

HANFORD ADVISORY BOARD

A Site Specific Advisory Board, Chartered under the Federal Advisory Committee Act

Advising:

US Dept of Energy
US Environmental
Protection Agency
Washington State Dept
of Ecology

February 6, 2009

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Elin Miller, Regional Administrator
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Re: Institutional Controls and their Impact on the Long Term Stewardship of the Hanford Site

Dear Ms Olinger, Mr. Brockman, Mr. Manning and Ms. Miller,

Background

Over the past twelve years, the Hanford Advisory Board (Board) has been unwavering in affirming its principles concerning the use of Institutional Controls (ICs) and their impact on the Long-term Stewardship (LTS) of the Hanford Site. The Board has consistently advised that ICs are not an acceptable substitute for permanent cleanup remedies.

The Board's position on ICs and LTS are primarily delineated in, but are not limited to, the following pieces of Board advice:

Advice #63: Institutional Controls (February 7, 1997)

Advice #132: Exposure Scenarios Task Force on the 200 Area (June 7, 2002)

- Advice #141: Long-Term Stewardship Program Plan (December 6, 2002)
Advice #180: 200 BC Cribs Focused Feasibility Study (November 4, 2005)
Advice #190: CERCLA Five-Year Review (June 2, 2006)

The Board recognizes that the U.S. Environmental Protection Agency (EPA), the Washington State Department of Ecology (Ecology) and the U.S. Department of Energy (DOE) are currently in the process of establishing final cleanup Records of Decisions (RODs) for the remediation of a number of cleanup sites at Hanford. These RODs will establish precedence for both current and future site cleanup actions. The Board feels that this is an opportune time to reiterate its values as stated in these pieces of prior Board advice on issues concerning the use of ICs, and when and how they should be utilized at the Hanford Site.

Please review past Board advice for context and background, and use the following summary of past Board advice on the use of ICs and LTS as guiding principles to be applied as cleanup decisions are developed and implemented.

Board Advice on Hanford Site Cleanup

- The long-term vision for Hanford is a site that has been cleaned up in a manner and to a point sufficient to protect and preserve human, biological, natural and cultural resources in a sustained manner for future generations, and where current and past activities do not impose a burden on future generations. ^(#141)
- Groundwater remediation must be an integral part of source term remediation. This effort should include aggressive technology development and implementation. Risk assessments must include all aspects of groundwater and vadose zone. Groundwater is a valuable resource with beneficial future uses that must not be restricted outside of the individual waste management unit points of compliance within the core zone. ^(#132)
- The Board acknowledges that some waste will remain in the 200 Area core zone when this cleanup effort is complete. However, the core zone should be as small as possible and should not include contaminated areas outside the 200 Area fences. The waste within the core zone should be stored and managed to make it inaccessible to inadvertent intruding humans and animals. ^(#132)
- The Board recommends that DOE continues to refine its ability to make accurate risk projections by continuing efforts to gather the data necessary to accurately characterize waste inventories and locations. ^(#132)

Board Advice on the Application of Institutional Controls

- Physical and administrative ICs should not be substituted for cleanup activities or become end states. Cleanup emphasis should be placed on permanent remedies, to avoid reliance on ICs. ^(#63)
- The Board has consistently placed a high priority on the retrieval, treatment and disposal (RTD) option for all cleanup activities. The Board does recognize that in some cases, complete RTD may be technically impracticable, and that options that employ ICs may be required. ^(#180)
- ICs are not to substitute meeting the applicable cleanup standard or practical available treatment requirements under applicable regulations. ^{(a) (#63)}
- EPA and Ecology, not DOE, shall determine when and where ICs should be applied at Hanford, consistent with cleanup levels established through applicable regulations. ^{(a) (#63)}
- The same risk-based rules should apply at Hanford as they are applied off-site for the application of ICs. The focus should be on the actual risk, whether the source of risk is a hazardous, mixed or radioactive contaminant. ^(#63)
- Expand the review of protectiveness of current remedial actions beyond reliance on current or near-term ICs that limit exposure. This extended analysis would help assess and determine whether or not the current cleanup remediation strategy will meet the long-term cleanup goals expressed by the Board. ^(#190)
- Risk analyses must include a model that recognizes that all ICs are expected to fail and the accompanying consequences. ^(#141)

Board Advice on the Integration of Stakeholder Values

- If ICs are deemed necessary by EPA and Ecology, these should be established with consideration of the existing and potential future land uses, including local government land use plans and expected tribal use scenarios. Residual risk levels under such determined scenarios should not exceed applicable requirements. ^{(a) (#63)}
- The Tri-Party Agreement (TPA) Agencies should work with appropriate state agencies and tribal and local governments in clearly defining the nature and definition of the ICs to be applied. This would include where and how long the control would apply and which authority(s) is (are) responsible for maintenance and enforcement. Physical controls, such as fences, should be supplemented with appropriate administrative controls to ensure continued barrier integrity. ^(#63)
- For the Central Plateau, the Board advises the TPA Agencies to analyze a range of potential human health and ecological risks, including the reasonable

maximum risk expected over time. The stakeholder community will use this analysis to advise the agencies on appropriate cleanup decisions. The risk analysis should include a reasonable maximum exposure to a resident and/or Native American (including groundwater use) in what is currently labeled the buffer zone and in areas freed up for use as the core zone shrinks. For the waste management areas within the core zone, exposure scenarios should include a reasonable maximum exposure to a worker/day user, to possible Native American users, and to intruders. ^(#132)

- Requirements for other Federal Agencies and local governments who accept land transfers from DOE must be identified. Development of expected end states must be a collaborative effort. Beginning with a dialogue between stakeholders, regulators, the public and the DOE, end states must be determined by using a values-based process in concert with good technical and scientific data. ^(#141)
- Administrative ICs should be established when land is transferred out of DOE control. This should include instituting deed restrictions that would prevent groundwater intrusion. Only surface rights should be transferred, while reserving subsurface rights to the land. State and local governments can increase the effectiveness of these ICs by enforcing controls through the use of their well permit program, building permits, special zoning or hazard overlays. ^(#63)
- Full integration of all appropriate DOE organizations is needed to ensure all long-term stewardship needs are addressed. ^(#63)

Board Advice Concerning Cost Projections for Institutional Controls and Long-term Stewardship

- Economic consideration in remedy selection and in establishing ICs should be consistent with principles and guidelines contained in applicable requirements ^(a). Cost projections for considering and choosing cleanup options should include federal, state and local government costs for administering the life of ICs. ^(#63)
- A key step toward informed cleanup decision-making includes using an analysis of the residual contamination that may remain after completion of remediation to determine appropriate LTS. The analyses should include a comparison of cost versus actual risk reduction over time. ^(#141)
- DOE must provide adequate resources while the land is under DOE ownership for maintenance, enforcement, and public notification of restrictions and the hazard for the life of the IC. ^(#63)
- A funding source to manage LTS activities must be identified and ensured through continuing commitment from DOE. ^(#141)

- Better analyses of, and support for, IC assumptions are necessary. DOE's assumption of ICs for 150 years is not supported by current experience with IC failures in this country. It might be safe to assume DOE will remain in active control for the next 50 years, but to assume successful passive control for another 100 years is not credible. The Board would like to see and understand DOE's plans for ICs at the Hanford Site for the next 150 years. ^(#180)

Board Advice Concerning Long-term Stewardship of the Hanford Site

- All DOE-Environmental Management decisions that defer to ICs should include the full integration of all appropriate DOE organizations to ensure all LTS needs are met. The integration should include, but not be limited to, pre-planning, implementation and all follow-on activities, e.g. security, monitoring, surveillance, remedial actions, and IC failures. ^(#180)
- The Hanford LTS Program must include real, holistic integration that includes local, county, and state governments and other federal agencies. ^(#141)
- Sound management, stewardship, and cleanup decisions must begin now to build equity over generations. The TPA Agencies need to engage immediately in developing robust, flexible, and creative management systems to address LTS. The Board recommends that a coalition of groups, to include the tribes, local government, and other affected entities as appropriate, be created to administer the LTS responsibilities for Hanford. Stewardship should be an active process involving the entire spectrum of management, education, and protection activities. ^(#132)
- Local governments will have responsibility for maintaining property records. Consistent with the recommendations for building local capacity in the Federal Facilities Environmental Restoration Dialogue Committee report, the Board recommends DOE and EPA work with state and local governments, in consultation with affected tribes, to establish a residual contamination and IC tracking system. This system should address land surface, vadose zone, and groundwater restrictions. Such a system would help to maintain a viable federal, state, tribal and local government institutional memory of Hanford Site conditions during and beyond cleanup, and through changes in land ownership or control. ^(#63)
- The Board recommends discussion of ICs in documents and correspondence, specifically defining the nature and type of ICs being discussed, the context for application, and anticipated length of IC life. ^(#63)
- Data relevant to LTS must be identified and stored redundantly in readily accessible formats that will be maintained and accessible over time. ^(#141)

- Effective LTS requires that cleanup decisions have sound bases to protect human health and the environment. If residual contamination remains or is discovered after cleanup, the LTS plan must contain a clear process to address additional remediation in accordance with the applicable laws and regulations. (#141)
- A comprehensive communication plan must be part of the LTS plan and effective public communication must include identification of long-term risks during the LTS period. (#141)
- A continued human presence in the 200 Area core zone would provide an ongoing, active institutional interest vested in future management of the risks posed by Hanford waste. One way to ensure this continuous human presence is to maximize the potential for any beneficial use of the accessible areas of the core zone, rather than rely only on long-term government control of these areas. (#132)
- The LTS plan should not presuppose end states not agreed to by the regulatory agencies through formal agreement. (#141)
- The LTS plan must include roles and responsibilities regarding current and planned disposal sites as they apply to stewardship. (#141)
- The LTS plan must comply with all applicable federal, state, and county laws and treaty rights. (#141)
- ICs do not constitute stewardship. (#141)
- Performance assessments must be done for as long as waste remains hazardous. (#141)
- The LTS plan should determine if cleanup goals are met. (#141)
- DOE (or its successor agencies) is responsible for residual contamination until such time as it is no longer a risk to human health and the environment. A clear path to additional mitigation must be identified if discovery of further or previously unidentified contamination occurs. (#141)
- LTS should not end until there is reasonable confidence that no credible natural or man-made event or process will cause unacceptable harm even with no active controls. (#141)

The Board looks forward to continuing to work with the TPA Agencies to assist with the determination of appropriate cleanup decisions, and to continue to develop and provide advice on cleanup concerns, such as the development of realistic estimated IC and LTS lifecycle costs.

- (a) Applicable Regulations: Comprehensive environmental Response, Compensation and Liability Act (CERCLA), Resource and Conservation Recovery Act (RCRA), Model Toxics Control Act (MTCA) and Nuclear Regulatory Commission (NRC) regulations
- (#63) Board Advice #63 Subject: Institutional Controls (includes land transfer recommendations from the attached Information Sheet) (February 7, 1997)
- (#132) Board Advice #132 Exposure Scenarios Task Force on the 200 Area (June 7, 2002)
- (#141) Board Advice #141 Long-Term Stewardship Program Plan (December 6, 2002)
- (#180) Board Advice #180 200 BC Cribs Focused Feasibility Study (November 4, 2005)
- (#190) Board Advice #190 CERCLA Five-Year Review (June 2, 2006)

Sincerely,



Susan Leckband, Chair
Hanford Advisory Board

This letter represents HAB consensus for this specific topic. It should not be taken out of context to extrapolate Board agreement on other subject matters.

cc: Ines Triay, Acting Asst. Secretary, Office of Environmental Management,
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