Demolition and Removal of The Stack

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BNL Community Advisory Council
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Background

- Stack is 100-meter tall and made of reinforced concrete.

- Constructed in late 1940s to provide cooling-air exhaust for the Brookhaven Graphite Research Reactor (right), which operated between 1950 and 1968.

- From 1965 to 1996, the stack served the HFBR, other buildings.

- CERCLA Record of Decision (ROD) requires all HFBR to be completed by FY2020.
Stack removal includes:

- Isolation of utilities
- Demolition and removal of the stack
- Final status and independent verification surveys
- Waste packaging, transportation, and disposal
- Restoration of the affected site
Project Status

- December 2017: Analysis of Alternatives
- August 2018: DOE-USA initiate Inter-Agency Agreement
- April 2019: Vibration Analysis
- May 2019: RFI
- July 2019: Industry Day
- July 2019: Vibration Testing
Analysis of Alternatives

Demolition Goals

- Safety – No workers at height
- Meet the ROD milestone
- No impact to the labs due to demolition (vibration)

Demolition and Decontamination Alternatives

- Hydraulic Crushing
- Segmentation
- Fixatives
- Scabbling
# Project Status

## Facilities Identified by BNL as Susceptible to Stack Demolition Vibration

<table>
<thead>
<tr>
<th>901A</th>
<th>480</th>
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<tbody>
<tr>
<td>Tandem Van de Graaff</td>
<td>Transmission Electron Microscope</td>
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<thead>
<tr>
<th>734</th>
<th>740 Complex</th>
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<tbody>
<tr>
<td>Scanning Atomic Microscope</td>
<td>National Synchrotron Light Source II</td>
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<tr>
<th>735</th>
<th>911 and 912</th>
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<tbody>
<tr>
<td>Scanning and Transmission Electron Microscope</td>
<td>Westinghouse Generator Building and Alternating Gradient Synchrotron (AGS)</td>
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<thead>
<tr>
<th>703</th>
<th>555</th>
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<tbody>
<tr>
<td>Deposition Machine</td>
<td>Chemistry Building</td>
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Project Status

Vibration Testing
Project Status

Vibration Testing
Vibration Testing

Results:

• Measured background levels.
• Background exceeded only for buildings 901A, 703, 480, 515.
• Working with BSA to determine if operations will be adversely affected.
Looking Ahead:

- USACE issues RFP  
  October 2019
- USACE awards contract  
  December 2019
- Contractor develops work plans, mobilizes  
  Jan – April 2020
- Stack Demolition (Hydraulic Crushing)  
  May – Aug 2020
- Soil Remediation  
  Aug – Sept 2020
- Independent Verification  
  September 2020
- Contractor Demobilization  
  October 2020