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# **Tritium Release at the High Flux Beam Reactor**

Frank Crescenzo

Deputy Area Manager

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U.S. Department of Energy  
Brookhaven Area Office



# Background

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- Event summary
- Impacts summary
- BNL
- Long Island
- HFBR
- Spent Fuel Pool



# Precursors

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- 1984 Tritium release to Peconic River
- 1987 Suffolk County Sanitary Code, "Article 12"
- 1991 Superfund designation for BNL
- 1985 Sewage Treatment Plant proposed upgrade
- 1996 Announcement of offsite VOC contamination from past practice at BNL
- ***Groundwater protection is especially important for BNL***



# Precursors contd.

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- 1960 Design documentation
- 1992 NRC notice regarding leakage from spent fuel pools
- 1994-96 Suffolk County concerns with Article 12 compliance
- ***Likelihood of leakage from HFBR Spent Fuel Pool***



# Precursors contd.

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- 1990 Tiger Team findings regarding inadequate groundwater monitoring
- 1994 DOE decision not to upgrade spent fuel pool to Article 12 compliance
- 1994 Inadequate leak testing of HFBR fuel pool
- 1995 Delays installing monitoring wells near HFBR
- ***Priority for groundwater protection?***



# Event

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- 10/96 Monitoring wells installed and sampled
- 12/96 Results elevated, wells re-sampled
- 1/97 Re-samples above drinking water standards
- Spring '97 public outrage, investigations, crisis management
- Site-wide groundwater vulnerability review



# Tritium Remediation Project

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- Source Management
  - Identification
  - Removal
- Plume Remediation
  - Characterization
  - Treatment



# Lessons Learned

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- Inadequate site-wide management priority for groundwater protection
- Engineering standards are not good enough
- Vulnerabilities are in the low priority pile

