



**Environmental Management &  
Stewardship Committee Meeting Minutes  
Wednesday, January 15, 6 p.m.  
DOE Information Center  
Office of Science and Technical Information**

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**Committee Members Present**

Dale Bignell  
Alfreda Cook  
Carmen DeLong  
Bob Hatcher, Co-Chair  
Dave Hemelright  
Bruce Hicks  
Jennifer Kasten  
Fay Martin  
Donald Mei  
Bob Olson  
Ellen Smith  
Wanda Smith

**Others Present**

Dave Adler, Department of Energy (DOE)  
Sid Garland, UCOR/RSI  
Spencer Gross, SSAB staff  
Roger Petrie, Tennessee Dept. of Environment and  
Conservation  
Steve Stow

**Absent**

Jimmy Bell  
Donna Campbell  
Susan Gawarecki  
Gracie Hall  
Steve Kenworthy  
Dick Kettle  
Roger Macklin  
David Martin  
Gloria Mei  
Lance Mezga  
Norman Mulvenon  
Belinda Price  
Julia Riley  
Lorene Sigal  
Ray Smith  
Corkie Staley, Co-Chair

**Enhancing the Acquisition, Storage, and Retention of Certain EM (Environmental Management) Data for Future (but Undefined) Use – Steve Stow**

The purpose of Mr. Stow's presentation was to generate a discussion about possible gaps in data and information archiving related to EM projects conducted on the Oak Ridge Reservation. He emphasized that the presentation is not an indictment of current record keeping practices nor was he suggesting that current practices should be discounted. He simply wanted to generate a discussion using a specific example to make a point.

He used the hydrofracture process of the 1970-80s as example. Hydrofracture was a way of disposing liquid radioactive waste by mixing it with a cement-type grout and injecting the mixture about 1,000 feet into shale in Melton Valley near Oak Ridge National Lab (ORNL). The mixture would spread through fractures in the rock that had been created earlier by pumping

water into the shale at high pressure. The waste would spread in the fractures and eventually set up (Attachment 1, page 14).

Mr. Stow said injections were made about every two months, but in the 1980s apparently some of the injections were made without proper grout to liquid waste ratios or in some cases no mixing at all. He showed several newspaper articles that reported the detection of contamination in nearby monitoring wells that was thought to be coming from the hydrofracture sites. As a result of those detections the hydrofracture facilities were shut down.

The man in charge of the hydrofracture project, Frank Homan, asked for a data collection package to be assembled that documented the mixing procedures. Mr. Stow said he received a copy of the data as he was working at the lab at the time. The package had information for all the injections including the amount of waste, the amount of grout material, the ratios of solid to liquid waste, and the desired ratios. He said as far as he knew the information had not been archived through any formal process.

When Mr. Stow left the lab he thought he gave the data packet to Dirk van Hoesen at the lab. When Dan Goode with the U.S. Geological Survey was in Oak Ridge for work related to the Groundwater Strategy Workshops in 2013, Mr. Stow told him about the hydrofracture project and said there was a record of the injections somewhere. Mr. Goode suggested the records be found. Mr. Stow contacted Mr. Van Hoesen who did not recall the data package. Mr. Stow ultimately found it at his home.

Mr. Goode examined the package and said it should be archived properly. Mr. Stow said he put a copy of in the ORNL history room.

Mr. Stowe said whether the information was important or not was beside the point. The information had been in private possession for a number of years before being recovered.

Mr. Stow asked if this type of situation is unique. Perhaps it isn't, he said, and maybe lessons can be learned from it.

He also asked if present data management protocols are adequate for future needs, some of which may be unknown at this time. He listed a number of protocols that are in place (Attachment 1, page 6).

He also listed a number of questions about data management and archiving (Attachment 1, pages 7-10). In addition he listed a number of pros and cons about expanded archiving protocols (Attachment 1, page 11).

Ms. E. Smith said the issues Mr. Stow raises are central to stewardship because memories are short. She said the information about hydrofracture should be scanned and digitized and archived on some generally accessible system.

Mr. Olson said a problem with document management is saving everything would be expensive and not all information may be retrievable. He said someone has to determine what to save. It's difficult to know what to save, he said, noting that hexavalent chromium in groundwater at East Tennessee Technology Park wasn't thought to be harmful until relatively recently. He also cited the recent chemical spill in West Virginia as an instance where it's not known if the spill is dangerous.

Mr. Bignell said at Hanford the main concern about groundwater is the presence of hexavalent chromium. He said perhaps Oak Ridge and Hanford should exchange information about hexavalent chromium.

Ms. W. Smith asked where the contamination from the hydrofracture was going. Ms. DeLong said the groundwater strategy project was trying to determine that. She said the groundwater study (Groundwater Strategy for the Oak Ridge Reservation, DOE/OR/01-2628&D1) noted that monitoring wells in the area weren't deep enough to determine if contamination was going off site.

Mr. Bignell said there needs to be a process to determine what to keep. He asked if the discussion should be about suggesting what to preserve or do an analysis of what is available to make decisions about current situations.

Ms. E. Smith said that perhaps information is not organized in a way a librarian would organize, but there evolving strategies for storing and acquiring data. She said acquisition of data may be more difficult than storing and retrieving.

Mr. Adler said whenever an effort is undertaken to solve a problem historical data are retrieved. The further in the past one researches finding information become more difficult. In the hydrofracture case the problem was researched. To make decisions on a problem additional data have to be acquired. He said this is an important issue, but it may be below the level of issues that DOE typically asks for comment from the ORSSAB. He said it might be useful for the committee to see if there is a situation that needs addressing.

Mr. Olson suggested a review or study of current protocols for archiving.

Mr. Adler said gathering information and archiving properly is the job of EM. If the group wants more information about that a presentation could be arranged. He said archiving of more recent history is more robust than that further in the past.

Mr. Petrie suggested discussing the topic with the Office of Science and Technical Information.

Ms. E. Smith said she is not so much concerned about how EM is capturing information, but loss of institutional knowledge as people retire or pass away.

**Discussion of possible comments or recommendation on Mr. Stow's presentation**

After the discussion Mr. Hatcher asked if there was basis for a recommendation on the topic. Mr. Olson said he didn't think the committee knew enough to make an informed recommendation.

Ms. E. Smith said there is merit in learning how other institutions gather and archive information. Ms. DeLong said Recommendation 6 in the groundwater study seems to address that as well.

Mr. Hatcher asked if Ms. E. Smith would lead an effort to learn other practices of acquiring and archiving information. He asked for additional participation. Mr. Bignell and Ms. Cook said they would help as well.

**Review draft recommendation on off-site groundwater quality assessment project – Jennifer Kasten, issue manager; Carmen DeLong, assistant issue manager**

Ms. DeLong and Ms. Kasten presented a draft recommendation on the groundwater strategy document (Attachment 2). Ms. DeLong said after reading the document she determined that additional study of potential off-site migration of contamination was warranted.

She also contended that recommendations in the report were not in the correct order. Mr. Adler clarified that the recommendations will be addressed in a logical sequence.

Ms. DeLong went into some detail about using various models to study the issue. Ms. E. Smith said the committee should not be concerned about what kinds of models should be used. She

suggested committee members should provide comments on the draft and incorporate them into the recommendation.

Ms. Cook said the committee should review Dan Goode's suggested recommendation from the November 2013 ORSSAB meeting and perhaps include them in the recommendation. Mr. Hatcher agreed, but suggested using the main points of Mr. Goode's recommendations and incorporate them into the committee's recommendation.

Mr. Hatcher said the recommendation should be general and not get into detailed comments on the groundwater strategy document. Mr. Adler agreed saying the group should focus on the strategy rather than the details of the report.

Mr. Hatcher asked the committee members to send comments or suggested revisions on the recommendation to staff.

### **Review DOE response to Recommendation 218: Recommendation on Development of a Fact Sheet on Site Transition at Ongoing Mission Sites**

The committee reviewed the response (Attachment 3) to Recommendation 218 (Attachment 4).

While the primary author of the recommendation Lorene Sigal was unable to attend, she sent a note to the committee saying that while the format of the revised fact sheet was not what the committee intended, the information included was sufficient and felt like that was the best response to be obtained. She suggested accepting the response.

Ms. Martin moved to accept the response. Ms. E. Smith seconded and the motion carried.

### **Review Action Items**

#### **Action Items**

##### *Open*

1. Mr. Adler will craft a short narrative about what DOE is looking for in public comments on CERCLA documents. *Carryover from September meeting. Complete.* Mr. Adler provided a list of desired qualities for ORSSAB recommendations (Attachment 5). The list was emailed to all committee members on November 16, 2014.
2. Mr. Adler will make a recommendation on how to incorporate discussion of legacy waste and the east end organic compound plume at Y-12 into the EM/Stewardship Committee work plan. *Carryover from September meeting. Complete.* Mr. Adler said a report on legacy waste disposition is scheduled on the work plan for July 16. The east end organic plume can be included in that discussion.
3. Mr. Adler will provide the committee with a response to Mr. Martin's question about the disposition pathway for the three remaining waste streams not specified in DOE's response to Recommendation 215. *Carryover from September meeting. Complete.* Mr. Adler explained that there is no current path forward. He said that will be discussed more at the July 16 presentation on legacy waste disposition.
4. Ms. Kasten and Ms. DeLong will present a draft recommendation on a proposed groundwater quality assessment program for review at the January 15 meeting. *Complete.* The recommendation was presented at this meeting.

### **Public Comment**

None.

The meeting adjourned at 7:50 p.m.

Attachments (5) are available through the ORSSAB office.