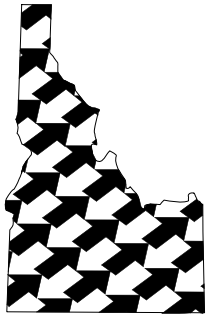

Citizens Advisory Board
Idaho National Engineering and Environmental Laboratory

Draft Environmental Management Performance Management Plan for Accelerating Cleanup of the Idaho National Engineering and Environmental Laboratory

On June 13, 2002, the Idaho National Engineering and Environmental (INEEL) Citizens Advisory Board (CAB) received the Predecisional Draft Environmental Management (EM) Performance Management Plan (PMP) for Accelerating Cleanup of the INEEL. We applaud the U.S. Department of Energy Idaho Operations Office (DOE-ID) for producing a document that is concise, well organized, and relatively easy to read. It appears that the document benefited from a real effort to clarify overarching philosophies, goals, strategies, and milestones.

We appreciate being afforded the opportunity to review the PMP, as it is a significant document that could have a huge impact on the future of the INEEL. The INEEL CAB submits the following comments in the spirit of helping DOE-ID to prepare a final PMP that will be environmentally responsible, economically feasible, and publicly acceptable.

GENERAL COMMENTS

Chapter 3 of the Draft PMP identifies one of the two basic objectives for the accelerated cleanup effort as "Risk reduction and continued protection of the Snake River Plain Aquifer." **The INEEL CAB recommends that the objectives be broadened to include "protection of all natural and cultural resources on the INEEL" as well.**

The INEEL CAB agrees that the PMP offers a good vision for the future, but is concerned that it contains too few details to serve as a solid plan. Under questioning, DOE-ID representatives explained that the intention of the PMP is to set goals and describe end states. **To the extent that the PMP represents a work-in-progress, the INEEL CAB recommends that the public be provided an ongoing opportunity to review and comment on subsequent revisions in detail, as they become available.**

Public interest in the PMP will likely be high, particularly as it moves forward and becomes more detailed. The CAB applauds the plan described in section 7.2 to seek broad stakeholder involvement. **The INEEL CAB recommends that DOE develop, in the near-term, separate detailed stakeholder involvement plans for each of the Strategic Initiatives (4.1 through 4.9).**

The Vision for Accelerated Cleanup at the INEEL, presented in Section 1, ("Purpose") states that "By 2012, the INEEL will have achieved significant risk reduction . . . " However, the schedule for addressing the waste that is of most concern to Idaho's citizenry—the buried waste—does not appear to have been accelerated. The INEEL CAB recognizes that the schedule presented in the PMP reflects negotiations with the regulators to allow the Pit 9 Interim Action to inform future decision-making for the remaining pits and trenches. **The INEEL CAB urges DOE-ID to move forward on decisions and cleanup actions related to the buried waste as quickly as prudence allows.** Establishing and enhancing trust with the Idaho public requires that DOE-ID be responsive to the public's paramount concern, the buried waste.

We understand that the PMP was written to address the problems identified in the recently completed Top-to-Bottom Review and set the course for accelerated risk reduction at the INEEL. The Top-to-Bottom Review found internal problems deriving from a lack of solid management approaches, internal coordination, and program integration. However, we do not find any direct reference to those problems in the PMP or any indication of how DOE-ID plans to address them. **The INEEL CAB recommends that DOE add a concise explanation to the PMP of how the cleanup program at INEEL will be better managed, coordinated, and integrated in the future to accomplish an acceleration of risk reduction.**

We further understand that the PMP was developed to describe how DOE-ID plans to accelerate risk reduction at the INEEL at a lower total life-cycle cost. Descriptive information about some of the strategic objectives, such as 4.1 ("Accelerate Tank Farm Closure"), 4.2 ("Accelerate High-Level Waste Calcine Removal from Idaho"), and 4.8 ("Remediate Buried Waste at the Radioactive Waste Management Complex") allows the impression that cleanup standards may be lowered. Stakeholders will continue to expect full compliance with all relevant laws including the National Environmental Policy Act, CERCLA, and Resource Conservation and Recovery Act (RCRA). **The INEEL CAB recommends that DOE-ID clearly state in the PMP its intentions to comply with all relevant laws to help ease public concerns about the ramifications of accelerated cleanup.**

Throughout the PMP, DOE-ID commits to milestones that appear to be inconsistent with previous commitments. For example, discussion of Strategic Initiative 4.5 ("Accelerate Remediation of Miscellaneous Contaminated Areas") implies that complete remediation of Test Area North (TAN) will be achieved by 2007, a much earlier date than had been committed to in the relevant Record of Decision. Remediation of the groundwater at TAN includes one process (natural attenuation of radioactivity levels) that occurs at a fixed rate (cannot be accelerated) and another process (bioremediation of organic compounds) that seems likely to have only minimal potential for acceleration. Subsequent references to the TAN cleanup effort (on pages 21 and 31) imply that remediation will continue beyond 2020 at TAN. **The INEEL CAB recommends that DOE-ID clearly identify in the PMP those cleanup efforts that will continue after 2020 so the public will continue to have realistic expectations regarding which cleanup efforts will be completed by 2012, which will be completed by 2020 and which will take longer to complete.**

While the thrust of the PMP is to outline a plan for cleanup of the site, in some cases, it appears the EM Program intends to "solve" a problem by transferring responsibility to another DOE program. As an example, Strategic Initiative 4.7 ("Transfer All EM-Managed Special Nuclear Materials Offsite"), would transfer responsibility for special nuclear materials. Although this transfer would reduce the financial liability of the EM program, it does not constitute cleanup. The INEEL CAB questions the rationale for taking credit for accelerating cleanup when planned actions could be more accurately defined as transferred responsibilities. The INEEL CAB is concerned about this strategy because other programs may not be as motivated to complete an effective cleanup. Apparently the Long-Term Stewardship (LTS) program will not be a part of EM, yet, according to the PMP, will end up having responsibility for implementing cleanup actions such as those at TAN, rather than just maintaining remedies and monitoring the efficacy of completed cleanup efforts through ongoing monitoring. **The INEEL CAB recommends that the EM program retain responsibility for all cleanup actions required at the INEEL, and that the LTS program only be responsible for monitoring completed cleanup efforts.**

Throughout the PMP, there are references to cost savings that would result from accelerated cleanup. It is clear that DOE has prepared cost estimates for the various initiatives. **The INEEL CAB recommends that DOE-ID add to the PMP a table that would summarize costs under the current INEEL baseline and under the accelerated strategy for each strategic initiative, along with an explanation of how cost savings could be achieved.**

The INEEL CAB understands that the PMP was written to support INEEL's application to receive "Accelerated Cleanup" funding and that continuing access to those funds will require successful performance in meeting the milestones outlined in the PMP. If the PMP is overly optimistic, we fear that INEEL will not be able to meet some of those milestones, thus possibly losing access to those funds. **The INEEL CAB recommends that DOE identify major program vulnerabilities, third party actions, and barriers to success. After review of these barriers and vulnerabilities, it may be prudent to use assumptions that are more conservative, adjust milestones and schedules, and thereby increase the potential for success.**

One obvious example of actions that would be required by third parties relates to the final approval, construction, and operation of the Yucca Mountain geologic repository. Although DOE-ID plans to ship calcine and spent nuclear fuel to Yucca Mountain for disposal, the availability of that facility is far from assured. In addition, DOE-ID faces other challenges to its ability to ship to Yucca Mountain, including issues (repository capacity, metric tons of heavy metal, NRC licensing, and RCRA delisting) the INEEL CAB has identified in the past (see INEEL CAB Recommendation**s** #66, #73, and #85). Consequently, there seems to be little point in committing to accelerated treatment and packaging of the calcine HLW until such issues can be successfully addressed. In addition, based on DOE-ID's experience related to the evolving nature of the waste acceptance criteria (WAC) for the Waste Isolation Pilot Plant (WIPP), it would appear that treatment and packaging of the INEEL calcine is ill-advised until such time as the final WAC for Yucca Mountain have been defined.

The discussion of Strategic Initiative 4.9, "Accelerate Consolidation of INEEL Facilities and Reduce Footprint," focuses on inactivation and disposition of many buildings at a variety of locations. We question the rationale for including both evaluation (paper studies) and inactivation (actual physical operations) in the same milestones (see section 4.9.4). We note that milestones for actual demolition of buildings are of great interest to stakeholders. **The INEEL CAB recommends that DOE-ID revise the PMP to separate milestones for evaluation and inactivation and to add milestones for demolition of buildings.**

Section 5.3 of the PMP implies that there are serious problems with contracting options and with contractor performance. The complex-wide Top-to-Bottom review also was quite critical of contracting techniques and results. Yet, sections 5.4 through 5.9 of the PMP indicate that DOE-ID and the contractor are doing a good job using the current practices and procedures. The document states that reviews of human resources and overhead will be implemented, but implies no significant changes will be required. Evolutionary changes are being considered for all activities, but this does not appear to be motivated by major problems. It certainly is important to consider various options and, in fact, is required by DOE procedures. But the long and speculative paragraphs on life-cycle baselines, the fate of the current site contractor, very different site management contracting options, and contractor incentive techniques seem out of place and not in the spirit of the rest of the document. The PMP obligates the INEEL to an accelerated schedule for many cleanup efforts, including some which are being implemented under privatized contracts. In some cases, there are also assumptions that may affect the level of effort (inspections under the BNFL contract, for example). Cost savings may not be achievable without contract renegotiations. **The INEEL CAB recommends that DOE-ID confirm with all holders of privatized contracts that changes in strategy driven by the PMP will not have unintended impacts.**

The INEEL PMP depends on accelerated shipping schedules for wastes that will be shipped to WIPP and Yucca Mountain. The success of "just-in-time" shipping strategies (as included in Strategic Initiative 4.2 ["Accelerate High-Level Waste Calcine Removal from Idaho"]) will rely heavily on the radioactive waste transportation infrastructure and will presumably not entail on-site storage capacity. It is presumed that the PMP for other sites will similarly include plans for accelerated shipments. **The INEEL CAB**

recommends that DOE review all PMPs and transportation plans for other programs to confirm that the existing/planned infrastructure can handle all accelerated schedules. If the infrastructure cannot accommodate all plans, some of the accelerated schedules may have to be changed based on assumptions that are more realistic. Alternatively, construction of new storage facilities may be needed to assure that shutdowns in the treatment capacity are not required when transportation delays occur.

PROGRAMMATIC RISK

In the past, DOE used the term "programmatic risk" to refer to the degree of uncertainty inherent in its plans. This concept served to alert the public when DOE knew it faced challenges. For the public to have confidence in DOE's proposed approach to accelerated cleanup, DOE must fully and honestly identify all challenges to its success. **The INEEL CAB recommends that DOE-ID include a new subsection in the PMP to discuss the programmatic risks that could hinder implementation of each of the Strategic Objectives.**

One over-arching programmatic risk becomes apparent in reading the final bullet under section 5.2 "Funds Management." It indicates that congressional and administrative commitment to multi-year funding will be required in order to accomplish this plan.

The attachment offers other suggestions for discussion in the PMP to address specific programmatic risks.

4.1.6 Programmatic Risk Associated with Accelerated Tank Farm Closure

Acceleration of the tank closure depends almost entirely on an assumption that DOE-ID will be allowed to ship the tank wastes to WIPP instead of Yucca Mountain, as previously planned. The cost savings would derive primarily from use of a yet-unidentified alternate technology instead of vitrification for some of the waste.

The programmatic risks associated with this strategic initiative include:

- Reclassification of sodium-bearing waste (SBW) as Waste Incidental to Reprocessing (WIR). It is not clear that the Nuclear Regulatory Commission (NRC) would agree that the SBW in the tanks has "been processed, or will be processed, to remove key radionuclides to the maximum extent that is technically and economically possible." Further processing work would affect cost and schedules.

- Reclassifying tank heels as WIR. Again, NRC may not agree that the tank heels meet the requirements for reclassification. This may require a much more extensive cleaning process than planned, which certainly would affect cost and schedules.

- Litigation on WIR. A lawsuit is pending in Federal court challenging the 1999 DOE rule that allows waste in the tanks to be declared WIR. The suit claims that this violates the 1982 Nuclear Waste Policy Act. Resolution of this lawsuit may prohibit the reclassification of SBW and/or tank heels as WIR, and could impact program schedules.

- Treatment technology. The PMP projects that a treatment technology for SBW will be approved in 2004 and construction of a processing plant would begin by the end of 2005. This is a very aggressive schedule for a technology that has never been tested on SBW.

- WIPP waste acceptance criteria. Even if the tank contents are reclassified as WIR, and are, therefore, mixed TRU waste, there is a risk that the WIPP WAC will not be changed to allow disposal of waste with such high radioactivity levels.

- Stakeholder concerns. If NRC concurs (see above), DOE-ID will have the final authority to reclassify waste as WIR. Stakeholders may perceive this as a conflict of interest leading to objections and possible additional litigation.

In summary, the programmatic risks for Strategic Initiative 4.1 are high.

4.2.6 Programmatic Risk Associated with Accelerated High-Level Waste Calcine Removal from Idaho

The cost savings for calcine treatment are mainly due to substitution of a yet-unidentified alternate technology for vitrification, the previously planned treatment for the calcine.

The programmatic risks associated with this strategic initiative include:

- Non-intrusive characterization. DOE-ID is proposing to use "non-intrusive" techniques for characterizing the calcine. This technology needs to be developed and demonstrated, and will need to be approved by the regulators.

- Yucca Mountain approval. The PMP assumes that Yucca Mountain will be open by 2020 and will be able to accept the calcine at that time. The programmatic risk associated with that assumption is associated with the political and legal status of the repository.

- Yucca Mountain capacity and waste acceptance criteria. There is limited capacity for HLW in the repository, and it is possible that there will not be enough room for all of INEEL's HLW. In addition, it is possible that some INEEL HLW will not be acceptable at Yucca Mountain. The reasons are highly technical and are detailed in the CAB recommendations #66, #73, and #85.

- Packaging of calcine. "Direct packaging" of loose calcine into storage containers may not be acceptable to regulators, may not meet transportation requirements, and may not meet Yucca Mountain WAC. If an alternative technology for packaging is proposed, it will have to be developed and may have the same problems and risks as "direct packaging."

- Stakeholder concerns. Stakeholders may be concerned with the "non-intrusive" characterization of the calcine, the transportation of the packaged calcine, and the safety of storing it at Yucca Mountain, leading to program delays and possible litigation.

In summary, the programmatic risks for Strategic Initiative 4.2 are high.

4.3.6 Programmatic Risk Associated with Accelerated Consolidation of Spent Nuclear Fuel

The programmatic risks associated with this strategic initiative include:

- Fermi blanket fuel. Currently Fermi blanket fuel has no disposition path. New technology will have to be developed and agreements with yet-unspecified entities may need to be entered into.

- Yucca Mountain WAC. Even though the WAC for Yucca Mountain have not been finally determined, INEEL is making some assumptions:

    - Storing spent fuel in a NRC-licensed facility *ensures* that it will be acceptable to Yucca WAC.

    - Use of a standard container for the various varieties of DOE fuel *reduces the likelihood* that the fuel would be considered non-standard.

    - If these assumptions are not correct, it will be necessary to remove the fuel from its current container and repackage it, incurring significant extra time and expense. If fuel is declared non-standard by Yucca Mountain, it could negatively impact schedules and costs.

- Dry Storage Facility. There is a risk that the necessary third-party agreements for the new spent nuclear fuel dry storage facility and process cannot be negotiated as stated. The additional time requirements for licensing and construction of the facility suggest that the transfer milestones will have to be delayed by several years.

- Schedule discrepancies. The milestones (4.3.4) and dates for necessary agreements (4.3.5) do not make any sense. For example, transfer of Navy fuels: reach agreement as late as 30 Sept 2011; transfer the fuel no later than September 2011. Obviously, this is impossible.

In summary, the programmatic risks for Strategic Initiative 4.3 are moderate.

4.4.6 Programmatic Risk Associated with Accelerated Off-Site Shipments of Transuranic Waste (TRU) Stored at the Transuranic Storage Area

The programmatic risks associated with this strategic initiative include:

- Characterization of TRU. The baseline plan is for the AMWTP to inspect *all* TRU waste containers and to open, sort and compact 56% of the waste. The PMP implies that this will not be done and that archive records ("acceptable knowledge") will be used for an *unknown portion* of the waste. There is a risk that "acceptable knowledge" will not meet WIPP WAC.

- Remote handled waste (RHW). The baseline plan is to repackage *all* RHW. The PMP proposes to develop new technology and new facilities for characterization of the RHW and repackaging *some* of it. There are obvious risks and uncertainties here. There is also a risk that the RHW will not meet the WIPP WAC.

- WIPP transportation system. As part of accelerating cleanup complex-wide DOE has proposed accelerating shipments from Oak Ridge, Los Alamos, Hanford, and the Nevada Test Site in addition to meeting existing commitments to clean up Rocky Flats by 2006. If implemented, these accelerated shipments could overwhelm the WIPP transportation system and introduce delays in sending INEEL waste to WIPP.

- Alternatives to incineration. Section 4.4.5 states that a strategy must be found for waste not qualified for WIPP. However, actually developing this technology is not included in the milestones (4.4.4).

- Stakeholder concerns. Stakeholders may be concerned with the "acceptable knowledge" characterization of the TRU waste and the new plan for RHW, leading to stakeholder objections and possible litigation.

In summary, the programmatic risks associated with Strategic Initiative 4.4 are moderate.

4.5.6 Programmatic Risk Associated with Accelerated Remediation of Miscellaneous Contaminated Areas

This strategic initiative differs little from the current plan, focusing on cleanup at the INEEL CERCLA Disposal Facility, small tanks, TAN, Central Facilities Area, etc.

In summary, the programmatic risks associated with Strategic Initiative 4.5 are low.

4.6.6 Programmatic Risk Associated with Elimination of On-Site Treatment and Disposal of Low-Level and Mixed Low-Level Waste

The programmatic risks associated with this Strategic Initiative include:

- Off-site facilities. The PMP assumes the availability of adequate off-site disposal facilities such as: Envirocare, Nevada Test Site, and Hanford. There is a risk that such disposal facilities will not be available in a timely fashion.

In summary, the programmatic risks associated with Strategic Initiative 4.6 are moderate.

4.7.6 Programmatic Risk Associated with Transfer for all EM-Managed Special Nuclear Material Offsite

The programmatic risks associated with this Strategic Initiative include:

- Off-site facilities. The PMP assumes that Oak Ridge and Savannah River will accept these materials for storage. There is a risk that these sites will not enter into the necessary agreements in a timely fashion.

- Stakeholder concerns. Stakeholders at the receiving sites may object to the shipments leading to possible litigation and the inevitable delays. Recently, Savannah River has refused to accept plutonium from Rocky Flats for storage.

In summary, the programmatic risks associated with Strategic Initiative 4.7 are low.

4.8.6 Programmatic Risk Associated with Remediation of Buried Waste at the Radioactive Waste Management Complex

The accelerated strategy is essentially the same as the current baseline plan, involving excavation of a small portion of Pit 9 and determination of a remediation plan for the rest of the buried waste based on that experience by 2006. Substantive decisions on the remedy, technology, and whether to dig up *any* waste will be deferred until 2006.

The programmatic risks associated with this Strategic Initiative include:

- Remediation plan. The remediation plan has not yet been developed and the path forward has not been determined. This presents *enormous uncertainty and risk* in terms of technology, cost, and schedule.

- Stakeholder concerns. Adequate remediation of the buried waste (including the alternative of digging it up) is a major concern of public interest groups, the State of Idaho, and other stakeholders. If the remediation plan is not perceived by stakeholders as meeting the promises of the 1995 Settlement Agreement and adequately protecting the Snake River Aquifer, there will likely be litigation. Such litigation and negotiation could continue for a protracted time, affecting milestones and schedules.

In summary, the programmatic risks associated with Strategic Initiative 4.8 are extremely high**.**

4.9.6 Programmatic Risk Associated with Accelerated Consolidation of INEEL Facilities and Reduction of INEEL Footprint

This Strategic Initiative calls for concentration of activities in a single area or a single building; the CAB supports this strategy and suggests that it should be done as soon as possible. Closing down TAN for EM activities and turning over the remaining facilities to the Specific Manufacturing Capability (SMC) mission will provide a major cost savings for the EM program. Similar comments can be made about TRA.

The programmatic risks associated with this Strategic Initiative include:

- Inactivation and disposition of buildings. The PMP calls for the inactivation of 174 buildings, the disposition of 87 buildings, and the transfer of about 44 buildings to other program offices by 2012. This is a very aggressive schedule and there is a risk that this activity will turn out to be more difficult, costly, and time-consuming than initially projected.

- Long-Term Stewardship (LTS). Relatively little effort and planning has gone into LTS for this program or for the site in general. There is a risk that LTS will turn out to be more costly and time-consuming than initially projected.

In summary, the programmatic risks associated with Strategic Initiative 4.9 are moderate.