March Mixed Waste Subgroup Highlights

The Hanford STCG Mixed Waste (MW) Subgroup met on March 17, 2000 in the EESB Cayuse Room at 1:00pm.

Sharon Bailey gave a viewgraph presentation on robotics work that PNNL is doing at Hanford. Sharon is the Hanford Site Representative to the EM-50 Robotics Crosscut Program (RBX). The Hanford Robotics initiative has not been funded yet but may get a $15 million budget next FY. Sharon then reviewed RBX activities that were done in support of the MW, D&D, and Tanks Focus Areas with Hanford applications.

The major RBX project for the MWFA is the HANDSS-55 Waste Repackaging System for SRS. PNNL is part of a team that also includes INEEL and is working on repackaging RH waste for shipment to WIPP. PNNL is working on two tasks: procuring a universal end-effector system and building a manual sort bin end-effector (MSBE). The universal end-effector system is a three-finger gripper with fingers that open and close and the system rotates to allow it to pick up odd shaped pieces. In addition, this system has a tool stand and exchange plate. The MSBE is to handle and help sort non-compliant items. The MSBE has a 200-lb. load capacity and a volume of 1 cubic foot. The MSBE will be tested at INEEL. In direct support of the Hanford effort the RBX team at PNNL is putting a technology assessment together for size reduction of long-length TRU waste. This is in support of the M-91 TRU waste project. The assessment will define the problem at Hanford and provide a status report as to current and past efforts that may help solve the problem. FETC has set aside $2.3 million to help with solving this problem.

The RBX team has been supporting the CDI work at U-Plant for the last two years. In FY98 the U-plant railroad tunnel was characterized with the Andros robot. The Andros robot was an abandoned, contaminated robot that was cleaned up and reworked. The robot traversed the 250-foot railroad tunnel collecting smear samples, filming video, and monitoring radiation levels. There had been no human access to the tunnel for more than 20 years. In FY99 the U-plant ventilation tunnel was surveyed by the Andros robot. Again the robot collected video, radiation and smear samples from the 750-foot tunnel. In FY00 the U-Plant drain line is scheduled to be inspected. A camera system was put down the drain line to observe the line. An obstruction was found in the line that needs to be dealt with in order to allow a robot to travel the entire length of the drain line. Sharon stated that a couple of vehicles have been identified that can deal with the obstruction. The total cost for this effort is $150 – 300K.

In the past, the RBX has also provided technical assistance for the Tank Farm sampling and analysis effort. The majority of the work has been for the Pit Operations Enhancement Project, which has the goal of deploying a remote

system platform for improving operations in Hanford valve and equipment pits at the Tank Farms. In FY99 a technology assessment was done and externally reviewed by the ASME. In FY00 an MOA is being developed with TFA, RBX and Tank Farms to specify, procure, test and install the remote system in the AW tank farm pits. Once the MOA is agreed upon and the funding obtained an RFP would be issued for the needed equipment. The proposed tank platform would have adapters on the arm to move valves and would have enough strength to assist the crane in making some connections. The system would also be used to cut up jumpers, decon items, and apply fixatives.

The RBX team is doing real work for real uses on real problems including Hanford clean-up work. The team is involved in hardware design and development and is focusing on field deployments in hot environments. Sharon then showed video of the Andros robot in the ventilation and rail tunnel at U-plant. The robot can fit through a 3-foot square entrance and then be deployed. The Andros robot costs about $100K and the manufacturer also makes a smaller model. The cost to use Andros in a room would be about $20K depending on how many samples are taken and the radiation levels in the room.

Mark French discussed information he obtained at the MWFA end-user review meeting that was held in Salt Lake City on February 8-10, 2000. Mark is on the TRU panel and noted that information from WRAP is being exchanged with the HANDSS-55 Project. The MWFA budget is going down and in order to get money from the MWFA in the future we will need to better define our needs. TRU waste will become the new focus for the MWFA and Hanford should be able to get more funding as we are dealing with TRU already. Mark suggested that better communications with the MWFA is needed throughout the year rather than just once per year at this meeting. Jim Sloughter mentioned that offline meetings are being held with the MWFA on a number of issues. One outcome of such a meeting was the letter of support from the MWFA for our ASTD proposal.

Jim Sloughter mentioned that one of the ASTD proposals sent in was to accelerate the ATG activities to handle lab-packs containing PCB contamination. At this time the amount of funding for this effort is still being determined. Jim also stated that the S&T needs process for this year has begun. The existing needs are being reviewed first with the project managers before new needs are considered. The new needs are scheduled to be given to the subgroups for review on May 15, 2000. The subgroup review would be done by the middle of June with all needs to be published and submitted to DOE in mid-July. We need to pressure the MWFA to review our needs and then tell us how they will meet them in the future.

Gordon Rogers asked about the plans for dealing with the caisson waste on-site. Information was given to him that deals with the caisson waste in the 200 Area as that is overseen by Fluor Hanford. The caissons that Gordon was interested in are to be handled by BHI as they are in the 600 Area.

Mixed Waste Subgroup Meeting Attendees – 03/17/00

Sharon Bailey	PNNL	375-2243
Bill Bonner	PNNL	372-6263
Mark French	DOE-RL	373-9863
Ken Quigley	WMH	376-7779
Gordon Rogers	HAB	547-7403
Greg Sinton	DOE-RL	373-7939
Jim Sloughter	FDH-TM	375-2413
Steve Weakley	PNNL	372-4275
Rick Wible	DOE-RL	372-4776