

Meeting of the Decommissioning Project Community Workgroup (#32)
Wednesday, October 17, 2007
Sandusky High School

The meeting began at 5:30 p.m. The following workgroup members were present: John Blakeman, Lois TerVeen, Barbara Berg, Mike Yost, Richard Myosky, Bill Walker, Bob Speers, Ralph Rashong, Chris Gasteier and David Stein. Representing NASA were Decommissioning Program Manager Keith Peacock, Senior Project Engineer Peter Kolb, NASA Glenn Public Affairs Specialist Sally Harrington, Director of the Plum Brook Station Management Office, Gen. David Stringer (USAF, retired) and Glenn Research Center Director of Safety and Mission Assurance Tom Hartline. Susan Santos, Michael Morgan and Anne Chabot of FOCUS GROUP were present. Also attending were nearly 30 members of the public as well as NASA Glenn History Officer Kevin Coleman and Glenn History Office staff and contractors.

Opening Remarks

Kieth Peacock welcomed members to the 32nd Community Workgroup meeting. He thanked members who have served for many years and welcomed new members to the group recognizing the value that each person brings to the project. Keith introduced the new NASA Glenn Research Center Director of Safety and Mission Assurance Tom Hartline and the new Director of the Plum Brook Station Management Office, Gen. David Stringer. Previously, Stringer ran the the USAF Arnold Air Base Engineering Development Center in Tennessee. Keith said that the audience would have ample opportunity to ask Mr. Stringer questions at the CIS following the workgroup meeting. Keith introduced Jennifer Loerch who is a new member of the Decommissioning Team in environmental work with Peter Kolb.

Susan Santos asked for acceptance of the June 2007 Workgroup meeting minutes, (accepted by John Blakeman and seconded by Bill Walker). Susan reviewed the agenda and noted that this would be a shorter meeting due to the Community Information Session to begin at 7:00 p.m. Sally Harrington then explained the materials placed in front of workgroup members. They included a copy of the magazine "Radwaste Solutions" featuring an article on the Community Workgroup, written by Michael Morgan of FOCUS GROUP. Also, on a "Save the Date" card were listed two NASA Glenn Open Houses scheduled in 2008 celebrating the 50th anniversary of NASA. The first will be held at Glenn's Lewis Field in Cleveland on May 17 and 18, and then at Plum Brook Station on May 31 and June 1.

Keith handed out three discs of the Virtual Tour and Records Material that were made available to contractors bidding on the Decontamination and Shipping Contract (D&S contract). The virtual tour disc contains photos of areas covered by the scope of work. The Records disc contains historical and construction photos and drawings, procedures, characterization data, etc. John Blakeman asked if a copy would be available in local public libraries. Keith and Susan agreed, and a copy also would be available at the Community Information Bank at BGSU Firelands. Keith mentioned that Science in Flux

- a scholarly book on research and reactor experiments – was sent to Workgroup members and that extra copies were available that evening. (NASA's Nuclear Frontier – a historical photo book had been published two years earlier).

Project Update

Keith announced that two major milestones had been achieved since the last Workgroup meeting. The NRC had approved the Final Status Survey (FSS) Plan and field work had begun. Also, NASA had received approval to begin embedded pipe grouting. With these approvals, Keith said it felt like the project was entering the home stretch.

The FSS Plan with minor changes was sent to NRC in December 2004. The NRC announced its approval of the Plan in August 2007. This was followed by a 30-day public comment period, in which time no comments were received. NASA is still awaiting “formal” NRC approval and is proceeding with field work. The FSS Plan is the document that guides the entire FSS process. It documents, said Keith, “What are our cleanup levels called Derived Concentration Guideline Levels (DCGLs), how do we know when we’re done cleaning, how we prove it, how much we have to survey, what kind of instruments we use, and what types of trainings are necessary.” Keith showed photos of FSS in process. When an area has been cleaned it is secured and posted with a green sign (photo was shown) to keep people and contamination out. Keith showed photos of a floor surveying unit that looks like a floor waxer and has radiation detectors and a Global Positioning Satellite unit that ensures 100% coverage. There are two types of surveys 1) over the entire surface, 2) spot checking done as outlined in the FSS Plan. Keith pointed out that people in the FSS photos are working in street clothes saying, “Where they are working has been cleaned and no protective equipment is necessary.” Keith said that survey documentation is sent to the NRC for review. When final survey work has been completed on all impacted areas and the FSS has been approved, the NRC will terminate the license.

Embedded Pipes

Keith reported that there are three and one-half miles of piping throughout the facility (19,000 feet) from 1-inch conduits to 24-inch main circulating lines with varying degrees of contamination in black iron, carbon steel, and stainless steel pipes. Some of these pipes are embedded in many feet of concrete 50 feet below grade and it would be a major undertaking - expense and safety - to tear pipes out. Instead, the Decommissioning Team has been cleaning the pipes - mechanically scraping, vacuuming and surveying them. Grouting cleaned pipes is done to: 1) keep them from caving in; and 2) lock in any remaining contamination from migrating. Keith showed photos of model pipes that were filled with grout - low density concrete slurry. The PVC was then cut apart to see if it met specifications: 1.8 density (80% denser than water) and no more than 10 % void (space), which it did.

Actual grouting started in mid- September. At the time of the Workgroup meeting 1,200 feet of the 7,200 feet of pipes had been grouted. Keith explained that only the embedded piping that is 3 feet below grade must be grouted. Above that level will be demolished as part of site restoration. Bill Walker asked, “When will demolition start?” Keith said he

expects field work to be done by the end of 2010, with NRC review and approval expected 2011, followed by demolition and site restoration. Keith showed two photos of a worker below pumping the grout into the pipe and a worker located above (a radiation technician) monitoring to make sure the pipe is not emitting a “puff” and also that the worker can say stop when the pipe is full. John Blakeman asked, “How do you know he is at the end of that pipe, there are so many pipes.” Keith agreed and said that subcontractor Babcock Services (BSI) has worked on the pipes for over a year and from experience and drawings knows the pipes “inside and out”.

Other Ongoing Work

Keith reported that decontamination of the Warm Handling Room area (behind the Hot Cells 3-7) is now complete. Decontamination in the Fan House, Waste Handling Building and Primary Pump House has begun. Asbestos abatement is taking place in quadrants and canals. Keith showed “before” photos of the warm handling area having grease, paint, epoxy and contamination on most surfaces. He then showed the “after” photos of all cleaned concrete surfaces. He mentioned some of the tools used including a sponge jet blaster (like a sand blaster) used to peel off contaminated surfaces. The floor was cleaned using the Marcris floor shaver.

Keith noted that experiments from the reactor were transferred through the quadrants and canals under 25 feet of water to be analyzed in the Hot Cells. Builders used fiberglass wallpaper and epoxy paint to keep contamination out of the concrete. Unfortunately, the mastic used to apply the fiberglass covering contained asbestos, which needs to be carefully removed. Keith showed photos of work being done by subcontractor MOTA workers who are certified asbestos abatement workers. They used a floor shaver, hand-held (squirrel) grinder tool and then a needle gun with vacuum hood to get into tight spaces. Large metal pieces located in these areas will be removed for disposal once asbestos (approximately 46,000 square feet of area) is out. Effects of historic hydrostatic pressure prevent accurate surveying of the metal pieces.

Sampling in Plum Brook

Keith stated that cesium discharged as part of normal reactor operations ended up binding with clay in Pentolite Ditch and worked its way downstream over 40 years. Keith said the point of sampling is to understand where the silt went and that NASA has been working with Haag Environmental to understand the physics of the stream and where the material would have been deposited. Sampling conducted over the summer was mostly “bounding” sampling, looking at spots where previous elevated readings had been found. Deposits or “Cells” were found to be isolated, relatively small and buried under several inches to several feet of clean sediment, with only the edge next to the stream exposed. More than 3,000 samples have now been collected. Results show there is no health concern from the levels found.

The NRC suggested modeling be done that reflects how people live and work along Plum Brook. People do not primarily farm the land. Land use includes residential, recreational (golf) and a state nature preserve. NASA is now preparing dose modeling that reflects the actual exposure conditions to the public from these land uses, and will generate DCGL

levels that are specific to each section of Plum Brook and the potential exposure to the public. This will be a change to the FSS Plan, which must go back to the NRC for approval. Keith reiterated NASA's commitment to apply the same cleanup standard offsite as applies to decommissioning at the reactor site (no more than 25 millirem per year). Susan Santos noted that earlier, NASA did some modeling using assumptions about exposure and assumed exposure to the highest levels that had been found and the results showed that none of the levels pose a health concern. The current modeling effort will look at what would need to be cleaned up to meet the NRC overall cleanup goal based on actual and future land use. Keith mentioned there are two pieces to the decommissioning regulations 1) levels must be less than 25 millirem and 2) must meet ALARA (the industry standard that means As Low As Reasonably Achievable).

Keith said that in this case if a spot meets the cleanup level yet can be cleaned with little additional effort and low cost, then regulations say to do so. Keith expects spot cleanup in Plum Brook will be done to meet ALARA. John Blakeman asked where the spot removal soil would go. Keith said that it would be packaged and sent for disposal to Envirocare in Utah. Keith described future handling of on-site soil excavation. All excavated soil from decontamination will go through an assay unit – a large conveyor belt and detector – dividing soil above DCGLs for shipment offsite and below DCGLs that will be used as onsite backfill. The soil will be assayed instead of shipping it all offsite, which is a very expensive way to do the job.

Dr. Speers asked at the last meeting if NASA had consulted a biologist regarding cesium in the environment. NASA asked Haag Environmental to lead the effort in a literature search, which included some studies at Savannah River. Haag Environmental and the Decommissioning Team have spoken with a wide range of experts. The summary of their findings is as follows: 1) cesium does bioaccumulate in fish muscle tissue; 2) the bioconcentration factor is not as high as PCB or mercury; and 3) it doesn't tend to stay in the body as long. There was no meaningful data yet found on uptake of cesium into plants. Two years ago, samples were collected from 23 deer taken from the annual hunt near the reactor. Results of liver (looking for cesium) and bone (looking for strontium) showed no elevated levels. Keith said, "If it's not concentrating in deer that eat the grass near Pentolite Ditch (levels are higher than elsewhere), we don't feel there's a concern with grass and plants."

Keith also reported that a so-called scoping sampling effort was performed on fish. Three yellow perch collected by the USGS off Pelee Island were compared to small fish collected from the WEMS pit (Waste Effluent Monitoring Station) where storm drains collect before leaving the reactor site. Keith noted that the organic 'muck' in the WEMS pit had 27 picocuries per gram, which is a lot more than the Lake Erie end of Plum Brook. The comparison of cesium and cobalt between the fish from the lake and WEMS showed that fish are not collecting cesium or cobalt to a degree that the public should be concerned about. Bob Haag is awaiting one phone call back from a database search regarding other plant sampling. A member in the audience offered that Davis Bessie takes annual fish samples. Keith said he would follow up on that.

Pentolite Ditch

At the last workgroup meeting, Keith reported that he was hoping to issue a procurement to begin to remove soil from Pentolite Ditch, haul it inside the fence where it would be stored for later assay. Over the summer it became apparent that there wouldn't be enough time to get the procurement and get field work done before winter. This would result in having to pay for the job and workforce to demobilize in the fall and remobilize in the spring, which would be an unnecessary cost. Therefore, cleanup of Pentolite Ditch will go under the scope of work for the new D&S contract. The current project money that would have been used for Pentolite Ditch cleanup is being used to accelerate the decontamination work inside buildings.

D&S Contract

Earlier this year, NASA HQ hired the Tom Laguardia Group with experience in more than 100 public and private decommissioning estimates to perform an independent cost estimate for the remaining decommissioning work at the Reactor Facility. The results were virtually no different from the Decommissioning Team's own estimate. There were some differences in approach. Unlike the Team's approach, they recommended doing demolition as soon as FSS was complete. Instead of a fixed price contract, they recommended that it should be a cost plus contract. A new Request for Proposals was drafted – keeping the demolition occurring after license termination and with a cost plus contract. The draft RFP was issued on September 7. It was issued as a set aside contract for Service Disabled Veteran Owned companies. A site showing was held on September 18 hosting 50 people representing 25 companies of which 5 were Service Disabled Veteran Owned (One is MOTA and they will have to submit a proposal and compete with other bidders). The final RFP will go out at the end of November; the contract will be awarded in April; the D&S contractor will be on site in May; work will start on June 2. Meanwhile, work is continuing under the existing contract with MOTA. Keith listed the tasks associated with the D&S scope of work including finishing decontamination work in the reactor building, all outside areas and cold retention area, digging up tanks, cleaning Pentolite Ditch, assaying an estimated 100 million pounds of soil, shipping waste stored onsite, shipping an estimated 10 million pounds of soil to be disposed of, and performing any needed spot cleaning in Plum Brook.

Next Few Months

Keith expects the pace of work to accelerate in the next few months - continuing decontamination activities in the Fan House, Waste Handling Building, Quads and canals, Primary Pump House and Hot Lab Building. Keith expects grouting of pipes to be finished in January. FSS work will continue in the Reactor Office Laboratory Building, the Service Equipment Building, and Cold Pipe Tunnel. These buildings represent 40% of the interior of buildings for FSS. Keith explained that with a relatively limited budget, he made the decision to not spend funds on shipping waste but to spend it on decontamination activities – keeping the project moving forward. With FY08 money now available, waste (all low level waste) that has been stored onsite for the past two years will be shipped for offsite disposal. As always, NASA will notify local emergency

responders in advance of every shipment and will post information on the Telephone Information Line just after a shipment is made to let the public know.

Keith reported that he is still awaiting word from the State of Nevada for access to the Nevada Test site for disposal of the cadmium control rods currently in safe storage at Plum Brook Station (PBS). Work will continue with Haag Environmental on finishing reports of off-site contamination to submit to state and federal regulatory agencies. Susan Santos said that once the reports are complete, NASA will put out a final fact sheet on all sampling efforts. Susan also mentioned that copies are available of the latest environmental sampling report.

Plum Brook Station Activities

Director of Plum Brook Station Management Office, Gen. David Stringer addressed the Workgroup briefly describing the five major test facilities that make up PBS. They include the Space Power Facility, B-2 Rocket Test Stand, K-site smaller thermal vacuum chamber, Hypersonic Tunnel Facility, and the Cryogenic Components Laboratory, which is currently under construction. Gen. Stringer reported that a \$51.4 million contract had been awarded to modify the Space Power Facility to add testing on electromagnetic interference, mechanical vibration and acoustic vibration. These, along with the current temperature and vacuum capacities of the Space Power Facility, will enable testing of the Orion crew module, service module and the upper stage in 2009. He welcomed members of the workgroup and the community to tour the facility.

Gen. Stringer then invited people to ask questions and discuss PBS activities at his exhibit during the Community Information Session. A member of the audience inquired about the blimp. He explained that the blimp has a payload underneath it, which is being tested to “go look at stuff (infrared and others) and if the equipment can transmit and receive from different locations.” Congresswoman Kaptur sponsored this project being conducted by the Army. The blimp is being tested at 1,000 feet above PBS and the Army is planning for the blimp to be self propelled and for all the equipment to work at 65,000 to 80,000 feet altitude. He said that it is usually flying an hour after daylight to an hour before sunset until mid-November when it becomes too cold. It is expected to start flying again in the spring. Bill Walker asked if it would fly higher than 1,000 feet in this area. Gen. Stringer said that testing would probably be done at Camp Perry.

Community Outreach

Sally Harrington directed the attention of the workgroup members to the exhibit where Gen. Stringer would discuss more about the ongoing and new activities at PBS. She invited people to take handouts available on the Orion crew exploration vehicle and invited people to watch a DVD during the CIS showing how the vehicle will be tested at the Space Power Facility. Sally discussed other CIS events including the Glenn Research Center’s History staff and exhibit on the Reactor Facility. The EHOVE Career Center would be demonstrating their robot built in 6 weeks for the FIRST robotics competition. Glenn Research Center and other organizations sponsored the Buckeye regional competition. EHOVE won rookie award at the Buckeye and placed 39th in Nationals in

Atlanta. Sally invited people to take materials including the latest Decommissioning newsletter and fact sheets.

Susan asked Workgroup members to re-sign in for the CIS and pick up a CIS program of events. She announced that the NASA Aero Bus was parked outside as in past years showing brief videos of NASA activities. Susan encouraged Workgroup members to talk with visitors to the CIS. Sally invited people to view the updated decommissioning displays and talk with a Decommissioning Team member posted at each display. Sally reported that the NBC-24 television station from Toledo was recently at the Space Power Facility and will be doing a story in November. Sally will let members know when the story is to be aired. Public television station WGTE in Toledo is going to show the documentary video on the Reactor Facility, "Of Ashes and Atoms," on Monday, December 17 at 9 p.m. Sally reminded people about the NASA 50th anniversary and Open Houses. She also announced that the annual deer hunt will take place at Plum Brook on November 3, 10, 17 and December 8.

Susan announced that the Community Workgroup meetings for 2008 would be scheduled for February, June and October. NASA will inform members of the date and location for the next (February) meeting and per request from a Workgroup member, would plan to have the meeting to take place in an easily accessible location. The meeting was adjourned at 6:30 p.m.