



Demolition of the Brookhaven Medical Research Reactor (BMRR) Stack

Community Advisory Council Meeting

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Background

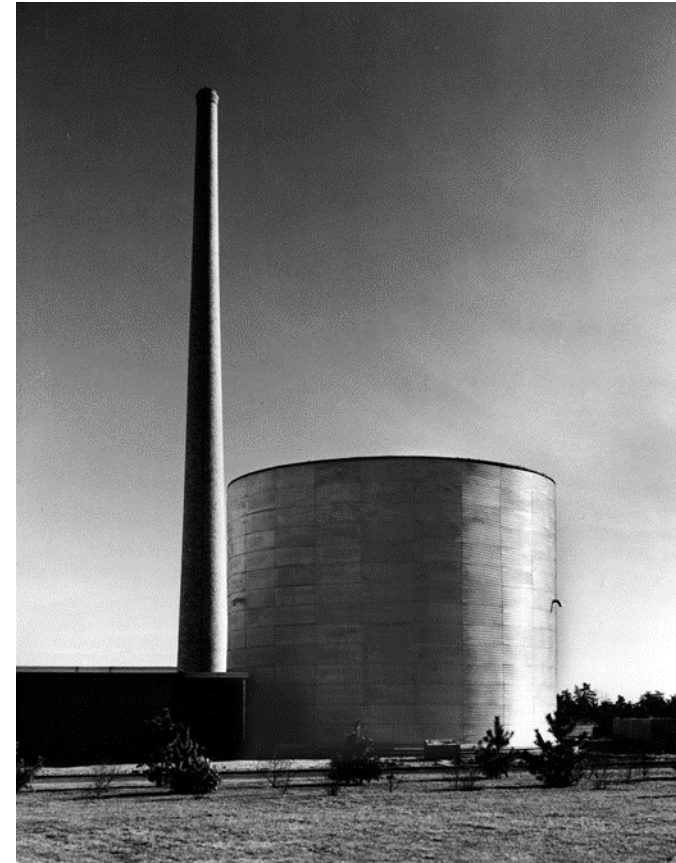
- The Stack was constructed in 1958 to discharge air emissions from the former Brookhaven Medical Research Reactor (BMRR).
- The BMRR was the first reactor in the nation to be constructed specifically for medical research.
- The BMRR was shut down permanently on December 28, 2000.
- The Stack is 150-feet tall and constructed of radial brick; with no interior or exterior coatings.



BMRR Stack - 2022

Historic Aspects

- BMRR was Part of Medical Complex - Buildings 490 (Medical) and 491(BMRR)
- Medical Complex determined to be eligible for listing on National Register of Historic Places due to it being a “...site of significant pioneering research work into the medical applications of radiation...”
- Planned demolition required consultation with New York State Historic Preservation Office (NYSHPO) due to its negative effect to a historic resource
- Negative effect requires developing a Memorandum of Agreement (MOA) with NYSHPO for mitigation
- Mitigative actions include a recordation (documentation of construction) and other appropriate actions like development of interpretive materials



BMRR - 1958

Former HFBR Stack



BMRR Stack

Demolition Impetus

- A 2021 structural evaluation of the Stack identified that the structural integrity of the foundation appears to have been compromised by moisture intrusion.
- The Stack is minimally radiologically-contaminated on the interior surfaces (less than the HFBR Stack), with no lead or asbestos coatings.
- Project cost savings from the efficient demolition of Building 650 allowed for DOE-EM to approve the demolition of the Stack with the remaining funds.
- Demolition of the structure will allow for elimination of an environmental and safety liability from the Lab campus.



Analysis of Alternatives

In January 2022, an Analysis of Alternatives (AoA) was performed for the demolition of the BMRR Stack. NYSHPO reviewed AoA and agreed with findings.

Demolition Goals

- Protect worker and site personnel health & safety
- Minimize environmental impacts
- Reduce environmental liability at the Lab

Demolition and Decontamination Alternatives

- Implosion
- Toppling
- Segmentation
- Unmanned hydraulic machinery / tools
- Manned hydraulic machinery / tools ← **Selected Alternative**

Contract Procurement and Award

In February 2022, a request for proposal was distributed to demolition contractors with qualifications that the contractor shall have experience in demolition of radiologically-contaminated stacks, experience in demolition of stacks to a height of at least 200 feet and have had worked on Department of Energy sites.

In May 2022, the contract was awarded to International Chimney Corp. (ICC), which was the subcontractor that demolished the HFBR Stack from November 2020 to February 2021.



Demolition Activities

The Stack removal activities include:

- Review and approval of Contractor work plans
- Mobilization and preparation of the site
- Demolition and removal of the Stack to the top of the Stack foundation
- Radiological survey of the top of the Stack foundation and application of a fixative, if necessary
- Waste packaging, transportation and disposal
- Demobilization from the site
- Complete actions required under the MOA w/NYSHPO

Contaminant Mitigation and Monitoring



Project Schedule

- Analysis of Alternatives January 2022
- BNL issues RFP February 2022
- BNL awards contract May 2022
- Finalize MOA w/NYSHPO May 2022
- Contractor develops work plans May – July 2022
- Contractor mobilizes August 2022
- Stack demolition September 2022
- Radiological survey September 2022
- Waste removed from site by rail October 2022
- Contractor demobilizes October 2022