

December 12, 2005
NRC QUICK LOOK TRIP REPORT

DUKE COGEMA, STONE & WEBSTER (DCS)
BAGNOLS-SUR-CEZE, FRANCE
QUALITY ASSURANCE IN OFFICE REVIEW OF
SOFTWARE AND MANUFACTURING DESIGN GROUP

Subject

NRC Staff in-office-review of Duke Cogema, Stone and Webster's (DCS) Software Design Group (SDG) (November 7-10, 2005), Manufacturing Design Group (MDG) (November 14, 2005) located in Bagnols-sur-Ceze, France.

Dates of Travel and Countries/Organizations Visited

November 7 -10, 2005 Bagnols-sur-Ceze France, DCS Software Design Group
November 14, 2005 Bagnols-sur-Ceze, France DCS Manufacturing Design Group
November 15, 2005 Tour Areva Melox Facility Bagnols-sur-Ceze, France
November 17, 2005 Tour Areva La Hague facility, Cherbourg, France

Authors, Title, and Agency Affiliation

Paul M. Bell, Quality Assurance Engineer, NMSS
Norbert Carte, Instrumentation and Control Engineer, RES
Dr. William Gloersen, Sr. Fuel facility Project Inspector RII

Background/Purpose

This Quick Look report concerns visits over a two week period to the offices of Duke Cogema, Stone and Webster's (DCS) Software Design Group (SDG) (from November 7-10, 2005), and Manufacturing Design Group (MDG) (on November 14, 2005) located in Bagnols-sur-Ceze, France. In addition, the report concerns travel to Avignon, France for a visit to the Melox facility to observe operation of the (dry) mixed oxide fuel fabrication process and to Cherbourg, France for a visit to the La Hague facility, to observe the operation of the aqueous polishing process, both of which will be similar in design to the proposed mixed oxide (MOX) fuel fabrication facility planned for operation at the Department of Energy's Savannah River Site. The NRC staff included Mr. Paul M. Bell, Quality Assurance Engineer (NMSS), Mr. Norbert Carte, Instrumentation and Control Engineer (RES), and Dr. William B. Gloersen, Senior Fuel Facility Project Inspector, (RII). The staff of Nuclear Material Safety and Safeguards and Division of Fuel Facility Inspection believes that the content of this report is not likely to be of interest to the Commission.

Abstract: Summary of Pertinent Points/Issues

November 7-10, 2005 - In-Office Review of the DCS Software Design Group

From November 7-10, 2005, the NRC staff performed an in-office review of the Duke, Cogema Stone & Webster (DCS) Software Quality Assurance controls applied by the Bagnols office

Software Design Group (SDG) for the Mixed Oxide Fuel Fabrication Facility project activities. This in-office review was initiated to verify implementation and compliance with Quality Assurance requirements specified in the DCS MOX Project Quality Assurance Plan and applicable DCS QA and MFFF project plan implementing procedures. Due to contractual limitations associated with Department of Energy budget processes, the staff noted that the development of software for items relied on for safety (IROFS) is premature and had not occurred. The staff did not identify any significant quality-affecting issues associated with compliance to the MOX Project Quality Assurance Plan, Software Design Group Software Quality Assurance Plan, Configuration Management Plan and other applicable technical documentation.

November 14, 2005 - In-Office Review of the DCS Manufacturing Design Group

On November 14, 2005, the NRC staff performed a limited scope in-office review of the DCS Manufacturing Design Group (MDG) to evaluate the processes used to control design activities of DCS and component performance requirements of engineered components. Quality activities reviewed included the review of manufacturing design information and design activities associated with design input, design analyses and computer analysis, and other activities that will be used to support design development and design verification of structures, systems, and components (SSCs). The staff did not identify any significant quality-affecting issues associated with DCS's compliance to the MOX Project Quality Assurance Plan during the in-office-review investigation process.

November 15, 2005 - Visit to the Areva Melox Facility:

On November 15, 2005, the NRC team toured Areva's Melox facility located near Avignon, France. The facility was in operation during the tour and the NRC staff noted that the facility was clean and basic operations were contained in glove boxes and highly automated. The tour included observations of the powder master blend and final blend processing areas, pellet production, sintering and grinding areas, rod production, and fuel assembly and storage areas. This tour helped the NRC staff better understand the level of inspection resources and QA oversight that will be needed during construction and operation for the proposed mixed oxide fuel fabrication facility at the Savannah River Site. Additionally, the tour provided insight in understanding the methods that will be used to efficiently construct and operate the MOX FFF. There was an open and free exchange of information during the meeting with Areva representatives.

November 17, 2005 - Visit to the Areva La Hague Facility:

On November 17, 2005, the NRC team toured various parts of the Aqueous Polishing Plant at the La Hague facility located near Cherbourg, France, including the spent fuel receiving, storage, and processing facilities, Purex™ processing facility, the mixed oxide powder shipping area, and the facility control room. Overall, the facility was clean and basic operations were efficient and highly automated. Plutonium processing activities were contained within glove boxes. The facility was designed to allow for ease in the efficient maintenance of equipment. The staff noted no major maintenance activities during the tours. These tours helped the NRC staff to gain a better understanding of the level of inspection resources and QA oversight that may be needed for the aqueous polishing plant at the proposed mixed oxide fuel fabrication

facility at the Savannah River Site. There was an open and free exchange of information during the meeting with Areva representatives.

Pending Actions/Planned Next Steps for NRC

The review, participation, and oversight of QA programmatic activities, provided valuable insight of the progress of current activities and schedule of completed milestones. The NRC staff's review and access to design documents and reports facilitated easy assessment of regulatory compliance, identification of the application of risk-informed performance requirements and the ability to clearly identify problem areas and influence the application of consistent corrective actions. Continued NRC Staff reviews are necessary to verify the effectiveness of implementation of the quality assurance program for MOX FFF activities and to verify compliance with the requirements of 10 CFR Part 50, Appendix B, 10 CFR Part 21, 10 CFR Part 70 and ASME NQA-1. The staff expects to make future trips to DCS Bagnols-sur-Ceze offices and future vendor facilities to verify implementation and application of the quality program for items relied on for safety (IROFS), as they are further developed. Additionally, future visits to the DCS Charlotte, NC and Aiken, SC design offices will be scheduled to review activities during critical design phases to verify the adequacy of design control and design integration.

Points for Commission Consideration/Items of Interest

N/A

Attachments

N/A