



Hanford Challenge Comments on the Environmental Management Advisory Board (EMAB)
Report of the Hanford Waste Treatment Plant Project

October 3, 2010

On September 30th, the Department of Energy's Environmental Management Advisory Board (EMAB) released its technical assessment of the Waste Treatment Plant (WTP) Project. Hanford Challenge reviews any report with an eye on the identity of the participants and the actual language of the report before evaluating the validity of the conclusions. The EMAB is a DOE-appointed Committee to provide advice to the Environmental Management's Assistant Secretary. The EMAB was chartered to evaluate the technical status of the Waste Treatment Plant (WTP) which is being built by Bechtel and partner URS. The WTP is the biggest and most expensive environmental remediation project in the nation, the biggest nuclear waste processing plant in the world, and the most visible project in the DOE.

Of the eight EMAB members, one of the co-chairs, Dr. Papay, was a Senior Vice President and General Manager in Bechtel. The other co-chairman, Dr. Ferrigno, owns a consulting company that lists URS as a client. Another member, Dr. Meyers, is a former Bechtel President. Still another member, Dr. Stevens, worked for Washington Group International, which was acquired by URS. Two of its members are from Hanford-related interests. None of the EMAB members are from a citizen or public interest group. It is also interesting to note the orchestration by DOE management and coincidental timing of this "independent" report to be released one week before the upcoming Defense Nuclear Safety Facilities Board (DNFSB) meeting in Kennewick (October 7 and 8). In short, the hand-picked Board lacks any semblance of balance, and seems designed to deliver the kind of advice that best suits the DOE.

Hanford Challenge believes the EMAB's conclusions should be challenged. The only point of agreement with the EMAB is that actual data supports the EMAB review that a nuclear criticality – the sudden release of a large amount of heat and radioactivity due to plutonium aggregation in the tanks - is possible because of the preferential separation of solids that can occur due to the inadequate mixing of the waste (which contains plutonium). With a nuclear criticality as a possibility, the appropriate alarms, training, procedures, etc, must be put in place. By the fact that alarms will be present, the occurrence of a criticality will be known, and therefore be reported to the appropriate parties worldwide. Not only could a criticality cause severe personal harm and damage the facilities, such an event would cause a shutdown of indeterminable length. Experts contend that despite a criticality having a low probability of occurrence, improved mixing systems should be implemented to provide an engineering solution to eliminate the safety concern to prevent even the debate of such an event in a \$12B+ nuclear facility. The improved mixing will also eliminate explosive gas concerns. It is astounding that the Department of Energy would even contemplate taking such risks with the design.

In addition, the EMAB cites concerns with 7 of the 11 major External Flowsheet Review Team (EFRT) issues which are supposedly "closed". With regard to these major issues, the EMAB uses descriptions such as the potential for line plugging being too high, insufficient testing, the Pulse Jet Mixers mixers (necessary to mixing) do not meet a sufficient demonstration level (Technical Readiness Level 6), and gelling of waste in lines has not been assessed. Hanford Challenge fears that the Department and EMAB is playing games with semantics – the issues are not closed if further testing is needed to validate the safety of the design and outdated process models.

The EMAB further states that making plant changes later is a common practice as unanticipated concerns will arise during startup. This argument is reasonable, however, the concerns on the table that have been "closed" are anticipated, not unanticipated issues. Why would you wait to address a problem later that you know about and can address now and when you know that waiting will increase the cost and potential for delay in the future. This practice of waiting to resolve and address known issues until a later date has been the historical practice at the WTP for a decade – mixing issues, hydrogen gas buildup, line plugging

– all these issues were identified years ago by the NRC and other review teams. Putting off the resolution of these issues until some unspecified future date, and declaring the issue “resolved”, is poor science, bad management and misleading to the taxpayers that are funding this venture. We have learned that waiting to address known concerns creates delays and cost increases. So far, this practice has resulted in the ten-year delay and 240% cost increase we have been saddled with so far on the Waste Treatment Plant.

Despite concerns with 7 of the 11 major EFRT issues, the EMAB finally states that the WTP Project has reached a “pivot point” and can move on with a construction/commissioning focus. These same words were uttered by Dale Knutson, WTP DOE Federal Project Director, at the Hanford Advisory Board Meeting, September 9th, in Seattle. Knutson used this terminology in connection with the stated goal of making sure the culture at WTP changed to shift from a design/construction phase to construction/commission phase. It is disturbing that after nearly 10 years of effort and nearly \$6B spent, neither DOE, Bechtel, or URS can assure us of the safety and performance of the WTP.