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*Nuclear stewardship. Supplier strength.*

# MISSION, VISION & STRATEGY

## MISSION

To be part of putting people to work, growing the nuclear industry and bringing electricity to everyone.

## VISION

Great, long-lasting jobs in a growing nuclear industry will be created by manufacturers who truly understand nuclear safety as the industry does.

## STRATEGY

Since we contribute to the predictable performance of nuclear plant operations, we strive to demonstrate a 'new' nuclear supply chain; one that offers nuclear stewardship from design to install and asks the right questions during fabrication, instead of in the field.



# AMMI NUCLEAR EXPERIENCE



1989 – 2011

4 Fleets

9 Plants

INPO Outage Guide

EPRI Outage Guide



Westinghouse



2011 – 2014

GM - AP 1000

Supplier Recovery



AMMI

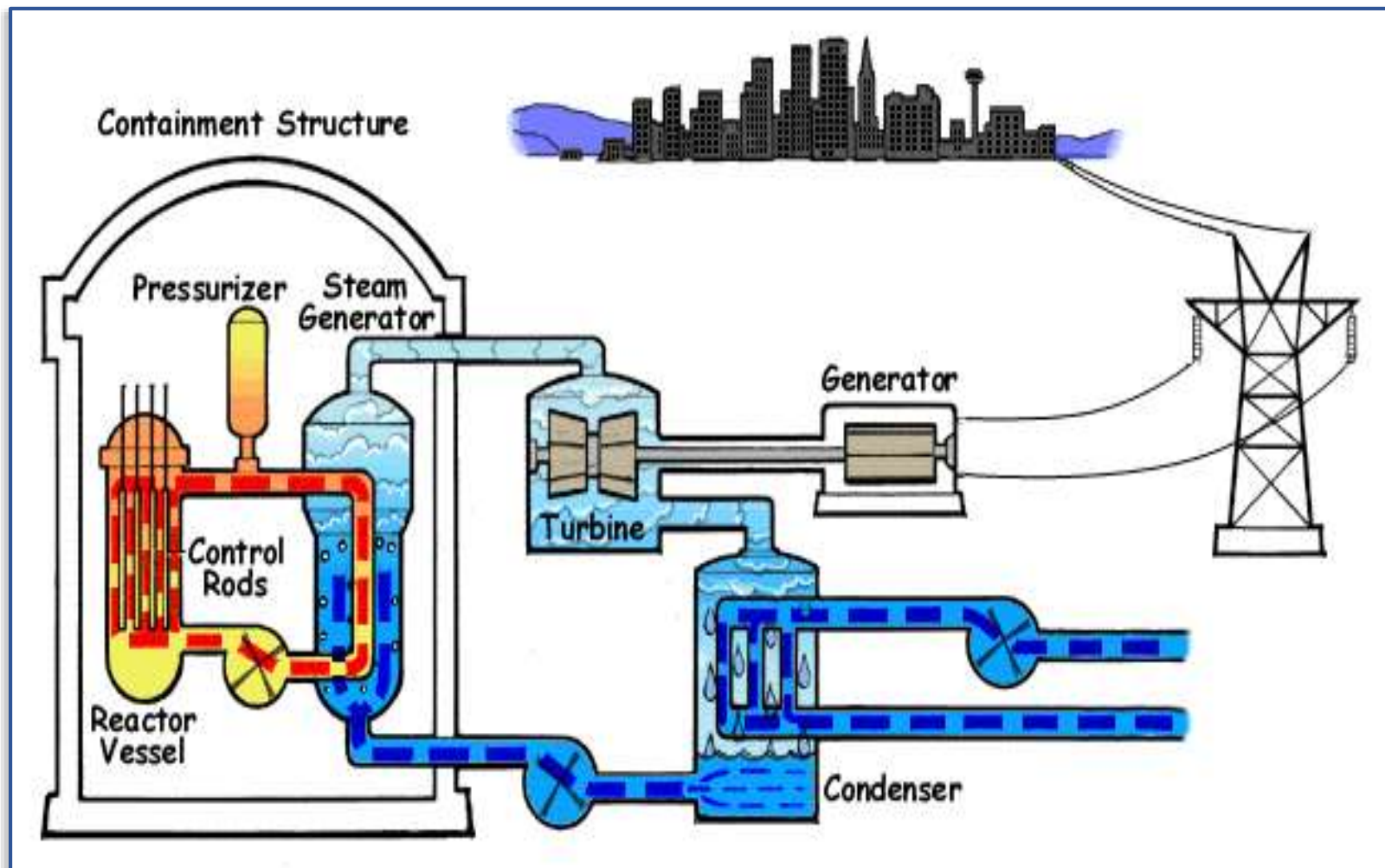
# Nuclear Power Basics

## What's Common?

- Water is boiled to steam
- Steam is piped to a turbine
- Turbine spins a generator-rotor
- M-Flux induced in generator-stator
- Electricity transformed to higher or lesser voltage potential
- Potential is transmitted and distributed to grid for use

## What's Uncommon?

- The heat source



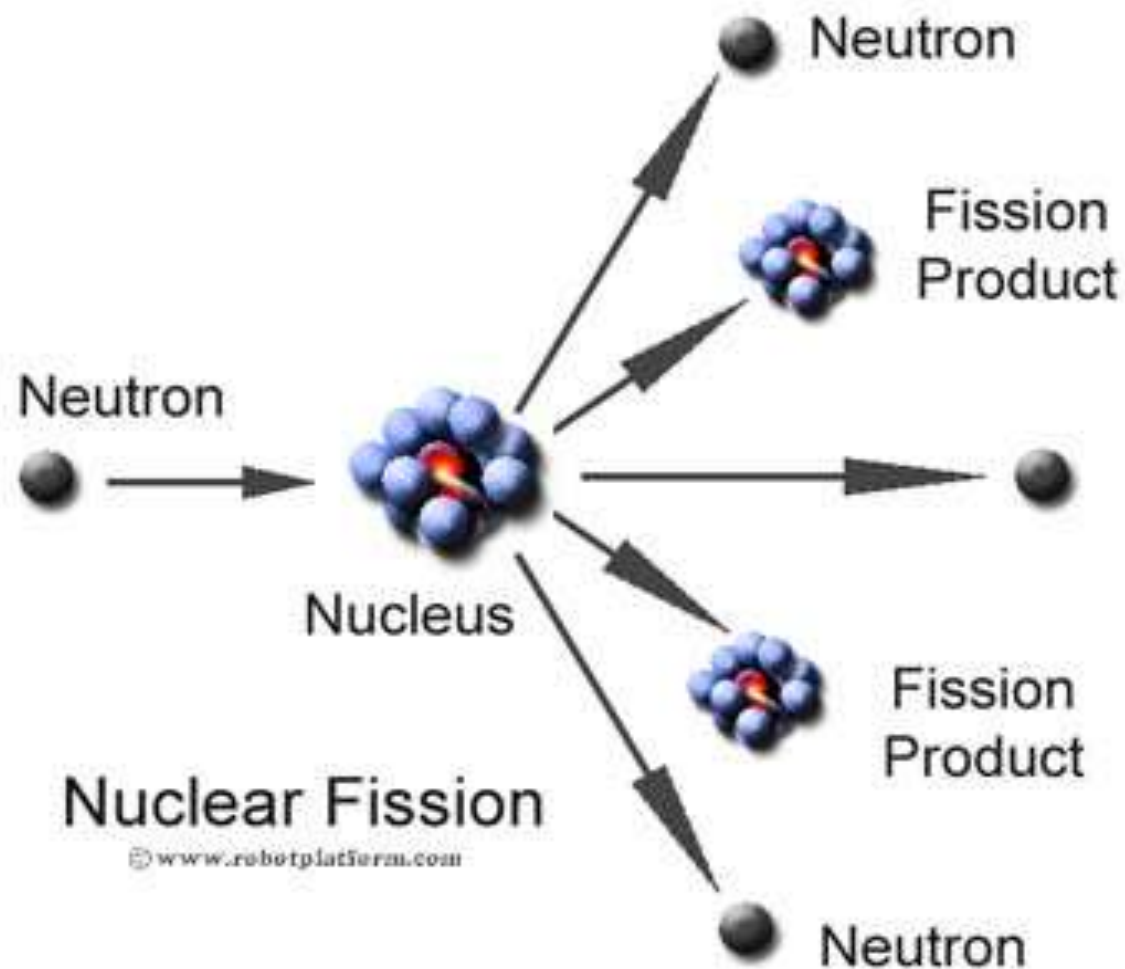
# Nuclear Power Basics

## What's Uncommon?

- Unstable Uranium 235 atom is split and releases unmatched heat and next generation neutrons
- Chemical reactions contained in specially designed reactors

## Notable Considerations

- Design and specs are unique
- Requirements drive higher cost
- Known scarcity of suppliers
- Perceived risk is higher
- Price / margins follow risk



# Protecting the Public



DESIGN / CONSTRUCT → OPERATIONS & MAINTENANCE

Nuclear plants are licensed by the Federal government and mandated to protect the health and safety of the public in every aspect of the power plant life cycle

# WHAT MAKES A SUPPLIER “NUCLEAR QUALIFIED?”

*Compliance to NQA-1 (Nuclear Quality Assurance 1) & 10CFR50 Appendix B*

**Standards, requirements and programs developed align with:**

- **American Society of Mechanical Engineers (ASME)**
- **Nuclear Regulatory Commission (NRC)**
- **Department of Energy (DOE)**
- **Institute of Nuclear Power Operators (INPO)**
- **World Association of Nuclear Operators (WANO)**
- **Nuclear Energy Institute (NEI, an industry best practices oversight organization)**



# 'Safety Related' or Related to Safety



## Definitions

**Nuclear Safety Related** – systems, structures, components, procedures and controls that are relied upon to function during and following a 'Design Basis Event', which includes shutting down a reactor

- 10CFR 50 APP B – 18 Criteria

**Industrial Safety Related** – policies and protections put in place to ensure plant and factory worker protection from hazards that could cause injury



# 'Non Safety-Related'

**Definition:** critical to safe plant operation / shutdown with additional regulatory requirements and guidance recognized in 4 sub-classifications

## Commercial Items:

No credited benefit for safe plant operation or shutdown.

- Lightbulbs
- MS Software
- Drinking water systems

## Significant Contributor:

Passive plant systems that support safe operation and shutdown.

- Chemical injection valves
- Steam generator feed pumps

## Radioactive Waste:

Plant systems that support storage and processing of irradiated effluents and gases

- Liquid RW pumps and valves
- Gaseous RW piping and filters

## Augmented Quality:

Plant systems credited for Regulated events, such as fire, plant transients (ATWS), Loss of Offsite Power

- FP pumps, valves, detection equipment
- Batteries, cables, transformers

# Points of Consideration

- There are 63 nuclear plants under construction now; 160 planned in the next 20 years
  - All require similar or same systems, sub-systems and components
- The industry recognizes the scarcity of 'qualified' suppliers
  - TMI impacts have not fully recovered
- The US nuclear industry is calling on the supply chain to bring cost-focused solutions
  - Delivering the Nuclear Promise
- ISO 9001 compliance is 75% nuclear compliant
  - NQA 1 audit and assessment data with new 'APP B' suppliers
- The nuclear operators need suppliers to become 'nuclear extensions'
  - Weld shops, painting, motor repair, transformer overhauls
- Supplying nuclear requires assessment driven investment
  - People, process, and procedures for long term diversification

A close-up, high-contrast photograph of a mechanical assembly. The image features several interlocking gears of different sizes and materials, including a prominent large gear with a brushed metal finish in the center. A coiled metal spring is visible on the left side. The lighting is dramatic, highlighting the textures and metallic surfaces against a dark background.

**QUESTIONS?**