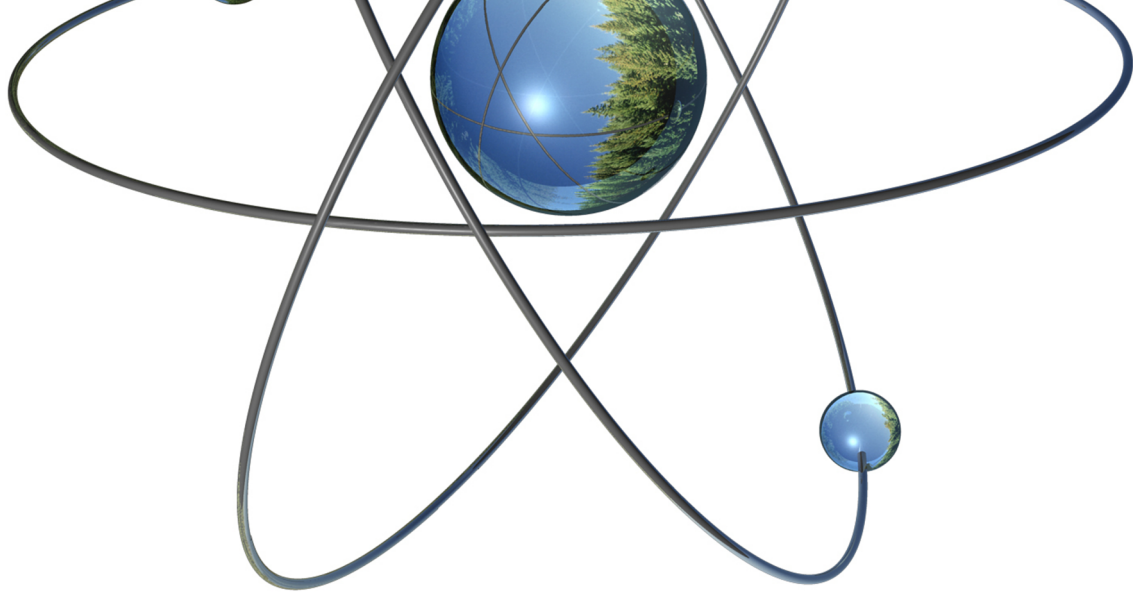


# Presentation to the U.S. Nuclear Regulatory Commission

## Global Nuclear Fuel ISA Project Review



**September 30, 2011**



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# Agenda

- Introductions
- Milestone Schedule & Status
- Implementation Process
- Project Results
- Path Forward
- Summary

# Milestone Schedule

Conversion ISA Review  
Implementation  
ISA Summary Update

Complete  
Complete  
Complete

Fabrication ISA Review  
Implementation

Complete  
Nov 30<sup>th</sup>

Balance of Plant ISA Review  
GLE Test Loop ISA Review  
Implementation

Jan 2012  
Jan 2012  
Mar 2012

**On Track for Project Completion March 2012**



# Fabrication Milestone

Completed August 30<sup>th</sup>

- UO<sub>2</sub>/Gadolinium Press
- UO<sub>2</sub>/Gadolinium Grind
- UO<sub>2</sub>/Gadolinium Sinter Furnace
- UO<sub>2</sub>/Gadolinium Rod Processing
- Gadolinium Vibromill/Slugger
- Bundle Assembly

Implementation to be completed  
by November 30<sup>th</sup>



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# IROFS Before & After

Process Area	# Previous IROFS	# Added IROFS*	Final
Conversion	62	71	133
Fabrication	49	125	174
Total	111	196	307

\*existing controls reclassified as IROFS

Project is identifying IROFS & new  
accident sequences



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# Balance of Plant Milestone

- Auxiliary Operation
- HVAC
- Decontamination
- Incinerator/Storage Pads
- Rad Waste & Waste Water Treatment
- Dry Scrap Recycle (UO<sub>2</sub> & Gadolinium)
- Labs, Shipping & Utilities
- Scrap Pack

Review complete by January 2012



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# Balance of Plant Milestone

In addition to remaining facility & process areas:

- Large facility fires
- Natural Phenomena (NPH)
- External Man-made Hazards (EMMH)

Performing graded FHA to address fires

Reviewing GLE Commercial Facility Environmental Report data closely for NPH

Closely reviewing guidance while  
developing solutions



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# **NPH & EMMH Approach**

**Perform NPH/EMMH screening using site data  
GNF-A Facility specific  
EMMHs & Aircraft Crash should screen out  
NPH events requiring more review:**

- Earthquakes**
- Flooding**
- Wind generated missiles**
- Moderator intrusion into building from flooding**

# Seismic Impact to IROFS

Evaluate each IROFS using assessment criteria:

- No seismic impact
- Accept risk using NUREG-1520 guidance for existing facilities
- Frequency assessment or fail safe condition of IROFS
- Additional credited features or attributes needed
- Protect IROFS from impact of seismic event

**IROFS evaluations & NPH/EMMH screening**  
**documented in calculations**



# Implementation Team

**Confirms management measures from QRA**

**Develops & coordinates ISA & IROFS training**

**Validates and/or schedules functional testing**

**Revises procedures indicating IROFS**

**Establishes & schedules periodic verifications**

**Incorporating lesson learned from  
previous milestones**



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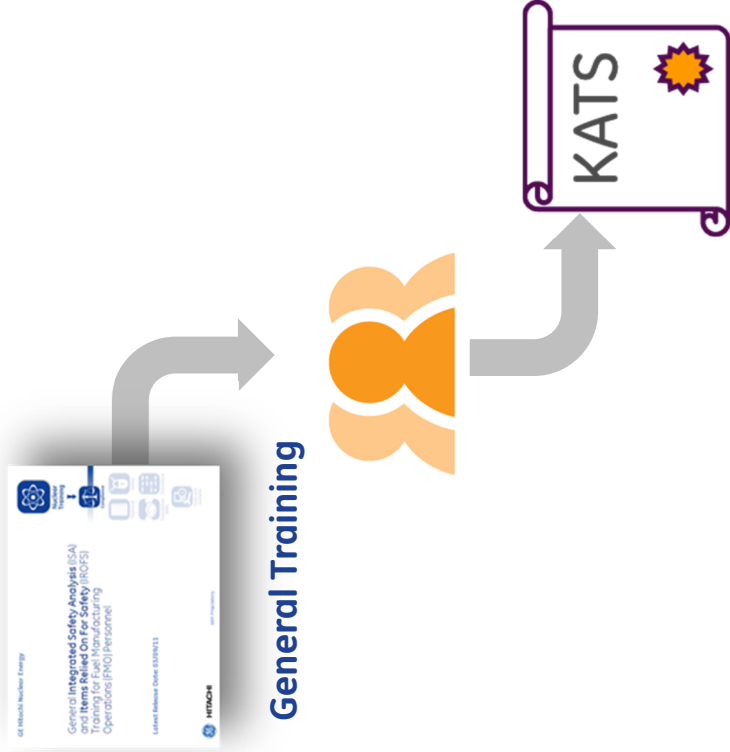
# Management Measures Validation

Table 4-2  
Management Measures:  
Node 401/503

		IROFS									
		Configuration Management Policy	Design Requirements	Document Control	Change Control	Audits & Assessments	Maintenance	Training & Personnel Qualification	Procedures	Incident Investigation	Records Management
900-01	AAC	FBS Control of Mass of Uranium – Transportable Container	X	X			X	X	X		
401-08	PEC	Process Equipment Barrier – Pellet Press	X	X	X	X	X			X	
503-05	PEC	Process Equipment Barrier – Pellet Press	X	X	X	X	X			X	
401-09*	AEC	Press Pellet Counter	X	X	X		X			X	
503-06*	AEC	Press Pellet Counter	X	X	X		X			X	
401-10	AEC	Press Hood Level Sensors (Optical Sensor)	X	X	X		X			X	
503-07	AEC	Press Hood Level Sensors (Optical Sensor)	X	X	X		X			X	
401-11	PEC	Process Equipment Barrier - Press Conveyor	X	X	X	X	X			X	
503-08	PEC	Process Equipment Barrier - Press Conveyor	X	X	X	X	X			X	
401-12	AC	Take-Off Table Storage Control	X	X				X	X		

# Implementation - Training

Before



After

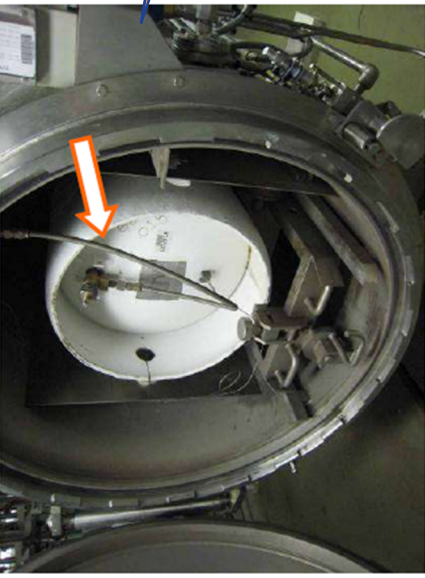


- *Training on all IROFS in job area: Passive, Active Engineered, Augmented Admin & Administrative*
- *Training & testing commensurate with responsibilities*
- *"Inability to Perform" Policy enacted*

# Implementation - Training



Training Document:  
TD 201-03 Pigtail Leak Check  
Revision 0

IROFS No.	201-03
IROFS Description	Pigtail Leak Check
IROFS Type	Administrative Control
Safety Function	
Roles and Responsibilities	<ol style="list-style-type: none"> <li>(1) Comply with approved procedure to perform pigtail leak check.</li> <li>(2) If IROFS steps in procedure cannot be performed, stop and notify your Supervisor.</li> <li>(3) Report equipment operability concerns to your Supervisor (e.g., damaged equipment, lack of pigtail seals, etc.).</li> </ol>
Examples of IROFS Failures	Operator failure to perform bubble leak check on pigtail and pigtail connections during cylinder installation.
Picture of Autoclave with Pigtail attached to Cylinder	
Relevant Operating Experience	<p>[To Be Developed] RegTrack IJR#: XXX-XXXX Brief Description:</p>

Identification

Safety Function

Roles & Responsibilities

Examples of Failure

Visuals  
Proper and/or Off-Normal

Operating Experience

Configuration Controlled Document

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Page 1 of 2



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# IROFS Boundary Packages

Agree improvement opportunity

Separate project not to delay compliance

Reviewing NRC Guidance (NUREG 1520)

IROFS boundary information available...  
not in one location

Developing plan/staff/budget



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# Path Forward

- Detailed schedule developed
- Strengthened team staffing
- Applying lessons learned from milestones #1 and #2
- Auditing implementation of milestone #1
- ISA team walking down all areas – discovery continues
- March 2012 full Implementation



# Project Results

- Correcting programmatic deficiencies
- Improved awareness of facility safety basis
- Improved documentation of assumptions and decisions
- More rigorous treatment of dependencies
- Improving overall training program (SAT compliant)
- Facility FHA & robust combustible controls program



# Summary

**Maintaining full compliance date  
of March 2012**

**Project is addressing & correcting  
the programmatic issues**



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