



U.S. DEPARTMENT OF
ENERGY

OFFICE OF
**ENVIRONMENTAL
MANAGEMENT**

Demolition and Removal of The Stack

John Sattler

Office of Environmental Management (EM)

BNL Community Advisory Council

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- 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

- 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)

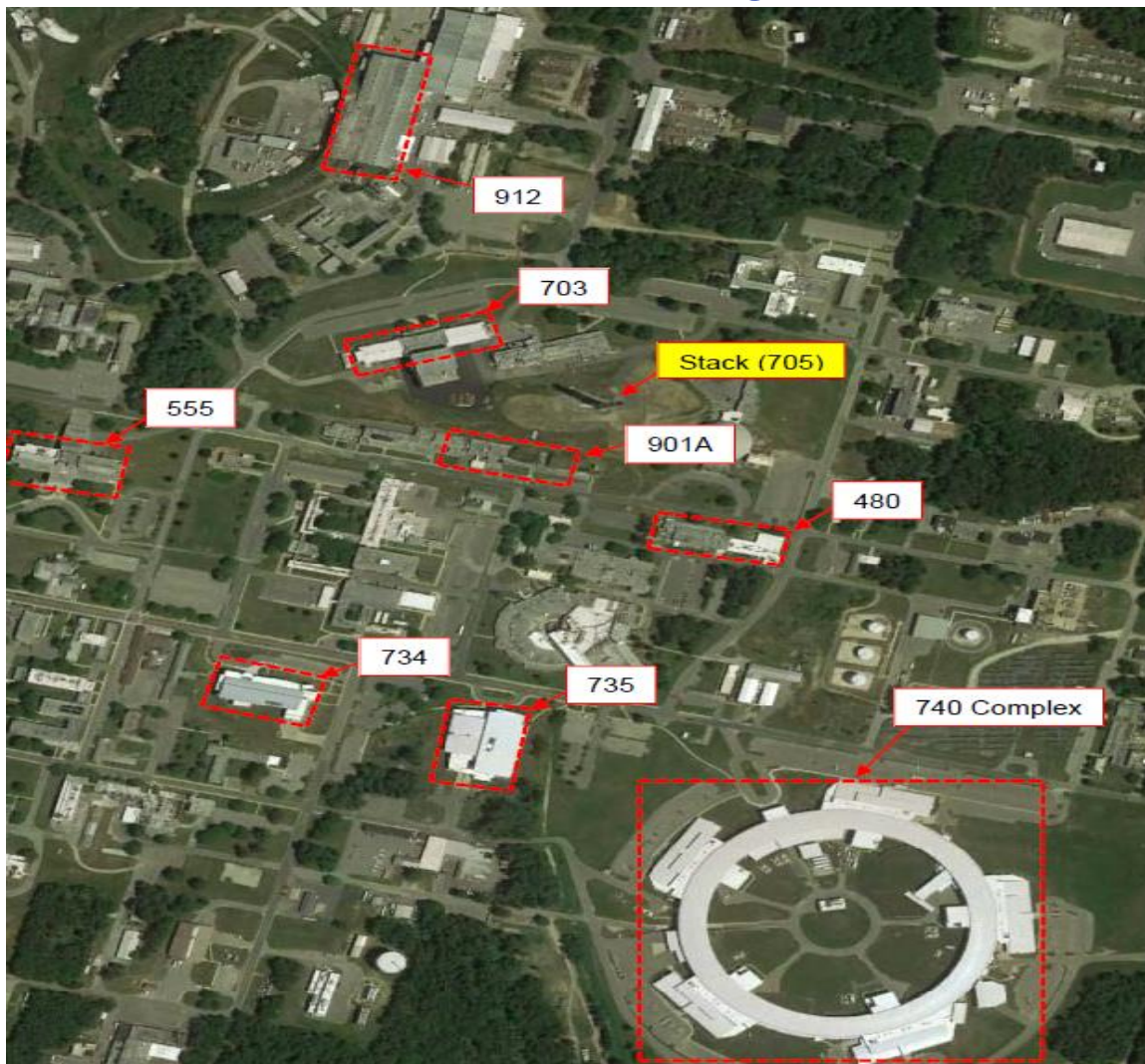
Demolition and Decontamination Alternatives

- Hydraulic Crushing
- Segmentation
- Fixatives
- Scabbling

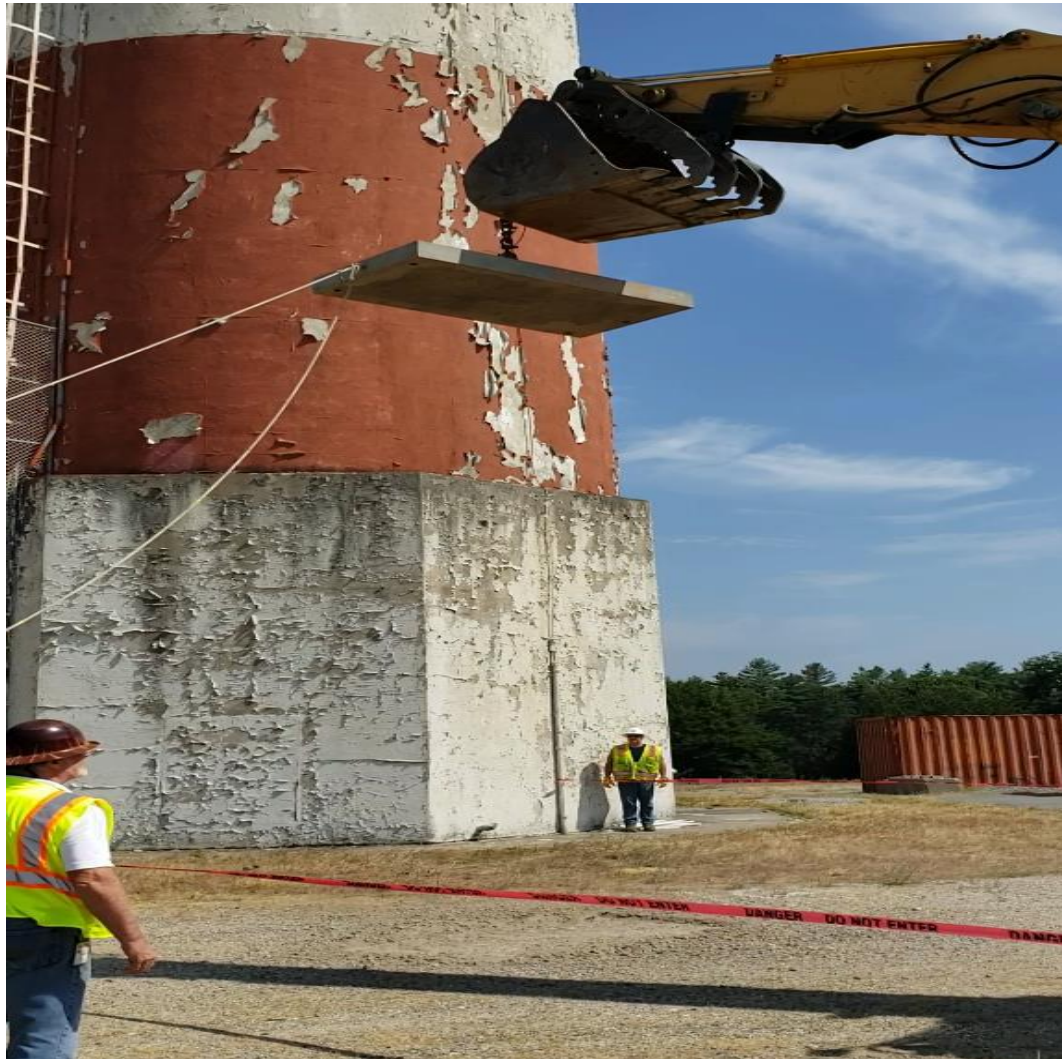
Facilities Identified by BNL as Susceptible to Stack Demolition Vibration

<p><u>901A</u> <i>Tandem Van de Graaff</i></p>	<p><u>480</u> <i>Transmission Electron Microscope</i></p>
<p><u>734</u> <i>Scanning Atomic Microscope</i></p>	<p><u>740 Complex</u> <i>National Synchrotron Light Source II</i></p>
<p><u>735</u> <i>Scanning and Transmission Electron Microscope</i></p>	<p><u>911 and 912</u> <i>Westinghouse Generator Building and Alternating Gradient Synchrotron (AGS)</i></p>
<p><u>703</u> <i>Deposition Machine</i></p>	<p><u>555</u> <i>Chemistry Building</i></p>

Vibration Testing



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