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Title: A Journey From Sandia To Los Alamos

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A Journey From Sandia to Los Alamos

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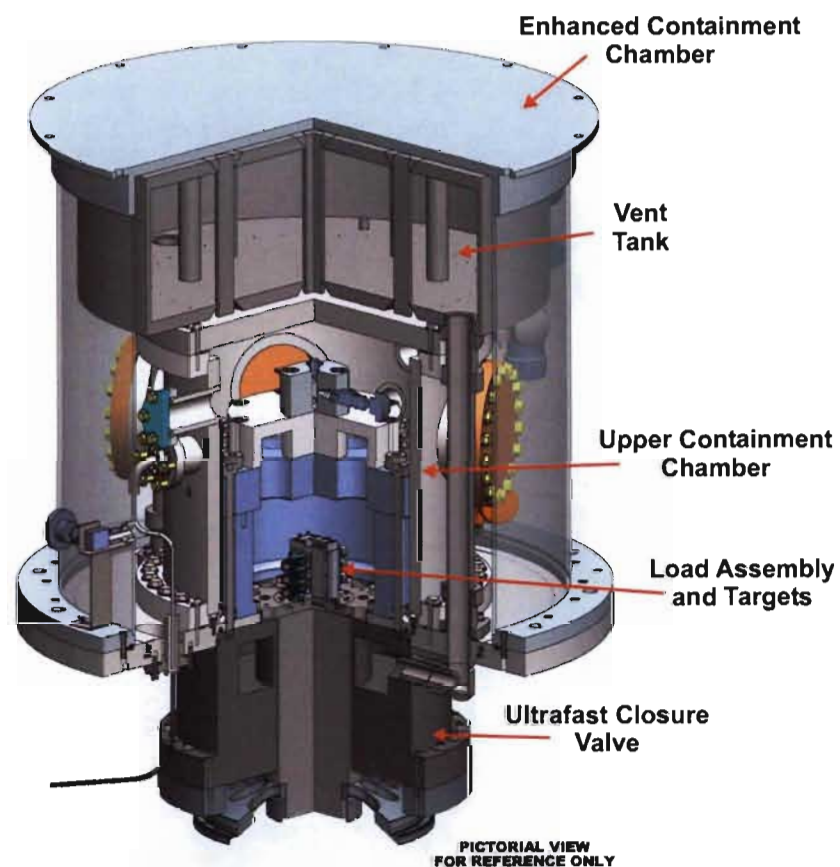


Background

- **Memorandum of understanding (MOU), 2006**
 - **Between LANL and Sandia**
 - **Verify and validate computer codes used to determine reliability of NNSA's Stockpile Stewardship Program**
 - **LANL maintains ownership of Pu and waste**
- **Experiments conducted on Z machine at Sandia**
- **Targets, Pu-239 prepared by LANL**

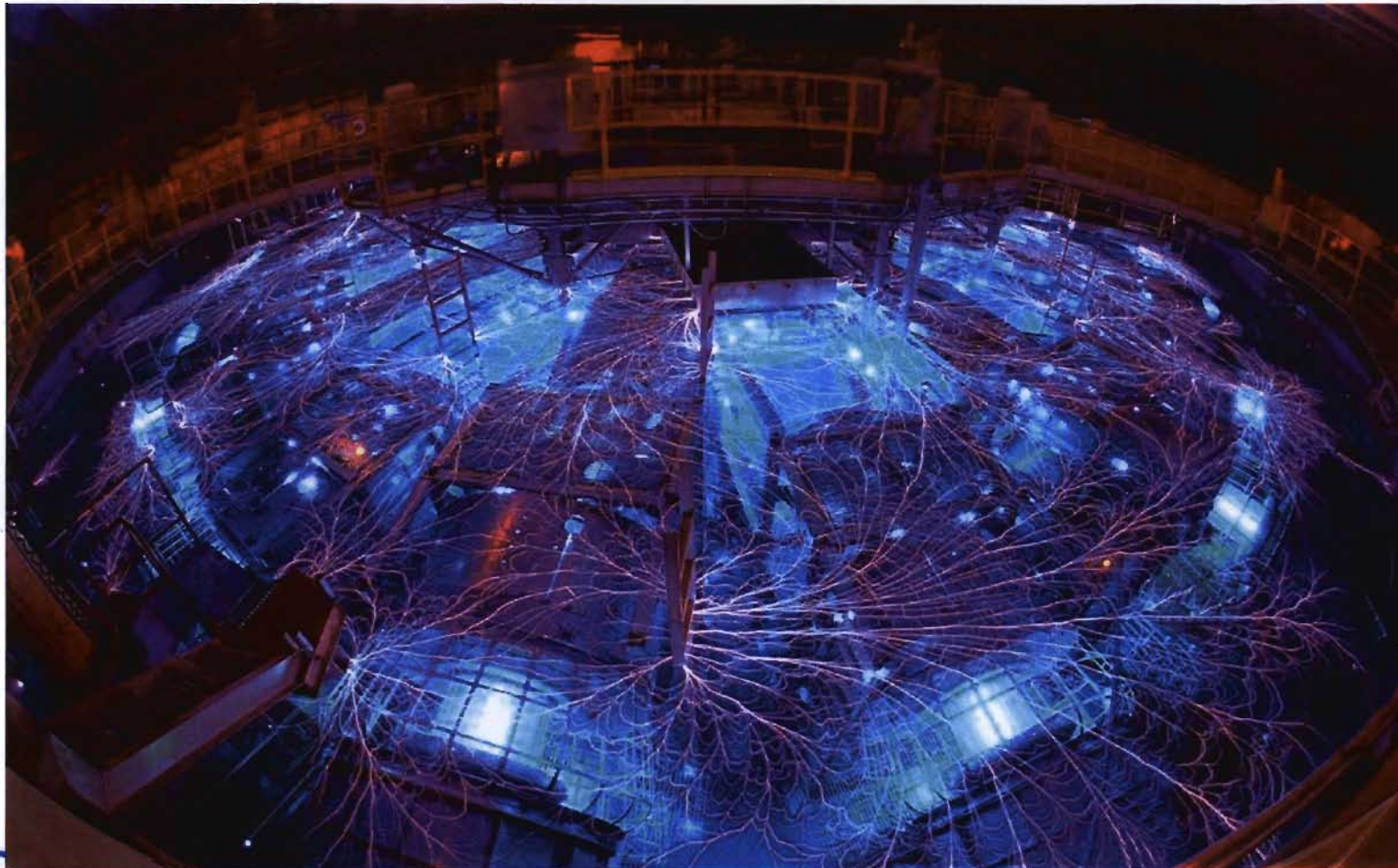


Experimental Setup





Z Machine



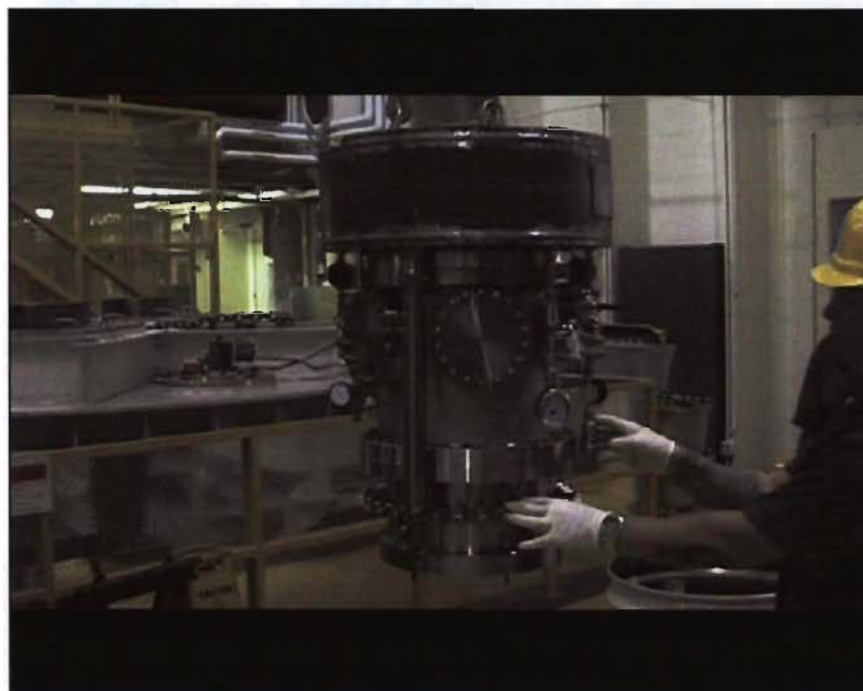


Background

- In 2006, three experiments were conducted
- LANL manufactured the Pu targets
- Sandia placed the targets in the experimental vessel and conducted the experiment in the Z machine
- After completion each experimental vessel was placed in a 55-gallon 7A drum with NFT filter
- Sandia stored the loaded 55-gallon drums as material and maintained safeguards



Loading Experimental Vessel





2006 through 2009

- Z machine was being refurbished
- Sandia continued to store the three loaded drums
- Sandia prepared a pre-AK report under the informal direction of WIPP/CCP
 - Documented the information required for shipment to LANL
- In 2009, LANL and Sandia met to discuss how to ship back to LANL



2006 through 2009 (cont)

- **Review of LANL and Sandia environmental permit requirements**
 - **NMED permits**
 - **NEPA documents**
- **LANL can accept non-hazardous waste**
- **Hazardous TRU waste receipt prohibited**
- **How to terminate safeguards**



Path Forward

- **Assembled a large team of stake holders**
- **Presented the facts about the waste**
- **Mitigation of potential roadblocks**
 - **Safeguard concerns**
 - **TRUPACT-II shipments**
 - **Acceptance of non-hazardous status of waste**
- **Documented, credible, scientific evidence of all constituents with precise mass measurements**



Waste Stream

- **Waste stream is newly generated, non-mixed, > 99% metals**
- **Prepared a Generator Knowledge (GK) Report**
 - Documents mission and purpose of experiments
 - Provides material inputs/outputs, MSDSs
 - Documents all radioisotopic and RCRA calculations, packaging, and absence of prohibited items



Waste Stream (continued)

- **GK Report (continued)**
 - **Interviewed and documented SME information**
 - **Demonstrated compliance with LANL permit**
 - **Demonstrated compliance with WIPP WAC and TRAMPAC requirements**
 - **Safeguards terminated at time of shipment**



2010

- **September 2010**
 - CBFO agreed to send a TRUPACT-II for December shipment
 - CBFO authorized Washington TRU Solutions to prepare a waste specific TRAMPAC
- **December 2010**
 - Waste stream approved
 - Three waste drums shipped to LANL



Waste Packaging





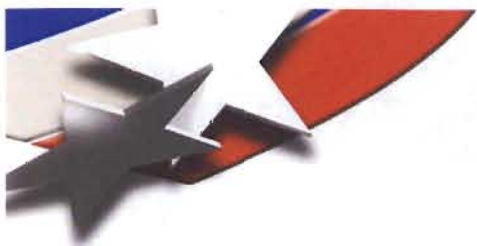
TRUPACT II Loading



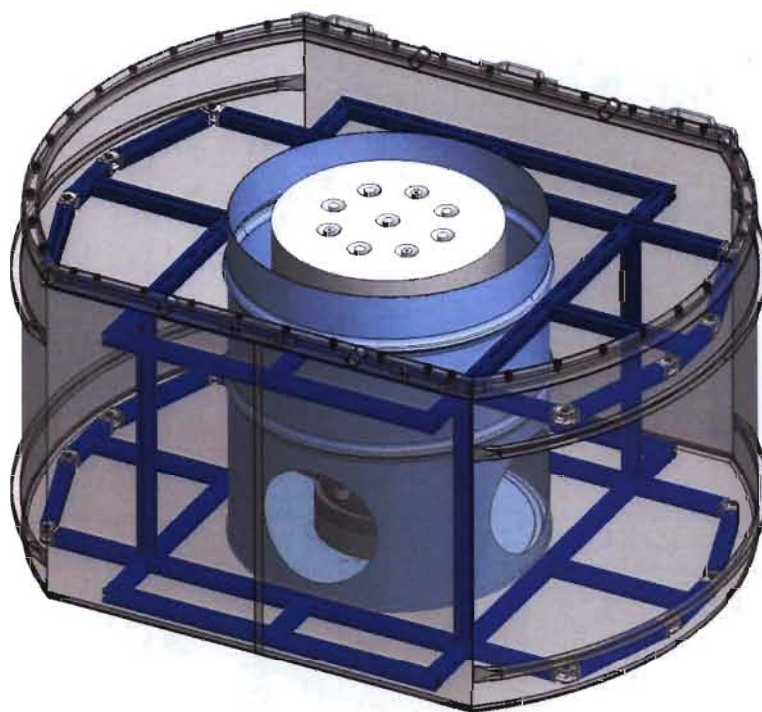


Current Status

- **Five more experiments have been completed**
- **Four experiments/year scheduled through 2016**
- **Data for each waste package is an attachment to the GK Report**
- **Future experiments may exceed weight limits for a 55-gallon drum**



Future Packaging





Going Forward

- Continued cooperation between LANL and Sandia
- Regular conference calls to discuss status and issues
- Responsible parties automatically send necessary data
- Regular updates and coordination with LASO, SSO, CBFO, and CCP