



# **AREVA Richland, WA Fuel Manufacturing Operational Center of Excellence**

## **Licensee Performance Review**

April 26, 2016

**BUSINESS GROUP**





# Agenda

- ▶ **AREVA Richland Site Overview**
- ▶ **Components of our Continuous Improvement process**
- ▶ **Site Safety – Achievements/Improvements**
- ▶ **Summary / Conclusion**

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# AREVA Horn Rapids Road (HRR) Site

- ▶ All AREVA U.S. Fuel manufacturing activities are conducted at the Richland HRR Facility
  - ◆ UF6 conversion through bundle assembly, serving PWR and BWR fuel markets in the U.S., Japan and Taiwan
  - ◆ Fuel fabricated at the Richland facility produces approximately 5 percent of the utility-generated electricity in the U.S.
  - ◆ Approximately 55,000 fuel bundles shipped from the Richland facility since inception in 1970.
  - ◆ AREVA received the first 40-year Nuclear Regulatory Commission (NRC) Part 70 license renewal in 2009

***Richland Site is AREVA's Center of Excellence  
for Fuel Manufacturing Activities in the U S***

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# AREVA Pillars Of Operational Excellence

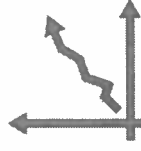
## OPERATIONAL EXCELLENCE



**SAFETY.** First and foremost, the critical success factor for our people, products and services.



**QUALITY.** First time, every time.



**PERFORMANCE.** Fueled by our people and innovation for our customers.



**DELIVERY.** Reliable, predictable and consistent.

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# Learning Organization

## ► Components of our Continuous Improvement Process:



### ► Continuous Improvement: Lean Six Sigma

- ◆ Based on Lean Philosophy : right the first time, every time!
- ◆ Application of the Lean Six Sigma methodology

### ► Problem identification and resolution : **WEBCAP**



- ◆ Continuously lowering reporting threshold
- ◆ Trending and actions on low impact events
- ◆ Rigorous problem analysis and solving : RCA, ACA, PACTS

### ► Human Performance



- ◆ INPO tools applied to reduce frequency and severity of errors
- ◆ Observation program used in the field: recognize good behaviors and correct bad ones
- ◆ Positive Reinforcement

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# Site Safety Achievements/Improvements

## ► Radiological & Environmental Controls

- ◆ In 45 years of operation, no plant employee exposed over NRC exposure limits.
- ◆ ALARA program resulting in a Collective Total Effective Dose Equivalent for 2015 lowest in 22 years.
- ◆ Radio Frequency Identification (RFID) technology being deployed to track movement of personnel and monitoring of internal dose (ECD: 2017).
- ◆ Continued pursuit of environmental excellence and continuous improvement via ISO 14001 environmental management system (EMS). ISO 14001 certified since December 2005.
- ◆ Major recycling/re-use activities involving NRC-licensed and support processes (hydrofluoric acid, ammonium hydroxide, used oil, used machine coolants, paper/ cardboard, scrap metals, wood, and batteries).

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# Site Safety Achievements/Improvements

- ◆ Onsite inventory of legacy mixed waste drums at historic low; efforts under way to disposition remaining few.
- ◆ Continued improvement in groundwater quality since removal/remediation of surface impoundment system. All six down-gradient monitoring wells consistently below Federal primary drinking water limit for fluorides (4 ppm); last sampling (Nov 2015) shows only one well above Federal uranium drinking water limit (33 ppb vs. 30 ppb limit).
- ◆ Approximately 450 Class 7 radioactive material shipments completed over CYs 2014/2015 without incident.
- ◆ Continued usage of AREVA affiliate AREVA TN for expert transportation services (logistics, container fleet management, carrier management, transportation security, packaging licensing, etc.).



# Site Safety Achievements/Improvements

## ► Safety Operations

- ◆ Restarted Modular Extraction/Recovery Facility (MERF) in February 2015. Providing safe and effective uranium recovery from incinerator ash.
- ◆ Completed disassembly and rod downloading of 108 contaminated San Onofre fuel assemblies while meeting safety and dose-control goals.
- ◆ Multi-year site-wide fire alarm system upgrades nearly complete (ECD: 2017)
- ◆ Criticality accident alarm system being replaced (ECD: 2017)





# Site Safety

## Achievements/Improvements

### ► Facility Support

- ◆ EHS&L Audit/Inspection schedule lists 80 different audits/inspections/assessments; only 32 specifically NRC-required. Based on required frequencies, over 150 actual audit/inspection activities occur per year.
- ◆ Completed human error prevention training lab, training over 400 personnel in error prevention tools.
- ◆ Criticality safety training now includes at-the-workstation interactive discussions between production and maintenance personnel and criticality safety staff.
- ◆ Close to 140 plant projects completed over 2014-2015, approximately one-third of which supported safety improvements.
- ◆ Improved resource utilization/prioritization for maintenance/surveillance activities via organization of plant into physical areas represented by planning teams.



# Summary / Conclusion

- ▶ **The Management team at AREVA's HRR site is:**
  - ◆ Committed to conduct business in a manner that drives continuous improvement in Environmental, Health, and Safety performance
  - ◆ Committed to complying with our NRC and state approved operating licenses, and all applicable regulations
  - ◆ Committed to continuously improve, engaging the entire workforce on this path

***In line with AREVA values and commitments, the Management at AREVA HRR will continue to place Safety and Regulatory Compliance as the No.1 priority***

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