The Department of Energy manages the Oak Ridge National Laboratory (ORNL), which is located within a 34,516-acre federal reservation (Oak Ridge Reservation – ORR) in eastern TN approximately 12.5 miles west-northwest of Knoxville, TN. The Melton Valley area lies immediately south of ORNL and comprises a 1000-acre area. This area has been utilized since 1943 for the storage/disposal of wastes generated at the laboratory during its operational life. Additionally, locations within Melton Valley were utilized as the southeastern regional burial ground for radioactive wastes during the 1950s. Due to the presence of contaminants released from these past disposals, and other DOE facilities at Oak Ridge, the ORR was placed on the EPA National Priorities list established under CERCLA [54 Federal Register (FR) 48184, December 21, 1989].

Contaminated sites within the valley include mixed radiological waste burial grounds, wastewater impoundments, liquid radioactive waste seepage pits and trenches, underground storage tanks, low-level waste pipelines, contaminated floodplain soil and sediment, secondary contaminated soils, contaminated groundwater, and surface water. The presence of inactive experimental nuclear reactors and various active facilities must be considered in making the cleanup decisions for this area.

The Environmental Restoration Program, as it was originally conceived, began in 1989 when the site was placed on the NPL. From 1991 through 1994 the program conducted the CERCLA process at the site by dividing the contaminated areas within the valley into what was termed Waste Area Groups (WAGs) whose boundaries primarily mirrored geographic features within the valley. Over this period a number of early actions were taken. Since the primary mode of contaminant transport within the valley is through surface water contamination, the majority of early actions focused on preventing high activity contaminated groundwater seeps from entering the surface water system. These actions have been highly effective and have resulted in a significant reduction in the levels of surface water contamination within the valley.

Additionally, over this time period, Remedial Investigations were performed on several contaminated areas throughout the valley. The investigations although not exhaustive, established a broad basis of information upon which to base remedial decisions. Most importantly, it allowed the program to identify the primary contributors to current risk and to establish which sites pose the greatest future risks within the valley.

In the fall of 1995, the structure of the CERCLA program at the site was revisited. It was recognized that continuation of the WAG based approach would involve multiple projects requiring separate CERCLA decision documents for each. Additionally, it was recognized that in the decision making process, there was value added in considering the remedial decisions on a broader scale (or watershed wide scale) so that consistency in decisions could be achieved. As a
result of these discussions the CERCLA process at ORR evolved from a WAG-based approach to watershed (valley-wide) and the Melton Valley Watershed ROD project was initiated.

The first major focus of the project was to compile and evaluated the large volume of environmental data that had been generated over the preceding years. This data was presented to the newly formed project team, inclusive of DOE, regulators and technical staff in the form of a ‘Data Quality Objectives’ meeting. The objective of this meeting was to evaluate the environmental data to determine if sufficient data existed upon which to base remedial decisions. The finding from the DQO was that, with the exception of limited additional soil data required for terrestrial ecological risk assessment, sufficient data existed to make remedial decisions.

At this juncture two activities were undertaken: 1) field work was initiated to obtain the additional soil data that was identified as necessary; and 2) preparation of the Melton Valley Watershed Remedial Investigation Report, which concisely compiled and presented the existing data upon which remedial decisions would be made. With these activities begun, the Melton Valley Watershed ROD project was underway. Preparation of the Remedial Investigation Report and the Feasibility Study, covered a two-year period which came to a close in the spring of 1998.

The teaming effort that is the subject of this paper began with the delivery of the D2 Feasibility Study. Regulator comments on the FS were incorporated in the spring of 1998. This incorporation was completed by the DOE project team and technical staff, without benefit of consultation with the regulators to confirm that regulator comments were incorporated to their satisfaction. DOE arranged for the delivery of the D2 Feasibility Study to coincide with a short briefing with the regulators, to communicate to them the manner in which their comments were incorporated. During this discussion, it was identified that several instances of incorporation were not acceptable to the regulators and consequently, the document would not be approved without modification. Because the delivery was made in person, the team was able to request a short extension, for the purpose of revising the document.

Document revision was accomplished in close consultation with the regulators utilizing the following method:

- Frequent working sessions were held, with DOE, EPA, State representatives and technical staff in attendance,
- Document revisions were made to the document on a chapter by chapter basis,
- State and EPA representatives were brought into the process to the extent that they reviewed draft copy, as their comments were being incorporated and the document was being produced.

This process was successful in that the approved Melton Valley Watershed D2 FS was produced, with no corresponding delay in the Proposed Plan scheduled D1 delivery date.

The preparation of the Melton Valley Watershed Proposed Plan was accomplished in much the same way, with frequent working sessions between the decision makers and the technical staff producing the document. Through the course of the project, some delays were experienced due
to the size of the decision being made. A minor extension was necessitated by the need for a National Remedy Review Board review, which is required for all DOE CERCLA decisions where the principal contaminant of concern is radioactivity and the total cost of the action is in excess of $75 million. All parties were supportive of and assisted in preparation for the NRRB review, with the presentation being delivered by the EPA Project Team Representative. A second extension was experienced to allow an extended review period for the public due to the scope of the decisions being made in these documents. And a third minor extension was required to allow time to finalize some of the more sensitive negotiations involved in the decision.

Through this close teaming arrangement, even with the additional steps/extensions involved, the DOE and regulators, with input from the NRRB and the stakeholders, were able to come to agreement and obtain approval of the Melton Valley RI, FS, and PP, within a 1-year timeframe (8/98 – 5/99). Involved in this approval were a successful NRRB review and a positive reception from the stakeholders in the form of comments received on the proposed plan, and finally, positive feedback received at the Melton Valley Proposed Plan Public Meeting held for this project.

Respective comments from regulator FS and PP approval letters read as follows: “The EPA appreciates the efforts of the DOE Team Leader, DOE Program Manager, and the entire Melton Valley Team to finalize this report. The Remedial Investigation and Feasibility Study reports produced by the Melton Valley Team are of the highest quality.” “This Proposed Plan represents a major step in the overall remediation of the Reservation… …The DOE Project Team has performed at a very high level throughout the entire Melton Valley Project.”

The internal DOE review document and initial draft versions of the Melton Valley Record of Decision were prepared and produced during the summer of 1999. The project suffered a minor setback over this period as the close communication that had developed within the project was relaxed. This resulting lessons learned underscored the benefits of close communication upon which the success of this project has been based. Furthermore, it prompted the renewed commitment to fostering this close working relationship within the core team in the incorporation of regulator comments into the draft Melton Valley Record of Decision.

It is anticipated that this successful teaming arrangement, and close communication will result in an approved Melton Valley Record of Decision, involving in excess of 200 contaminated sites and encompassing a $250 M, plus decision, by late spring of 2000.