Ensuring a Safe, Secure & Sustainable Operation

“Knowledge Transfer to the Engineering/Design Authority”

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12 – 14 December 2018

Warsaw, Poland: National Workshop on Becoming a Knowledgeable Customer
Human Resource Development issues
The Design Authority Is The Central Storehouse For The NPPs Technical Information

- Operations
  - Normal Operating Procedures
  - Alternate Operating Procedures
  - Technical Specifications

- Maintenance
  - Maintenance procedures
  - Maintenance cycles for PM

- Engineering
  - System performance
  - Modifications
  - Engineering programs

- Chemistry
  - Chemistry specifications
  - Tolerance limits

- Quality Control
  - Inspection criteria/hold points

- Etc.

All of this technical information must be conveyed from the vendors to the engineering/design authority.

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Major Systems & Component Technical Information
Includes Thousands of Pages of Documentation

- Nuclear Steam Supply System (NSSS)
  • Reactor Vessel
  • Reactor System Components
    ➢ Reactor Control Systems
    ➢ Control Rod Drive Mechanisms
    ➢ Reactor Coolant Pumps
    ➢ Reactor instrumentation
    ➢ Etc.

- Turbine/Generator
  • Turbine
  • Generator
    ➢ Stator
    ➢ Controls
    ➢ Etc.

- Fuel
  • Fuel content
  • Manufacturing process
  • Fuel Elements
  • Fuel Assemblies

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The Transfer of the Technology/Knowledge Must Be Part of The Contract, and Requires Planning

• Knowledge transfer contents & planning:
  ▪ System descriptions / full documentation
  ▪ Operating procedures
  ▪ Maintenance procedures
  ▪ Contractual Requirements
  ▪ Language translation issues
  ▪ Schedule/Timing for the transfer

• As the licensee from the Regulatory Body will become the final Design Authority
The Transfer Plan Will Require Coordination and Integration Across the Operating Organization

- Information will be transferred at the organizational level
  - Engineering
  - Operations
  - Chemistry
  - Maintenance
  - Fuel
  - Etc.

- A single point of contact/plan owner will need to be identified

- This person will need to have both authority and accountability
Transfer Plan Requires a Schedule

- The overall project schedule will drive the schedule for information / documentation transfer requirements

- “Begin with the End in Mind” and work backwards to identify schedule requirements
  - Commercial Operations Date (COD)
  - Major Project Milestones
  - Training & Qualification Requirements
  - System Testing
  - Etc.
Contract Terms/Requirements

• Contents of the information must be specified
  ▪ Systems
  ▪ Components
  ▪ Parts
  ▪ Level of detail

• Delivery Schedule
  ▪ Specify the minimum allowable schedule timing for delivery of the information
  ▪ These timings must be related to the project milestones and the training lead time requirements
  ▪ Ensure there is sufficient time in the schedule in case the vendor is not timely, or the quality of the documentation is not adequate

• Language
  ▪ Specify the language of the information to be transferred

• Quality/Standards
  ▪ Provide examples of minimum acceptable quality to the vendor to set expectations

• Contract Terms/Claims Management
  ▪ Ensure you have the ability to legally bind the vendor to your requirements for quality and timely delivery