



University at Buffalo's Buffalo Materials Research Center

Decommissioning - Regulatory Perspectives and Project Planning

Buffalo Materials Research Center (BMRC)



Brief History

- University nuclear research reactor.
- Built in 1959. First Criticality in 1960.
- Mainly used for research, isotope production, and materials testing.
- Operated for 34 years.

Brief History



- Last operated in 1994.
- Facility has been maintained since that time under licenses from federal and state agencies.

Why has it taken so long after shutdown ?


- Before decommissioning could begin, fuel had to be removed.
- Reactor Fuel needed to be returned to United States Department of Energy facility.
- Due to Zircalloy cladding the Reactor Fuel could not be shipped back to U.S. Department of Energy until 2005.

Compliance and Management Oversight

- Although much of the technical work is being contracted to companies with specific expertise and experience....
- As the facility owner and licensee, the University at Buffalo is ultimately responsible for the safety and regulatory compliance throughout the Decommissioning process.
- Therefore, must set up a system of management responsibility and oversight to ensure we are meeting this responsibility.




Multiple Regulatory Authorities

- United States Nuclear Regulatory Commission
 - New York State Department of Health
 - New York State Department of Environmental Conservation
- 



Summary of University's Compliance Approach

- UB/ BMRC bears ultimate responsibility for compliance as the licensee (NRC R-77 NYSDOH 1051, and NRC SNM-273, and NYSDOH 1049).
 - Final decisions on all activities are the responsibility of designated University Personnel.
 - Consultant and contractor work packages are reviewed and approved by University personnel.
- 

Summary of University's Compliance Approach (cont.)

- BMRC Radiation Safety Officer manages all personnel exposure monitoring and radiation protection.
- BMRC RSO manages Radiation Work Permits for the site.
- University and contractor activities also subject to oversight by Reactor Decommissioning Safety Committee.

Project Funding and Contracts

- Funding identified and obtained through State University of New York Capital Plan budget.
- The University has set up the Decommissioning Project to have direct control over both design and construction.
- All contracts are solicited through and let by the University.



Decommissioning Project Management Organization

UB Organizational Set Up

- University Project Manager - Rob Weller P.E.
- UB Environment Health and Safety Director – Joe Raab
- BMRC Director / EHS Associate Director – David Vasbinder
- BMRC/UB Radiation Safety Officer – Jeff Slawson
- BMRC Operations Manager – Mark Adams
- BMRC Site Representative – Ken Bujnicki
- UB Radiation Safety staff – includes several individuals with specific BMRC nuclear experience

University Project Manager

- Rob Weller – P.E.
- Responsible for overall management of project, reviewing work activities, appropriating funding, soliciting process for contracts, and holding contractors and consultants to commitments
- Manages Project Design Consultant – ENERCON

University Radiation Safety Officer

- Jeff Slawson C.H.P. – 17 years experience with BMRC reactor facility
- Responsible for HP oversight for existing license requirements and Decommissioning project.
- Rad Surveys, Dosimetry, ALARA, Radiation Work Permits, Radwaste
- Utilizes staff with significant HP experience at the BMRC

University BMRC Operations Manager

- Mark Adams – Professional Engineer
- 32 years experience with the reactor facility. Former Senior Reactor Operator and Reactor Engineer
- Responsible for meeting Technical Specification requirements, building access/security, coordination of maintenance activities, coordination of work of Decommissioning Project consultants and contractors.

BMRC Director

- Dave Vasbinder
- 23 years experience with BMRC reactor facility
- Management responsibility and technical oversight for facility operations and radiation safety programs
- Compliance with present license requirements and Decommissioning, Facility Operating Committee, Reactor Decommissioning Safety Committee, Reports

Committees Required by Licenses and Technical Specifications

Reactor Facility Operating Committee –

- Responsible for reviewing and approving routine activities.
- Consists of Reactor Director, Operations Manager, and Radiation Safety Officer.
- Hold regular meetings and keeps official minutes.

Reactor Decommissioning Safety Oversight Committee -

- Consists of outside members with technical expertise in addition to the Operating Committee.
- Reviews all safety and license related activities and approves license amendment requests.
- Reviews and approves Decommissioning Plan before submittal to regulators.
- Holds regular meetings and keeps official minutes.

Reactor Decommissioning Safety Oversight Committee Membership

- ***Hank Spector, CHP*** – HP for Army Corps of Engineers
- ***Dave Kurasch*** – Radiological Engineer at West Valley Nuclear site
- ***Rick Watts, CHP*** – former HP at Ginna Nuclear Power Station
- ***Dr. Zintars Zadins***- Senior Geologist/Environmental Scientist at West Valley Nuclear site
- ***Chairperson, Kevin Thompson*** - Facilities Planning and Design Director

Consultants and Contracting

- University decided to hire a Decommissioning Project Design Consultant to assist us throughout the long process.
- Hiring experienced companies with good track records is very important.

Project Design Consultant Contract

- UB issued competitive bid Request For Qualifications.
- Successful bidder – ENERCON
- ENERCON is working under a contract with the University and is therefore subject to UB's radiation safety program.
- ENERCON reports directly to UB Project Management.

Additional University Contracts

- Legacy Waste Packaging, Transportation, and Removal
- Reactor Activation Analysis
- Interference Removals (other hazardous materials).
- D & D contractor (LVI) under the approved Decommissioning Plan

Lessons Learned Thus Far

- Secure Funding early and accept that it is an expensive process.
- Including funding to maintain systems and safety compliance during period between shut down and decommissioning. In our case, this was 18 years.
- If possible try to keep key personnel with expertise in operation, history of the facility and safety.
- Delineate specific lines of authority and decision making responsibilities.

Lessons Learned Thus Far

- Hire consultants and contractors with specific expertise and experience. Design the contracting process to ensure you achieve this goal.
- The regulators don't tell you who you should hire but they do watch with interest. Well qualified and experienced consultants and contractors help to ensure you are submitting good documents.

Lessons Learned Thus Far

- Communicate as much as possible.
- Maintain open communication with your Regulators. In our case, multiple regulators. Held several Regulator Conference calls as well as hosting them on site early in the process of developing the Decommissioning Plan.
- Remember who your neighbors are. Communicate with them and answer their questions. Consider holding informational sessions.
- If you aren't at a point where you are approved for Decommissioning, consider if there are activities you can still undertake that will lessen work at a later date.



Questions ?