SRS Citizen's Advisory Board

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Environmental Restoration Committee

Meeting Summary

August 14, 2001
North Augusta Community Center
North Augusta, SC

CAB Members	Stakeholders	DOE/Contractors
Jimmy Mackey*	Sam Booher	Paul Sauerborn, WSRC
Nancy Ann Ciehanski*	Rebecca Sharitz, SREL	Alice Stieve, BSRI
Maria Reichmanis*	Chris Barton, Forest Service	de'Lisa Bratcher, DOE
Perry Holcomb*		Elizabeth Topp, WSRC
	Regulators	Hugh Marberry, BSRI
	Chuck Gorman, SCDHEC	Les Germany, DOE
	Heather Cathcart, SCDHEC	Pat Nakagawa, BSRI
	Kristen Long, SCDHEC	Bruce Schappell, WSRC
	Ted Millings, SCDHEC	Terry Bland, WSRC
	Sriram MadaBhushi, SCDHEC	Jim Mason, WSRC
	Keith Colliknsworth, SCDHEC	Ron Beul, BSRI
	Paul Huber, BSRI	

* Members of the ER Committee
The following are members of the ER Committee that were unable to attend the meeting: Sallie Connah and Marty Stringer

Introduction

Jimmy Mackey introduced himself and then asked that everyone do the same.

Schedule Review

Paul Sauerborn presented the schedule for the ER Committee. Mr. Sauerborn noted that the schedule shows both completed and future meeting topics and should any of the public have topics they would like considered by the ER Committee, to please state them now or call his office.

SRS Carolina Bays – Update

Chris Barton of the USDA Forest Service introduced himself to the audience and stated that a group of drained Carolina bay wetlands at the SRS are being restored to try to achieve their original make-up of plants and wildlife. Mr. Barton stated that the formation of Carolina bays is still a matter of scientific discussion however, information to date does not endorse the concept of a meteor shower as the way these formations came to be. Mr. Barton indicated that they were more likely formed in response to wind

and water over several thousand years. Another interesting note is that the bays serve three primary purposes, flood control and water storage, water quality enhancements (improves water quality) and provides habitat for plant and animal life. Mr. Barton stated that as a part of the restoration project, data were collected to document the conditions of the bays before the restoration effort began on each Carolina bay. Sam Booher asked how old the bays were and Rebecca Sharitz noted that the bays could be approximately 50,000 years old using radiocarbon studies. Mr. Barton continued his presentation by stating that some drained bays may restore themselves without influence by man whereas others need man's intervention. Mr. Mackey asked if the bays restoration project was funded by Government or private funding. Mr. Barton stated that the Government was funding this project.

The objectives of the project are as follows:

- Establish replicated sets of restored Carolina bays and associated upland buffer
- Determine if restored systems are moving toward planned endpoints by assessing trends and rates of change in biotic and abiotic metrics and comparing these to control or undisturbed bays
- Assess how land management practices influence animal and plant species or communities in the bays
- Determine if planting tree and/or herbaceous species is a necessary management technique for the reestablishment of desired wetland species.

Four Treatment Designs were deployed:

- Pine savanna perimeter with a forested interior
- Mixed Pine/Hardwood forest perimeter with Herbaceous interior
- Mixed Pine/Hardwood forest perimeter with Forested interior
- Pine savanna perimeter with Herbaceous interior

The primary monitoring tasks for the project are:

- Soils
- Hydrology
- Vegetation
- Herpetofauna
- Avifauni
- Invertibrates

Mr. Booher requested that the 16 bays being restored contain trees with snags in order to attract bird species. In addition, Mr. Booher asked if there were frog studies being conducted at the bays, and Mr. Barton stated there were. Chuck Gorman asked if the soil compositions were the same for all the bays. Mr. Barton stated that there are very few bays that contained the same soil make-up. Maria Reichmanis asked if the bays that had been subjected to vigorous farming in years past could restore themselves. Mr. Barton stated that the answer was yes to most cases, if the ditches were plugged; however some would need the intervention of man to help restore them. Keith Collinsworth asked if all vegetation was brought in from other bays as stock for the restoration. Mr. Barton stated that in most cases the bay vegetation would come back on its own, however to speed the recovery process they bring in some vegetation from other bays. Mr. Mackey asked if a tour of the bay restoration program was a possibility. Mr. Barton stated that the tour could be put together to accommodate a request. Mr. Mackey stated that he would be in touch to establish a good date.

L-Area Burning/Rubble Pit, Gas Cylinder Disposal Facility and L-Area Rubble Pile Statement of Basis/Proposed Plan

Les Germany stated that this operable unit was comprised of the following sub-units: the L-Area Burning/Rubble pit, the Gas Cylinder Disposal Facility, the L-Area Rubble Pile, a ditch and groundwater. Mr. Germany stated that the unit strategy was to conduct time critical removal at several of the sub-units, conduct a remedial investigation and risk assessment, issue the proposed plan and review any public comment and complete the final action. Mr. Germany presented the following unit details:

The Burning/Rubble Pile had periodic burning of waste from 1951 to 1973. It received waste from 1973 to 1978 and was then filled to grade with clean soil. The Gas Cylinder Disposal Facility nearby contained cylinders of non-radioactive laboratory gases and was used in venting cylinders until mid to late 1970's. The cylinders were placed in the trench, cemented in place, vented, and covered with backfill. The Rubble Pile had no disposal records but was likely used for periodic dumping of waste. A ditch in close proximity to the rubble pile was assessed as a part of the pile. A time critical removal was completed to remove suspect hazardous waste from the rubble pile in 1997, and in 1998 batteries and other waste was removed from the burning/rubble pit. A remedial investigation with risk assessment performed in 2000 indicated the following:

- No additional action was needed at the burning/rubble pit, gas cylinder disposal facility, and ditch
- Inorganics, semi-volatiles, and polychlorinated biphenols (PCBs) remain in the rubble pile soils
- Carbon tetrachloride contamination in the groundwater

The remedial objectives for the rubble pile and the groundwater are:

- Rubble Pile
    -
    - prevent exposure of industrial workers to the waste materials
    - prevent exposure of ecological receptors to the waste materials

- Groundwater
    -
    - prevent human exposure to groundwater above the maximum contaminant level
    - prevent or limit discharge of contaminated groundwater to surface water at levels above regulatory standards
    - reduce carbon tetrachloride concentrations in groundwater to below the maximum contaminant level

The preferred alternative for the rubble pile is removal/disposal of rubble pile soils with institutional controls contingent on confirmation sampling. The preferred alternative for the groundwater is the use of a mixing zone with institutional controls until contaminant levels below drinking water standards are maintained. Mr. Germany stated that the public comment period is open and that should anyone have comments please submit them before September 14, 2001.

Mr. Mackey asked if the batteries mentioned leaked into the ground. Mr. Germany stated that some but not all had and that soil was removed from below the batteries until uncontaminated soil was found. The contaminated soils were sent to a certified waste disposal facility away from SRS. Mr. Mackey wanted to know why the SCDHEC always defaults to drinking water standards in every case. Mr. Collinsworth stated that the standard could not be compromised in that the regulation could only be changed through legislation.

Monitored Natural Attenuation, Mixing Zone and L-Area Burning/Rubble Pit

Alice Stieve presented to the attendees information about how SRS implements Monitored Natural Attenuation (MNA) and Mixing Zone (MZ) guidance for a specific Operable Unit (OU) at SRS. L-Area Burning/Rubble Pit and Rubble Pile has a small, low concentration carbon tetrachloride groundwater

plume. The soil and groundwater are characterized and then modeled by SRS professional staff with the following steps:

1. Identify Contaminant Source Areas
2. Define Contaminant Plume
3. Measure Aquifer Characteristics
4. Evaluate data and hold review meeting with regulators to validate
5. Groundwater modeling

SRS then considers EPA (MNA) and SCDHEC (MZ) guidance to evaluate if MNA is a plausible remedy at the site:

- The source is under control (depleted or removed)
- Plume is confined to a shallow aquifer that is not used as a source of drinking water
- Plume is on the property and will remain on the property
- Contaminants are not dangerously toxic, mobile, nor persistent

The process is completed through an official document called the MZ application submitted to SCDHEC.

Ms. Stieve stated that during the characterization phase that there are monitoring well samples, cone penetrometer samples and geologic samples taken and data recorded. Prior to groundwater modeling a hydrogeologic conceptual model is developed and used to build the model. The model predicts how the plume will move in the future. The model is also used to test various hypotheses such as source term and whether or not biological degradation is taking place. This is done with close interaction with the regulators, and using a standardized modeling process with widely used modeling codes and a report format familiar to all parties involved.

Mr. Mackey asked if the regulators were familiar with running the modeling program. Mr. Collinsworth said the SCDHEC Geohydrology group was familiar with the program. Mr. Booher asked if there were compliance wells for the L-Area Burning Rubble Pit. Ms. Stieve stated that compliance wells are required by the program and went further to point them out to Mr. Booher on the screen. Mr. Mackey asked that an update on this unit be given in one year in order to determine the validity of the mixing zone modeling program.

Public Comments

Mr. Booher expressed his thanks to Mr. Mackey and the ER Committee for being so responsive to his request for an update on the Carolina Bay Restoration Program at SRS.

Mr. Mackey thanked the attendees, and the meeting was adjourned.

For copies of meeting handouts call 1-800-249-8155.