II. Reducing costly mortgages

#### 1. Uranium Trioxide Plant

- Deactivated the plant 4-1/2 months ahead of schedule and \$800,000 under budget
- Saved \$1.3 million by early deactivation
- Cut annual surveillance and maintenance costs from \$4 million to \$40,000

#### 2. Plutonium-Uranium Extraction Facility (PUREX)

- Removed nitric acid and cut 10 months from the deactivation schedule
- Completed remote recovery of fuel elements from dissolver cells
- Commenced cutting annual surveillance/maintenance cost reduction from \$30 million to \$1.5 million

#### 3. Fast Flux Test Facility (FFTF)

- Completed reactor defueling 4 1/2 months ahead of schedule and \$475,000 under budget
  - Reduced the Protected Area Boundary three months ahead of schedule at an annual savings of \$2.8 million
  - Provided sodium test loops to a small manufacturing company in the Tri-Cities
- The action:
- avoids creation of hazards wastes
  - saves \$1 million in disposal costs, and can
  - create new jobs

#### 4. N Reactor

- Accelerated the project for completion in 1997
- Commenced cleanup of N Reactor Fuel Basin
- Deactivated 22 of 32 buildings

### III. Stabilize and contain waste

#### 1. Nitric Acid Shipments

- Sold surplus nitric acid to British nuclear fuel manufacturer
- Cut 10 months off PUREX deactivation schedule

#### 2. 200 Area Treated Effluent Disposal Facility (TEDF)

- Stopped all untreated discharges to Hanford cribs
- Achieved a major step in meeting Congressional mandates and Tri-Party Agreement progress requirements
- Met 12 milestones ahead of schedule, thereby saving \$25 million

#### 3. Successful Evaporator Campaigns: No New Tanks

- Evaporated 5 million gallons of tank waste; will handle another 2 million gallons this year—the equivalent of seven tanks
- Avoided the \$378 million cost of building six new tanks, as required by the Tri-Party Agreement

### IV. Cutting overhead costs

#### 1. Indirect Costs

- Commenced \$200 million indirect cost cuts

#### 2. Infrastructure Costs

- Cut \$51 million in FY 1994
- Cut \$29 million from FY 1996 Budget Request

#### 3. Support Services

- Cut 20 percent in FY 1995
- Cut another 50 percent in FY 1996 Budget Request

## CURRENT MEMBERS AND ALTERNATES

This membership list conforms with constituencies in the Hanford Advisory Board's Charter. Bold-face type identifies Board members. The name of each member's alternate(s) follows in light-face type. This list was updated on January 20, 1996.

### CURRENT MEMBERS

#### HIGHER EDUCATION

**Thomas Engle**, Seattle, University of Washington

**James A. Cochran**,

Richland, Washington State University

- Emmett Moore, Richland

#### LABOR/WORK FORCE INTERESTS

**Gerald C. Sorensen**, Richland, Battelle

Pacific Northwest Laboratories Employees

**Richard Berglund**, Pasco,

Central Washington Building Trades Council

**Al Skinnell**, Kennewick

**Bill Wilcoxson**, Kennewick

**Jim Watts**, Richland,

Hanford Atomic Trades Council

**Jay Rhodes**, Richland

**Mark Hermanson**, Richland, Westinghouse, ICF Kaiser and Boeing Non-Union, Non-Management Employees

- Madeleine Brown, Richland
- Walt Blair, Richland

#### LOCAL BUSINESS INTERESTS

**Frank Ochoa, Jr.**, Basin City, WA, Agri-Business

**Harold Heacock**, Kennewick,

Tri-Cities Development Council

- Denny Condotta, Richland

#### LOCAL CITIZEN AND GOVERNMENT INTERESTS

**Ben Floyd**, Prosser, Benton County

- Ray Isaacson, Richland
- Sandi Strawn, Kennewick

**Vacant**, Benton-Franklin Regional Government Council

- Bill Clark, Richland

**George Kyriazis**, Kennewick, City of Kennewick

**Charles Kilbury**, Pasco, City of Pasco

- Mike Garrison, Pasco
- Carl Strode, Pasco

**Pam Brown**, Richland, City of Richland

- Joe King, Richland

**Jerry Peltier**, West Richland, City of West Richland

- Paul Chasco, West Richland

**Bill Riley**, Moses Lake, Grant and Franklin Counties

#### LOCAL ENVIRONMENTAL INTERESTS

**Rick Leumont**, Pasco, Lower Columbia Basin

Audobon Society and Columbia River Conservation League

- Bev Weisbrodt, Kennewick
- Richard Steele, Richland
- Tracy Walsh, Richland
- Kathy Criddle, Richland

#### REGIONAL PUBLIC INTERESTS

**Vacant**, Benton-Franklin District Health Department

- Dr. Herb Cahn, Richland
- Fred Jamison, Richland

**Thomas E. (Tom) Carpenter**, Seattle, Government Accountability Project

- Alene Anderson, Seattle
- Sonja Anderson, Richland

**Dr. Richard (Dick) Belsey**, Portland; Physicians for Social Responsibility

- Dr. Tim Takaro, Seattle
- Dr. Steven Laney, Spokane

#### PUBLIC-AT-LARGE

**Kathy Hackley**, Richland, Columbia Basin

Minority Economic Development Council

- Pam Noble, Kennewick

**Merilyn Reeves**, Amity, OR,

Oregon League of Women Voters

- Norma Jean Germond, Lake Oswego, OR

**Gordon Rogers**, Pasco; Tri-Cities Technical Council

- Martin Bensky, Richland

**Elizabeth (Betty) Tabbutt**, Olympia,

Washington League of Women Voters

- Maureen McCarthy, Richland

#### REGIONAL ENVIRONMENTAL AND CITIZEN INTERESTS

**Greg deBruler**, Bingen, WA, Columbia River United

- Cyndy deBruler, Bingen, WA

**Todd Martin**, Spokane,  
Hanford Education Action League

- Lynne Stenbridge, Spokane

**Paige Knight**, Portland, Hanford Watch of Oregon

- Robin Klein, Portland
- Deane Morrison, Portland

**Gerald Pollet**, Seattle, Heart of America Northwest

- Sharon Bloome, Seattle

#### **STATE OF OREGON**

**Shelley Cimon**, LaGrande,  
Oregon Hanford Waste Board

- Patty Yraguen, Vale

**Michael W. (Mike) Grainey**, Salem,  
State of Oregon, Department of Energy

- Mary Lou Blazek, Salem
- Ralph Patt, Canby
- Dirk Dunning, Salem

#### **TRIBAL GOVERNMENTS**

**Donna Powaukee**, Lapwai, ID, Nez Perce Tribe

- Bill Picard, Lapwai, ID
- J. Herman Reuben, Lapwai, ID
- David Conrad, Lapwai, ID
- Rico Cruz, Lapwai, ID
- Dan Landeen, ID

#### **EX-OFFICIO MEMBERS**

**J. R. Wilkinson**, Pendleton, OR, Confederated  
Tribes of the Umatilla Indian Reservation

**John Erickson**, Olympia, Washington State  
Department of Health

- Debra McBaugh, Olympia
- Lynn Albin, Hillsboro, OR, Oregon Health  
Division

#### **TRI-PARTY AGREEMENT REPRESENTATIVES**

**Ron Izatt**, U.S. Department of Energy, Richland

**Randall F. (Randy) Smith**, U.S. Environmental  
Protection Agency

**Dan Silver**, Washington Department of Ecology

#### **FORMER BOARD MEMBERS**

**Scott Colby**, Westinghouse Hanford Company

**Helen Fancher**, Grant County

**Sue Gould**, Edmonds, WA

**Jim Hansen**, City of Richland

**Thomas Henn**, Benton-Franklin  
District Health Department

**Russell Jim**, Yakama Indian Nation

**John Lindsay**, Tri-Cities Economic  
Development Council

**Reid Miller**, Washington State University

**Don Morton**, Benton-Franklin

Regional Government Council

**Florence G. Sayre**, Local Agri-Business

**Terry Strong**, Ex-Officio, Washington

Department of Health

**Chris Tucker**, Franklin County

**Tom Walker**, City of Kennewick

**Ron Williams**, Benton-Franklin County Health Dept.

#### **FORMER ALTERNATES**

**Josh Baldi**, Washington Environmental Council

**Jeb Baldi**, Washington Environmental Council

**Kristie Baptiste**, Nez Perce Tribe

**Frances Berting**, Battelle Pacific

Northwest Laboratories

**Michael Bauer**, Yakama Indian Nation

**John Brodeur**, Yakama Indian Nation

**Bob Cook**, Yakama Indian Nation

**Terry Dana**, Physicians for Social Responsibility

**Bob Drake**, Benton County

**Jackie Edmond**, Columbia Basin Minority

Economic Development Council

**Cliff Groff**, City of Kennewick

**Bruce Killand**, Battelle Pacific

Northwest Laboratories

**Bill King**, City of Richland

**Jim Knight**, Tri-Cities Technical Council

**Julie Kovacs**, University of Washington

**Paula Mansfield**, Local Agri-Business

**Don Merrick**, Westinghouse Non-Union,

Non-Management Employees

**Sue Miller**, Franklin County

**Robert Noland**, City of Kennewick

**Bruce Perkins**, Benton-Franklin District

Health Department

**Cynthia Sarthou**, Heart of America Northwest

**Tim Snead**, Grant County

**Darby Stapp**, Battelle Pacific

Northwest Laboratories

**Judith Tensmeyer**, Tri-Cities Economic

Development Council

**Bill Thompson**, Washington State University

**Del White**, Nez Perce Tribe

**Don Williams**, City of Richland

**Larry Wright**, Benton County

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For information about the Hanford Advisory Board's meeting schedule, and schedules of committee meetings, or for copies of the Board's advice, call **Confluence Northwest, 503-243-2663**.

Jon Yerxa, USDOE, **509-376-9628** is DOE-Richland's public involvement coordinator and liaison to the Hanford Advisory Board.

Max Power, **360-407-4118**, is liaison to the Board for the Washington Department of Ecology.

Dennis Faulk, **509-376-8631** is liaison to the Board for the Environmental Protection Agency.

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Early-on, the Hanford Advisory Board agreed to conduct business by consensus rather than by majority rule. That decision, along with the need to coordinate and accommodate the interests of the Board and Hanford's Tri-Party Agencies, convinced the Board to hire professional facilitation services. A Portland, Ore. firm, Confluence Northwest, won the competitive contract in early summer 1994. Confluence provides facilitation for the Board's plenary sessions as well as some committee meetings. The company also provides staff assistance to the Board leadership and prepares draft agenda, monthly List -5 mailings, and special reports. Elaine Hallmark, a co-owner, is Confluence's principal facilitator. Ms. Hallmark has been assisted by facilitators Mary Forst, Naseem Rakha, Teresa Jensen, Paul Wilson, Walt Hays and staffers Molly Mulvaney, Deborah Kaufman and Sarah Cloud.

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