



**THE IMPACT OF
EVENTS
AT NUCLEAR
SITES**

Len Mausteller

**Operations Instructor at St. Lucie
Nuclear Power Plant**



BACKGROUND


US Navy Nuclear Power Program

Millstone Nuclear Power Plant, Connecticut


St. Lucie Nuclear Power Plant, Florida



AGENDA

- ❖ **Fukushima Daiichi Disaster**
 - ❖ **Fire at Waste Isolation Pilot Plant (WIPP)**
 - ❖ **Tunnel collapse at Hanford Nuclear Site**
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AGENDA

- **What do these events have in common?**
 - **How have these events affected the nuclear Power industry?**
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FUKUSHIMA

**What do you know about
Fukushima Daiichi?**



FUKUSHIMA

What happened at Fukushima Daiichi?

[Video](#)

FUKUSHIMA

What would you do if you were able to prepare for an event like Fukushima Daiichi ?

INDUSTRY CHANGES

**Procedures developed to address
beyond design basis events**



INDUSTRY CHANGES

Portable communications equipment

Portable devices to communicate with the ERO

Satellite phones to communicate to off site organizations



INDUSTRY CHANGES

Portable equipment

Generators

Pumps

Air compressors



INDUSTRY CHANGES

Connections to systems to allow the portable equipment to be connected



INDUSTRY CHANGES

**Equipment stored in protected
buildings**



INDUSTRY CHANGES

Equipment to clear the debris to allow the portable equipment to be moved into place



INDUSTRY CHANGES

Training for:

Operators

Security

Emergency Response Organization




WASTE ISOLATION PILOT PLANT



Waste Isolation Pilot Plant

On February 5, a salt haul truck caught fire. Workers were evacuated, and the underground portion of WIPP was shut down. Six workers were treated for smoke inhalation.



WASTE ISOLATION PILOT PLANT

Review the Executive summary and accident description of the fire at WIPP.

WASTE ISOLATION PILOT PLANT

What could have been done better?

What was done well?



TUNNEL COLLAPSE AT HANFORD

Hanford Nuclear site located in Washington State was built in the 1940s.



TUNNEL COLLAPSE AT HANFORD

Hanford reactors produced material used to manufacture nuclear weapons.



TUNNEL COLLAPSE AT HANFORD

**Nine reactors were built at this site
before it was shutdown in 1987.**



TUNNEL COLLAPSE AT HANFORD

**Clean-up has been in progress since
1989.**



TUNNEL COLLAPSE AT HANFORD

The tunnel that collapsed was used to transport spent fuel to the processing plant.



TUNNEL COLLAPSE AT HANFORD

The older tunnel is constructed of 14” thick walls held up by pressure treated Douglas fir timbers.

TUNNEL COLLAPSE AT HANFORD

Radiation levels in the tunnels are in excess of five roentgens per hour making them difficult to inspect.

TUNNEL COLLAPSE AT HANFORD

Even more difficult to repair.



TUNNEL COLLAPSE AT HANFORD

Clean-up is in progress



COMMON BETWEEN EVENTS

What do you see as common between these three events?



**Thank you for your participation
Enjoy the workshop and have a safe
trip home!**

