

Sounding Board – Hanford Tank Waste Retrieval, Treatment and Disposition Framework

Introduction of process

Susan Hayman, EnviroIssues, reviewed the sounding board procedures and noted that each Hanford Advisory Board (Board or HAB) member and alternate is allotted two minutes to share the perspective of the seat and constituency represented. Once all Board members and alternates have the opportunity to comment, they will be offered a round 2 opportunity if time allows. Susan invited members to frame their comments with the following prompts:

- What are your expectations for agency action, based on this Framework?
- What action, if any, should the Board take in response to this Framework?

Sounding board

Ed Revell, Tri-Cities Industrial Development Council

The Framework is a setback; people had high expectations and wanted a more substantial document than was issued. The Board should conduct a data gap analysis to determine in what ways the Framework falls short of expectations and how the Framework can be improved. A number of people seem to be dissatisfied that the Framework is not farther along in planning. It seems that there is never enough information to satisfy people who are in an oversight role.

Shelley Cimon, Public-at-Large

There are no completion dates in the Framework; the timing of waste treatment startup is a moving target. The Framework does not provide an understanding of design changes or financial requirements and what all the different elements mean for the larger picture of Hanford cleanup. Congress does not get a compelling case for funding with the Framework. The Waste Treatment Plant (WTP) needs to be funded through all phases in order to begin waste treatment. The Framework also does not identify any outstanding technical issues that could halt the entire process.

There needs to be a common understanding and a common story for the Hanford Site to sell to Congress. We need to be able to say that we believe successful cleanup can be accomplished following certain steps that everyone can understand. The expert deliberations should be made available so the Board can understand the technical details that underlie the assumptions used in the Framework. We cannot accept the assumption that the integrity of the tank farms over the next 10-20 years is a given. There is an obligation to build more tanks now to protect the site; this is not incorporated into the Framework and contingencies are not included.

Lynn Davison, “Non-Union, Non-Management” Employees

I accept the Framework and basically support the concepts as presented by DOE management as a discussion of possible solutions. An open and honest discussion of the concepts with the stakeholders, of which HAB is a foremost, is crucial where ideas can be brought forward and discussions be given due consideration. The Washington State Department of Ecology (Ecology) and the U.S. Environmental Protection Agency (EPA) should insist that they be heard through deliberations. The Framework is still

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early in development. The key concern of most stakeholders is how risk is managed and addressed. Everyone is concerned about the tanks. The Framework should address how to manage risk in the best way possible using the resources available. In general, the Board wants cleanup activities to begin sooner rather than later. Finally, the Board expects cost efficient use of the funds that Congress allocates to the Hanford Site.

John Howieson, Physicians for Social Responsibility

The U.S. Department of Energy (DOE) has a long history of secrecy beginning with the Manhattan Project. I hope DOE becomes more honest and transparent in the agency's relationship with the public. The reasons for secrecy are not clear to many HAB members. The former Secretary of Energy, Steven Chu, formed a panel of experts and directly went against the assertions from DOE that it seeks to achieve transparency. The Framework is not a plan or a proposal. The Board and the public should be given information from the expert review panels and DOE should reveal the problems to be discussed with WTP design, including the most critical issues and the solutions that were advocated by the expert panel. This information is necessary so that the public understands the issues and can offer advice on resolving the problems.

Gabe Bohnee, Nez Perce Tribe

The tribes have a unique perspective and a unique way of communicating, through the Board and other venues to help generate ideas. The Nez Perce maintains our ability to act as more than stakeholders with the federal government. The Nez Perce is disappointed with the Framework effort. The Hanford cleanup is not only DOE's problem; it is our problem too. The issue is political as the WTP design-build proposal was sought for Congressional approval because of the challenges in accepting the entire package for waste treatment. We need the right information to move forward and when that information has been provided in the past, the Board has been able to respond appropriately.

Dan Serres, Columbia Riverkeeper

Some of the terminology in the Framework is difficult to understand. A gap analysis would be useful to determine what information is missing and what the Board expected the Framework to contain. DOE identified some of the information that is not included in the Framework during the presentation yesterday. Accurate definitions are needed to understand exactly what is meant by "processing" and "preconditioning." What do these involve? The Framework also does not include a commitment for more tanks leading to operation of the WTP and whether waste can be reliably treated or just moved to more reliable storage. The Tank Waste Committee (TWC) should review the Framework carefully. The Framework contains some bad ideas; shallow burial of waste, for example. The HAB may wish to offer advice on those ideas raised in the Framework that the Board believes are dead ends from the start.

Rob Davis, City of Pasco

The Board should identify their expectations for the Framework. Information becomes outdated very quickly and it is important for DOE to continuously update the Board as work evolves and changes. The technical issues will require at least two years for resolution plus developing the baseline budget and beginning projects again. Everyone is hopeful that construction can begin again on the high level waste facility. The Board should have a placeholder in every one of the next five meetings for an update from DOE specifically on the Framework and the status of the issues it is addressing.

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Floyd Hodges, Citizens for a Clean Eastern Washington

I agree with Shelley's statement. The lack of information about what the technical experts are saying is concerning. If we do not have any of the data used to inform the decisions, we do not have any way to evaluate those decisions.

Gary Garnant, Grant & Franklin Counties

The Hanford Site has become much more open with information being shared than when more classified projects were being conducted at the Site. The Framework is helpful as a place to start but it does need to include more information in order to provide a better sense of where the cleanup is heading.

Gerry Pollet, Heart of America Northwest

Heart of America Northwest would like a more detailed Framework; right now the Framework contains an abstract background and a foreground with near-term actions. The public cannot provide informed input without transparency and information sharing. One of the most concerning aspects of the Framework is that it does address near-term action for the highest risk tanks, such as addressing leaking single-shell tanks. Though it has been resistant to doing so, DOE should conduct treatability studies of PermaFix as an option. The Framework should also include a statement on the need for new double-shell tanks (DSTs) as well as borehole monitoring. In order for DOE to credibly claim that the single-shell tanks (SSTs) are not leaking, borehole monitoring should be reinstated instead of only relying on evaporation monitoring.

Dirk Dunning, Oregon Department of Energy

There are important concepts outlined in the Secretary's Framework, such as direct feed of waste to both the low-activity and high-level waste melter, and the potential for treating some tank waste as a transuranic-waste stream destined for the Waste Isolation Pilot Plant (WIPP). However, the proposals suggested in the Framework are wholly lacking in detail. The full intent of the functions of each individual proposal are unclear. How these might interact with one another is also unclear. Accordingly, we cannot judge the merits of the proposals, whether they are worthy of our endorsement and support, or what hurdles may need to be surmounted to make them workable.

In general, details are lacking in the overall proposed approach, what "significant" design and operational changes are necessary to the WTP and tank farms that would allow direct feed, information about cost and schedule of the proposed new facilities, any impacts to ongoing work from new projects.

The framework- for the first time- raises the issue of disposing of some non-vitrified tank waste in shallow burial. This could greatly increase the environmental and public health risks that remain on site. Oregon does not support that approach. We are still waiting for the technical details on how DOE intends to move forward with resolving the major technical problems at the WTP. The State of Oregon and the HAB want to see this project become successful. It's time to end the secrecy and the lack of detail and have an open discussion.

Paige Knight, Hanford Watch

The Framework is missing details on the technical problems and sequencing of the startup process as well as findings from the technical experts. It is unclear how the vague proposals in the Framework will affect vitrification. Additional setbacks will be very difficult to handle since waste treatment has always been challenging. Additional buildings and processing are dependent on timing and money to ensure the start

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of waste treatment. Full transparency must be demanded of DOE and insisted on by the agencies and the Board.

Bob Suyama, Public-at-Large

TWC went on a tour of the vitrification plant several months ago and saw its key facilities. All construction had been halted while the expert team was conducting their review. It was depressing to see that no work was occurring. The DSTs are approaching their design life. Once a path forward is determined there will be a lot of engineering time; it will be a long time before construction begins again. In the interim, construction of additional DSTs should be considered. The Board has given advice on the need for additional DSTs in the past but nothing has happened as a result. Years have passed and there still has not been any progress on addressing the need for tanks that still have design life and will be able to handle waste until it can be vitrified.

Kristen McNall, Oregon Hanford Cleanup Board

DOE should be well beyond a Framework by this point. There is a lot of information available that should inform a more detailed path forward. The Framework is a bit of a chameleon in that it is not a proposal but it reads very much like a proposal. The Framework is noted as being a response to HAB Advice #272 in DOE's response to that advice. However, the Framework does not include enough detail to where the Board can provide any sort of informed statement on if we agree with the document or not. The Board is always asking for more information from DOE and the technical experts. The public pays for this work and the information belongs to the public. The Board needs to continue pushing for more information and for DOE to make the technical documents available to analyze and to provide a basis for advice.

Susan Leckband, Washington League of Women Voters

I agree with Kristen's statement.

Pam Larsen, City of Richland

As someone who lives in Richland and works for the elected officials of the people who work here, this Framework is a step in the right direction. DOE's presentation on the Framework is encouraging and DOE is assembling a strong team to address the issues. The lack of information appears to be more of an issue with the Department of Justice (DOJ). It is encouraging that the Framework identifies some options and the importance of starting vitrification as soon as possible. The waste needs to be removed from tanks and treated. The phased approach to WTP construction is encouraging because it can allow low-level waste treatment earlier. Next steps should include contact handled transuranic (TRU) waste going to the Waste Isolation Pilot Plant (WIPP). A treatability study needs to be pursued. The Framework is good for the region and provides hope and a realistic assessment of the situation.

Armand Minthorn, Confederated Tribes of the Umatilla Indian Reservation

The Framework needs to allow all stakeholders equal participation. Any agency action should be facilitated or enabled by a working framework. Any agency actions which could put resources at risk should be considered directly with the tribes so that the risk to those resources are lessened, eliminated or mitigated. Agency action also should have an avenue to interact directly with tribes; the tribes utilize their government-to-government relationship. Those policies should be followed so that agency actions either being implemented or proposed to be implemented are reviewed with the tribes.

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Gregory Korshin, University of Washington

I agree with much of what has already been said. Without a timeline, the entire Framework is hazy. From a technical standpoint, there is not a lot of information on the technical challenges regarding the pretreatment problems and how those can be overcome; this is the central technical question. There should also be some sort of statement on the technical and scientific challenges with implementing the WTP and how those can be addressed. There should be clear rationalizations with an outline of the struggles and always working towards the goal to address pretreatment.

Al Boldt, Hanford Challenge

The framework limits analysis to completion of WTP construction and new systems to supply feed to the WTP for a phased startup. The framework is deficient in 1) not including other DOE-ORP future needs of supplemental LAW treatment and additional DSTs, 2) not including cost and schedule information, 3) not addressing resolution of systemic design quality assurance deficiencies identified by two DOE reports, and 4) not performing a full systems analysis for completion of the mission.

The framework document acknowledges potential Pretreatment and HLW vitrification modifications and identifies an additional five new facilities to startup the WTP. The framework document fails to acknowledge or identify two other new facilities to complete the tank waste treatment mission. These new facilities are 1) new DSTs required as a result of delays in instituting the new plan, and 2) the Supplemental Treatment Facility (second LAW).

The framework is deficient in not reporting cost and schedule impacts associated with the new facilities and impact by delay on existing WTP facilities. This information is critical for potential TPA revisions and for Congressional acceptance. As resolution of the Pretreatment Facility technical issues may be expected to require several years, this delay in presentation of cost and schedule impacts is unacceptable. DOE should be requested to immediately provide cost and schedule information for the proposed framework activities with the exception of the Pretreatment Facility.

By definition, the framework was limited in scope to analysis of the WTP requirements, completion of construction, and a phased startup. This document should be used as input into a complete systems plan/analysis of the entire tank waste treatment mission. The facilities identified in the framework document and other new facilities required to complete the mission may extend the mission by a decade or more and may require more than \$20 billion additional capital and operating costs. The system plan should identify and evaluate lower cost/faster mission completion alternatives to the alternative identified in the framework document. The Board should issue advice for the path forward.

Richard Bloom, City of West Richland

The Framework is a framework and is an example of how DOE delivers its “bad news” to some extent. The question is how the Board will accept this bad news. DOE does not include a clear path forward for how high-level waste will be treated because DOE does not have a clear path forward. The Framework is also missing an integrity assessment on the DSTs and tank capacity issues.

The Board needs to understand some of the underlying issues of pretreatment and high-level waste treatment. The Board can ask for information on the options but should focus on whether the Board supports direct-feed LAW or TRU waste retrieval.

Dick Smith, City of Kennewick

The first impression after seeing this Framework is that it includes the same stories and all the

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possibilities that have been told over the past 6-8 years, all combined together. The baseline includes the plan to complete pretreatment. The question is whether any of these possibilities are viable, and that cannot be determined with the information available. The whole scheme is still totally success-oriented – if one part of the plan fails, then other parts of the plan may fail as well. There is no information on schedule, cost to help evaluate whether the project will be successful.

One improvement that DOE continues to be resistant to considering is changing the glass matrix material into something that is more viable with the type of waste in the tanks. The Framework does not mention the possibility of using borosilicate glass or another material with a higher solubility for waste.

Becky Holland, Hanford Atomic Metals Trades Council

I agree with all the statements on the lack of detail regarding cost and schedule. My biggest concern is that the Framework does not include anything about the risk to workers or to public health. The Framework seems to be a reflection of the culture at the Hanford Site right now; a lack of communication and a lack of respect for the workforce. The public should be concerned about the dangerous, high risk work occurring right now. The Hanford Site needs a dedicated workforce in order to complete the cleanup, which is built on accomplishments. The morale of the Hanford Site workforce is a major concern and whether treatment can ever be completed.

Mike Korenko, Public-at-Large

The Framework is a conceptual document that should have been written 10 years ago. The idea of treating waste at WTP and moving it offsite is a good idea. Hanford is a complex project that is not being managed like a complex project. There is no real understanding of the end state, the options or the lifecycle costs. There is no way to judge the impact of any changes in the plan, such as potential cost savings or reduced risk. There is no real way to sense the options. For example, the use of phosphate glass could reduce the end state of the Site by a decade and save billions of dollars, but is being dismissed because DOE has already decided to use borosilicate glass. It is unclear why DOE has dismissed phosphate glass when there are obvious reasons it should at least be considered as a waste treatment option.

Tom Carpenter, Hanford Challenge

[Introduced and acknowledged Walter Tamosaitis in the audience.] The Board should note that smart people with integrity often do not last within the Hanford system. Many of the top technical people have gone against the design of the WTP and been disenfranchised. The discussion today stems from a lack of safety culture. There have been a number of investigations concluding that the quality assurance profile of WTP is at risk; many people do not understand the severity of that risk. The Board could advise that before DOE spends more money, the quality assurance issues should be resolved.

Jerry Peltier, City of West Richland

I agree with Mike's comments that the Framework is a conceptual design document that should have been written years ago. Whenever a project faces major technical issues, especially if these issues require a shutdown, then a list of those issues to be resolved must be developed in order to proceed with the facility. That list should be available somewhere and the Board should be able to see which issues have been resolved and which are still under development. There should be more than a conceptual framework that lacks any detail after spending two years on issue resolution at the WTP. Once an implementation plan is developed, DOE will have to create a conceptual flow process for how the issues are going to be

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resolved and what the cost will be. The question is why some of the information, even piecemeal information, is not included in the Framework. Obstacles to implementation should be estimated and should be available for the Board to review. There is a process and the longer we remain in concept mode without getting into the specifics of the process, the longer it will be before there will be any waste treatment at the site.

Maynard Plahuta, Benton County

The Board would be interested in more information in the Framework. Having regular updates from the agencies during Board meetings would be very helpful and allow the Board to start hearing answers to some of these technical questions. TWC meetings would be an appropriate place for these updates to get a better understanding of the issues. I did not expect the timeline and cost information to be included in the Framework, knowing more information would be required before delving into those details. The Framework is basically a conceptual design, and it is very political. The agencies must be conscious of their commitments. It is also frustrating that DOE is not considering some other viable alternatives for waste treatment, such as iron phosphate.

Jeff Luke, "Non-Union, Non-Management Employees"

In 1998, when I first joined the Board, we were discussing the WTP in a different way. The conversation has morphed a number of times and there has never been a great deal of information available. We know about as much today as we did in 1998. The Board, the tribes, and the public are owed a great deal more information than they are receiving and should be given some of the technical information that has been withheld. However, DOE does not know a lot more than what they have shared with the Board. The real issue is quality assurance.

Shannon Cram, Citizens for a Clean Eastern Washington

The details and information in this Framework have been discussed for years. It is frustrating that this is called a framework instead of a plan because it makes commenting on the document difficult. Since it is not a plan, specifics would not be included and we are only given partial knowledge. The Framework loses important information by not being considered a plan. TWC could consider offering two pieces of advice; one could ask for more information generally and the other advice could capture areas that the Board can speak to now such as concerns about in-tank pretreatment.

Mecal Seppalainen, Oregon Hanford Cleanup Board

Even if the Framework is late in being developed, the effort is appreciated. DOE should be honest about needing to start over with a more elegant design process. The history of Hanford is that its processes were well-designed with seemingly minimal risk; there was a focus on chemistry and the physical engineering was secondary. The reliance on hard sciences is missing from the current thinking where engineering is the main focus. Engineering is more expensive. DOE should focus more on looking at the end state. The Board should ask for more information and that the agencies be honest about the need for a revised pretreatment plan.

Dirk Dunning, ODOE (second comment)

The original problem is high level waste in aging tanks that needs to be kept away from people and the environment. Vitrification was the plan chosen to address the issues. Whenever there are large systems like this there will always be unexpected problems. WTP was designed to treat waste so that large amounts would not need to be sent to a repository and could be kept near-surface. If these expectations

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are taken away, then the entire treatment approach could change. The real risk is the aging tanks. DOE is working to create a more durable waste form to protect people and the environment.

Susan Leckband, Washington Women League of Voters (second comment)

The Board does not ask for information capriciously. The Board works through subcommittees to understand the technical details and provide informed advice. We understand that Board members need to know details to educate the rest of the Board and create advice based on values. We also understand that many of the decisions are not local and that the local DOE offices must carry out directives from other offices. The Board's obligation is to continue pressing for information and to provide the agencies with well-informed advice.

Shelley Cimon, Public-at-Large (second comment)

There was a statement made yesterday that if material assumed to be contact-handled TRU waste from the SSTs is determined to not be TRU then that material will be mixed as low-level waste. The assumption is questionable and should be discussed by TWC. It is important to not approach the cleanup from a fear-based place and instead be optimistic about the progress. The Board hopes that more information from DOE will be forthcoming.

Tom Carpenter, Hanford Challenge (second comment)

Aside from statements about worker safety, the Framework is also missing a statement on the need for new tanks. Whatever the path forward is for the WTP, treatment will be further into the future and more expensive than originally anticipated. It is illegal to have leaking tanks in the ground; there needs to be a place to store this material until it can be processed. DST space is disappearing and there needs to be a plan to address that in case more tanks are found to be leaking.

Al Boldt, Hanford Challenge (second comment)

The biggest concern with the Framework is that construction has been shut down for 16 months while technical issues are resolved and it continues to be shutdown as solutions continue to be studied. The Framework is setting a path with a high risk of failure. There should be more alternatives analysis on the technical issues. Costs will far exceed the amount allocated for disposal in 2015.

Jeff Luke, "Non-Union, Non-Management Employees" (second comment)

The Board should ask Ecology what they expect from DOE based on the Framework. The Board should challenge Ecology to request all the information DOE has relative to the path forward for waste treatment; the Board should receive all information available about the retrieval, treatment and disposal of waste. Ecology has the best chance of receiving a meaningful response.

Shannon Cram, Citizens for a Clean Eastern Washington (second comment)

There are actually people doing this work and that is important to remember. The workers impact how long the work will take and how it is done. It would be helpful to hear from some of these workers during a future Board or committee meeting to get a better understanding of their actual on-the-ground work – what it actually takes to do this work. This gets lost in our abstract discussions.

Dick Smith, City of Kennewick (second comment)

The Board does not know the basis for the conclusions made by the expert review panel and what reference materials they used. The Board cannot determine whether the Framework is based on good

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information or not, and cannot make any real statement about its value. We cannot be sure the current path forward is the right one.

Rob Davis, City of Pasco (second comment)

DOE should continue providing progress updates to the Board over the next year. Several people have mentioned holding these updates during committee meetings but it is important for the entire Board to be informed. Updates should be offered at full Board meetings while some technical conversations should take place at the committee level.

Mecal Seppalainen, Oregon Hanford Cleanup Board (second comment)

An important next step is an operations plan, beginning and ending volumes, and what to produce at the next step.

Jerry Peltier, City of West Richland (second comment)

The solution describing the path forward is still a long way out. There needs to be an emphasis on building more tanks. Since this may take 8-10 years, it is important to move forward on this now.

Art Tackett, Benton-Franklin Council of Governments

It is important for DOE to continue updating the entire Board on progress in a timely manner. A number of Board members do understand the complexity of the waste stream at Hanford and realize it will take much more work to determine a viable path forward. Those of us who don't would benefit from updates at Board meetings.

Gerry Pollet, Heart of America Northwest (second comment)

The Board tends to focus advice to DOE and does not always remember the Board can advise regulators. Ecology is in a position to take some near-term actions that the Board would like to see under their regulatory authority. Ecology could issue an order that the leaking tanks be emptied or that new DSTs have to be built on schedule. Compliance schedules drive funding.

Steve Hudson, Hanford Watch

The Board should consider the audience this document is written for. The writing lacks a certain robustness and there is some redundancy. After sharing this document with others, the first reaction was that they did not realize the cleanup was as complex as it is. The second question was about how to reach agreement on a path forward for cleanup. People became engaged in the conversation. I believed the report from the expert review panel would provide some kind of guidebook going forward but did not read the Framework with those expectations. The Framework contained a lot of information that the Board and the community could respond to. There is a general outline of what could be done without getting into the details of how to do it. The Board has many areas of agreement with the Framework that could be built off of for drafting advice.

Agency perspectives on the Sounding Board

Ben Harp, DOE-ORP

This forum should have been done up front so everyone could share their perspectives early in the process. Many people commented on openness from the design team; DOE will take that suggestion and determine if more information can be made available. The non-disclosure agreements may no longer be in

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effect. A gap analysis from the Board would be worthwhile to be precise on information that should be included. DOE will work with TWC on a path forward.

Suzanne Dahl, Ecology

It is useful to hear these reflections and these suggestions will be taken by to Ecology. Many of the issues the Board is expressing are shared by Ecology. Ecology heard the request that they should be insisting on more detail and a more specific path forward from DOE. The Nez Perce perspective that the Hanford cleanup is a shared problem is appreciated. Tribes do need a different type of access, as does the state of Oregon. It is important to have more information on the basis for this Framework and to learn what the expert review team learned through their investigation. Ecology is concerned about any “bad ideas” in the document and would like to hear the Board’s perspective on what these might include. The need for transparency is an ongoing concern that will continue to be discussed.

Jeff Frey, DOE

This sounding board is useful in providing an early, open dialogue. It will provide a better focus for the subcommittee working on this document. DOE heard a lot of discussion on the Framework and some tangential issues. The Board will now need to consider what they need to focus on and consider with the Framework. The idea of conducting a gap analysis is very useful. It will help the Board define what information it will need to complete its review of the Framework and any future advice. There is new information in the Framework for the Board to consider. New capabilities for direct feed pretreatment and characterization and staging are conceptually introduced. There are also redundancy to the system that are new, and provide operational flexibility.