

# Westinghouse AP1000® Plant

## Supply Chain Approach for Nuclear New Build

Tom Weir

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Westinghouse Electric Company



# AP1000 Typical Procurement Division of Responsibility

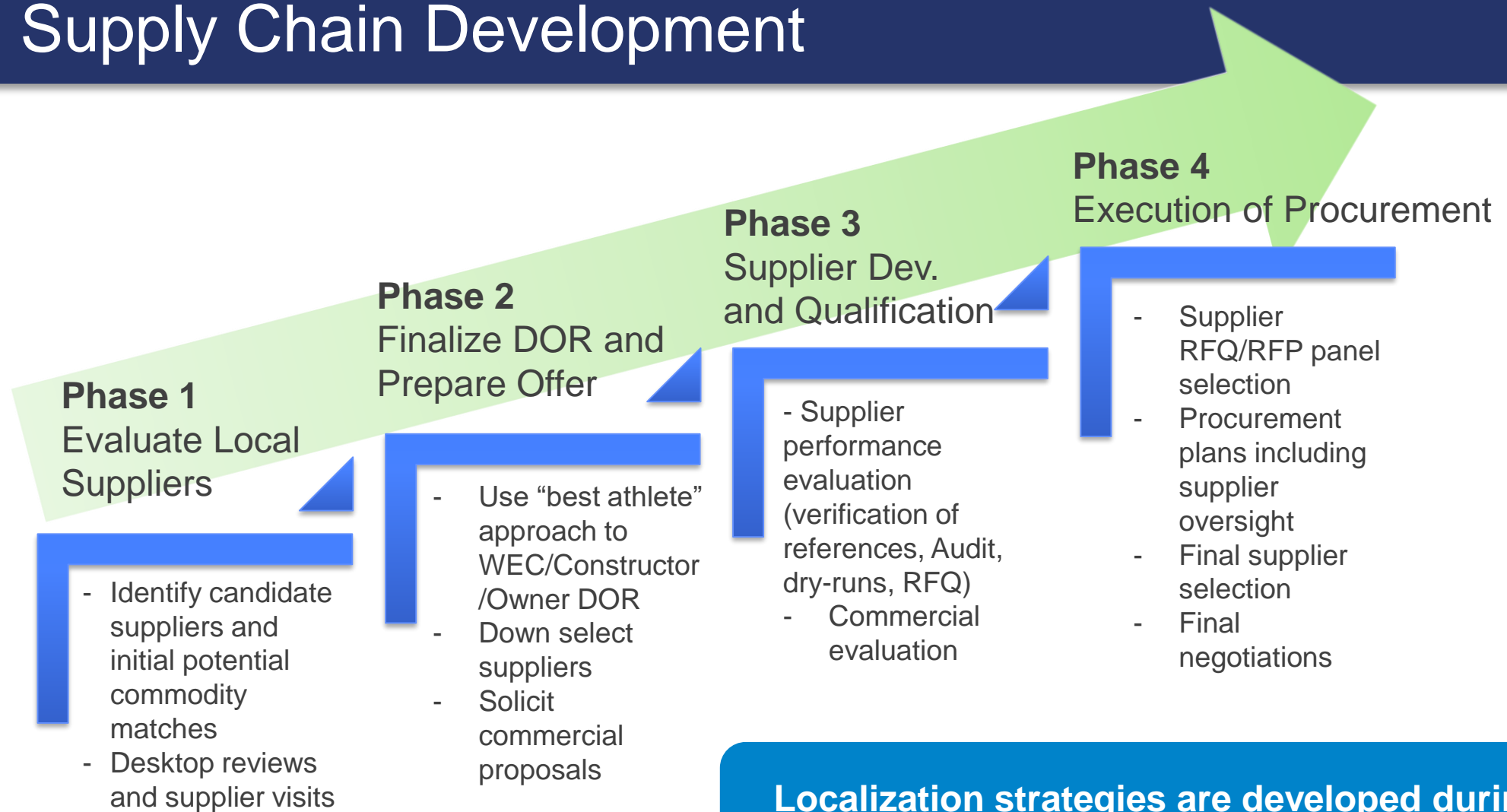
## Westinghouse

- NI Equipment
  - NSSS
  - Valves
  - Pumps
  - Heat Exchangers
- Safety and Non-Safety I&C
- Modules

## Constructor

- Civil/Structural Commodities
  - Rebar
  - Embedment Plates
- Piping
- Cable
- Architectural Commodities
- BOP Equipment
- Consumable Materials

# AP1000 Supply Chain Development



**Localization strategies are developed during early phases of project development**

# AP1000 Major Procurement Codes and Standards

- NQA-1
- 10CFR50 Appendix B
- 10CFR21
- ASME Section III
- ASME B31.1
- ASME Section XI
- ASTM material specifications
- ACI-349
- ASME NOG-1
- API 650
- ISO 9001
- AISC N690
- NCA 3800/4000

**Standards Applied Based Upon Design  
Requirements**

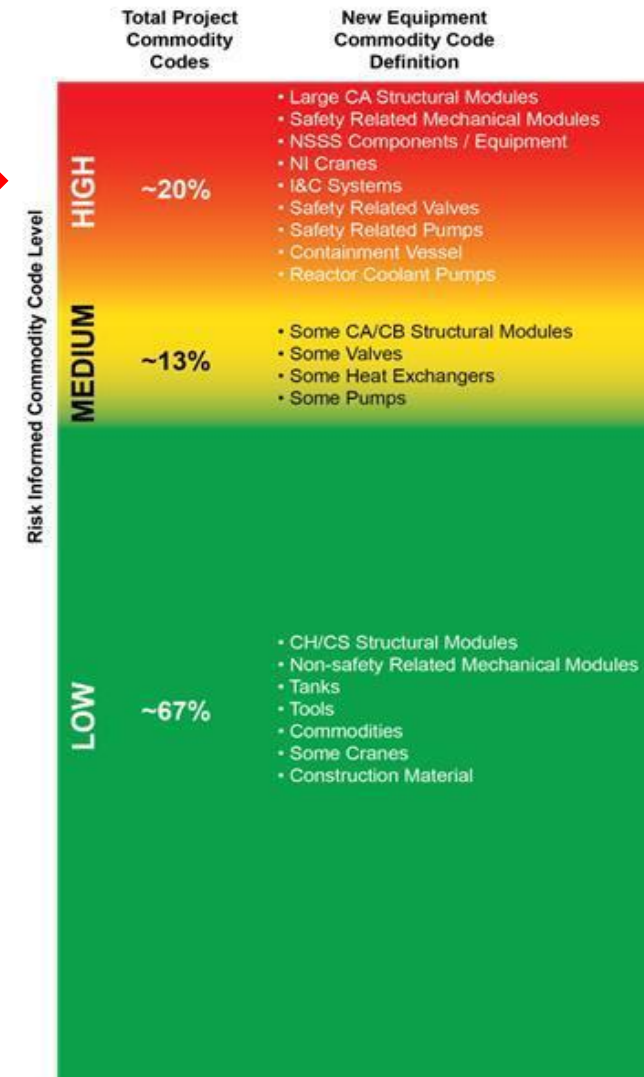
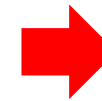
# Risk Informed Sourcing

## High-Complexity Commodities

High-complexity commodities pose risk to the success of the project.

Typical Characteristics:

- Significant upfront investment
- Safety-related fabrications
- Significant lead times > 2 years
- Supplier prequalification > 6 months
- Requires long-lead material releases



# Risk Informed Sourcing

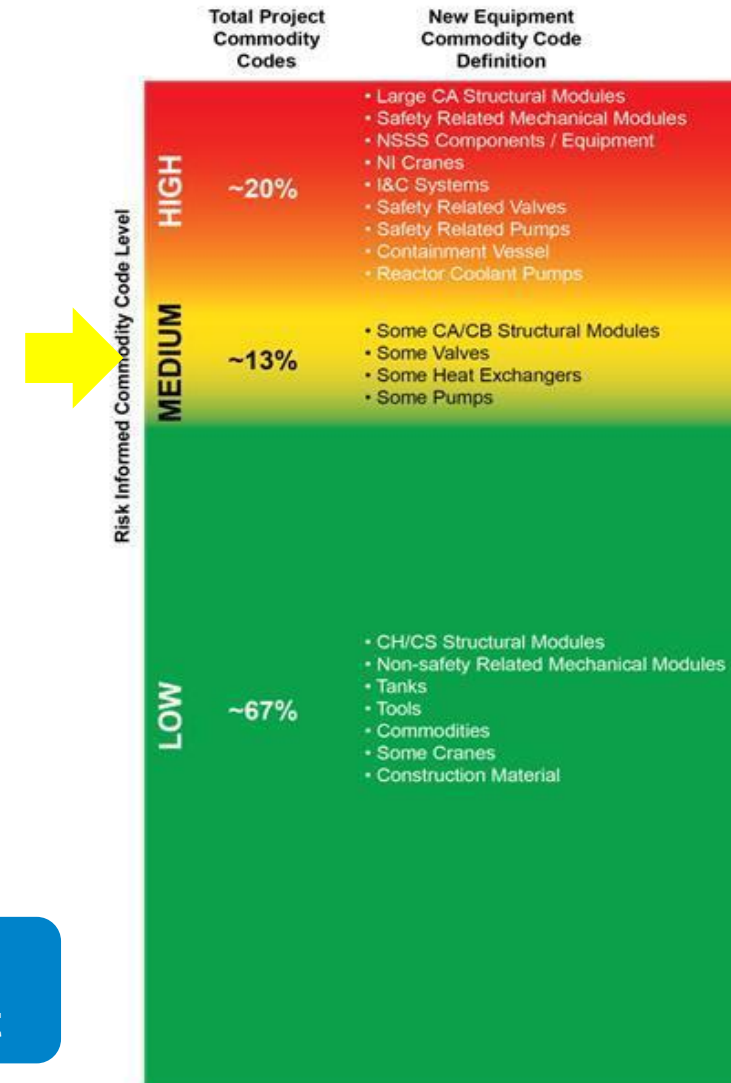
## Medium Complexity Commodities

Medium complexity commodities carry more risk to the project and can have greater impact on the AP1000 plant schedule.

Typical Characteristics:

- Potential upfront investment
- Contain safety and/or non-safety fabrication
- Long lead times with minimal float
- Fabrication requires special tooling/processes
- Prequalification required for certain processes
- "Build-to-print" specifications

**Localization possible with  
concerted qualification effort**



# Risk Informed Sourcing

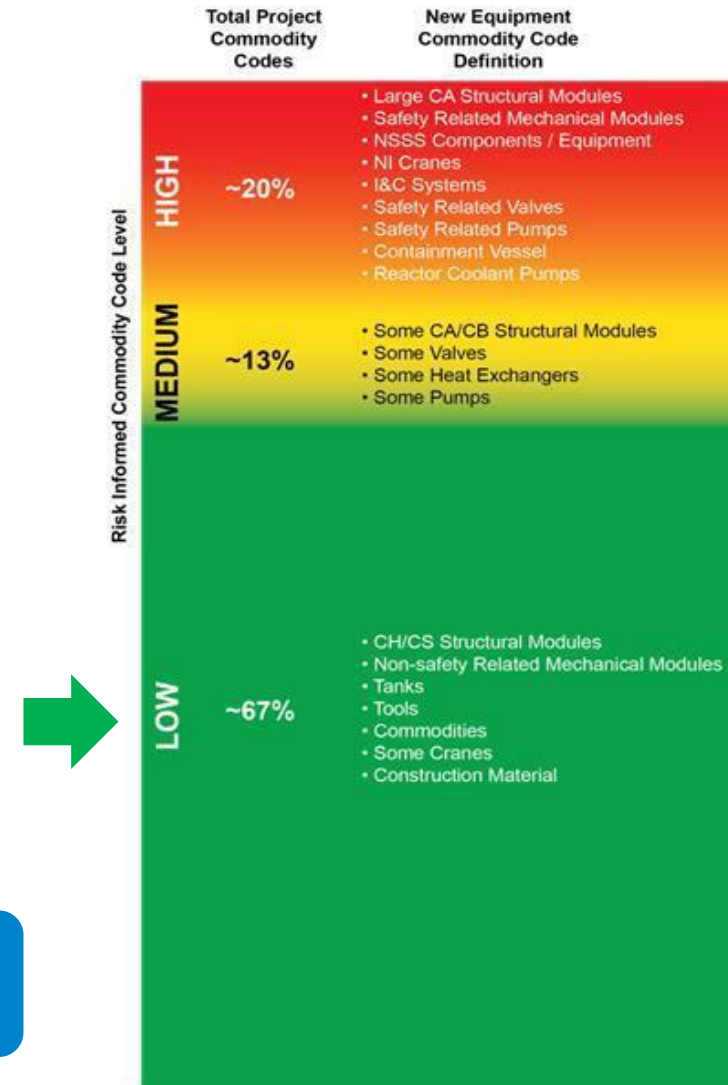
## Low Complexity Commodities

Low Complexity commodities are those for which localization can be achieved with minimal risk to the project.

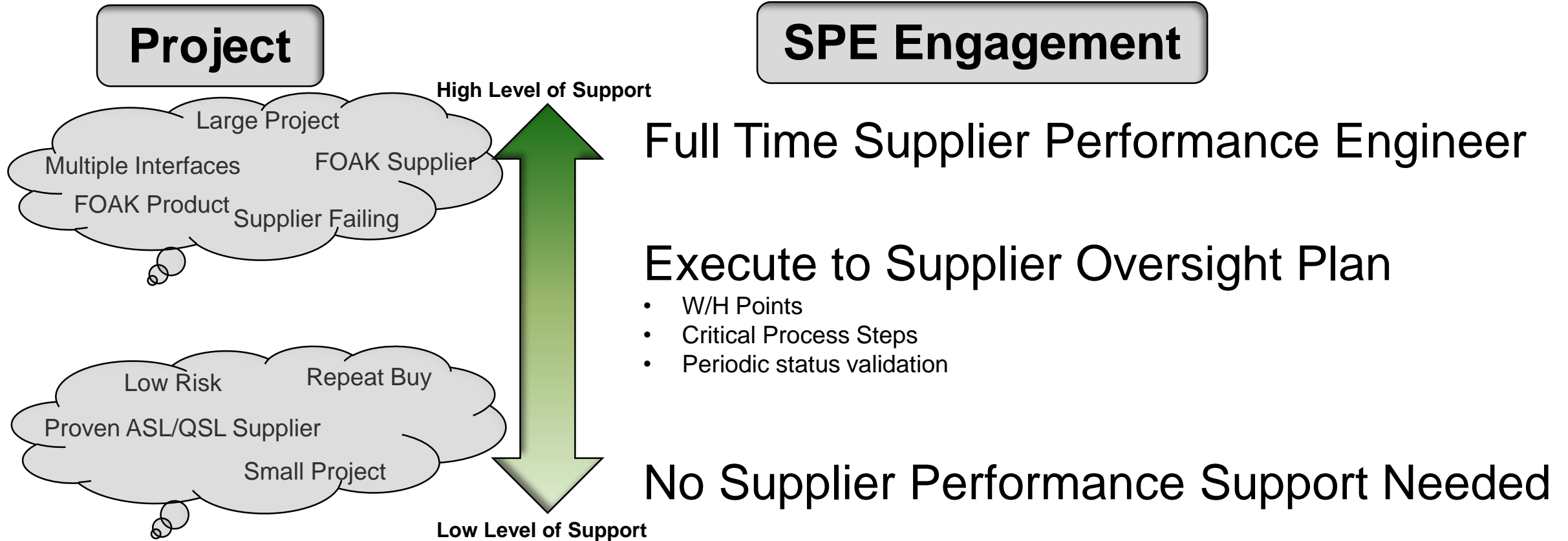
Typical Characteristics:

- Low upfront investment by the supplier
- Non-safety or commercial fabrication requirements
- Lead times that allow for schedule float
- Commercial or typical quality requirements

**Low complexity (67% of commodities) corresponds to strong localization potential**



# Supplier Performance Execution Strategy

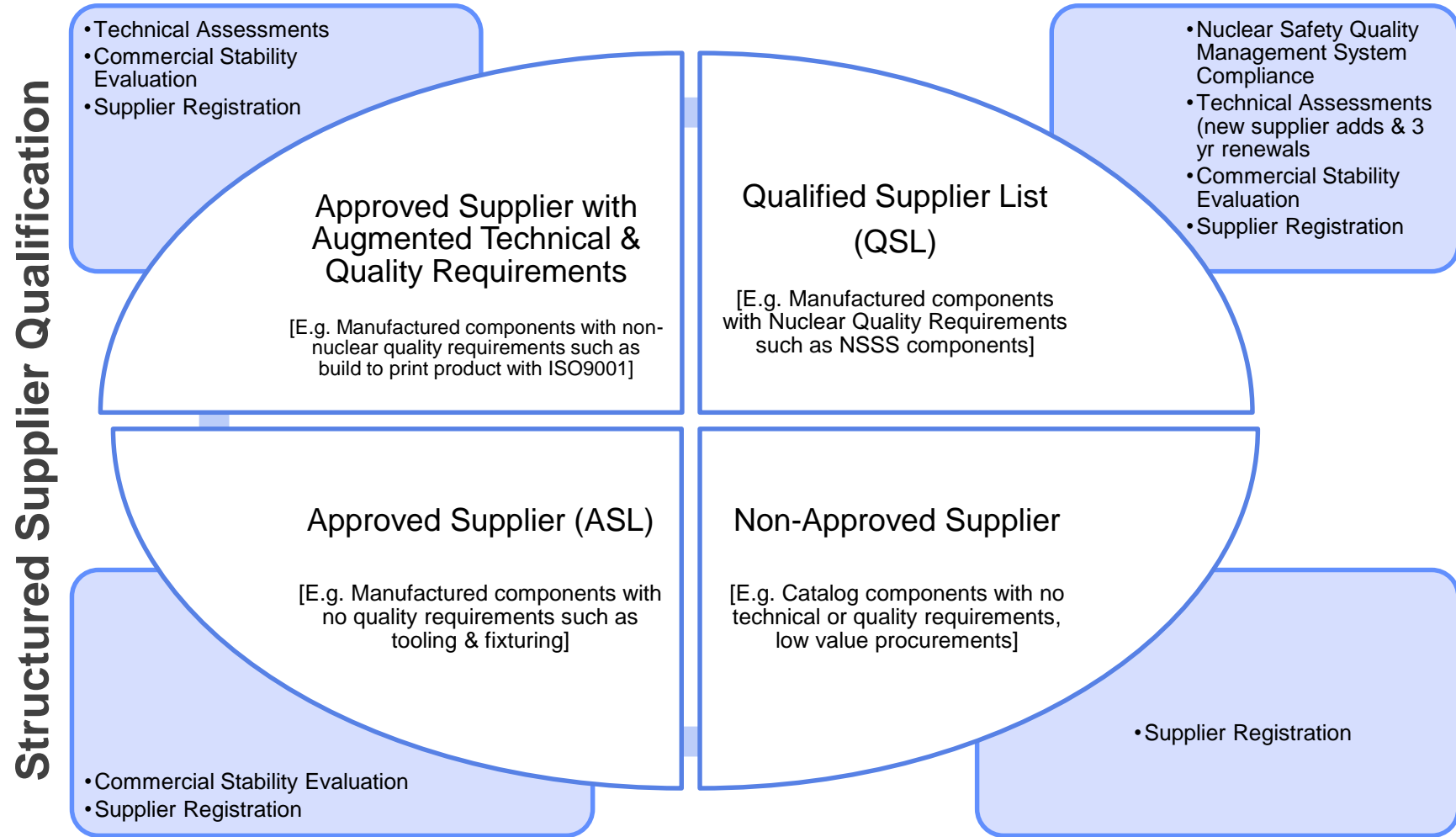




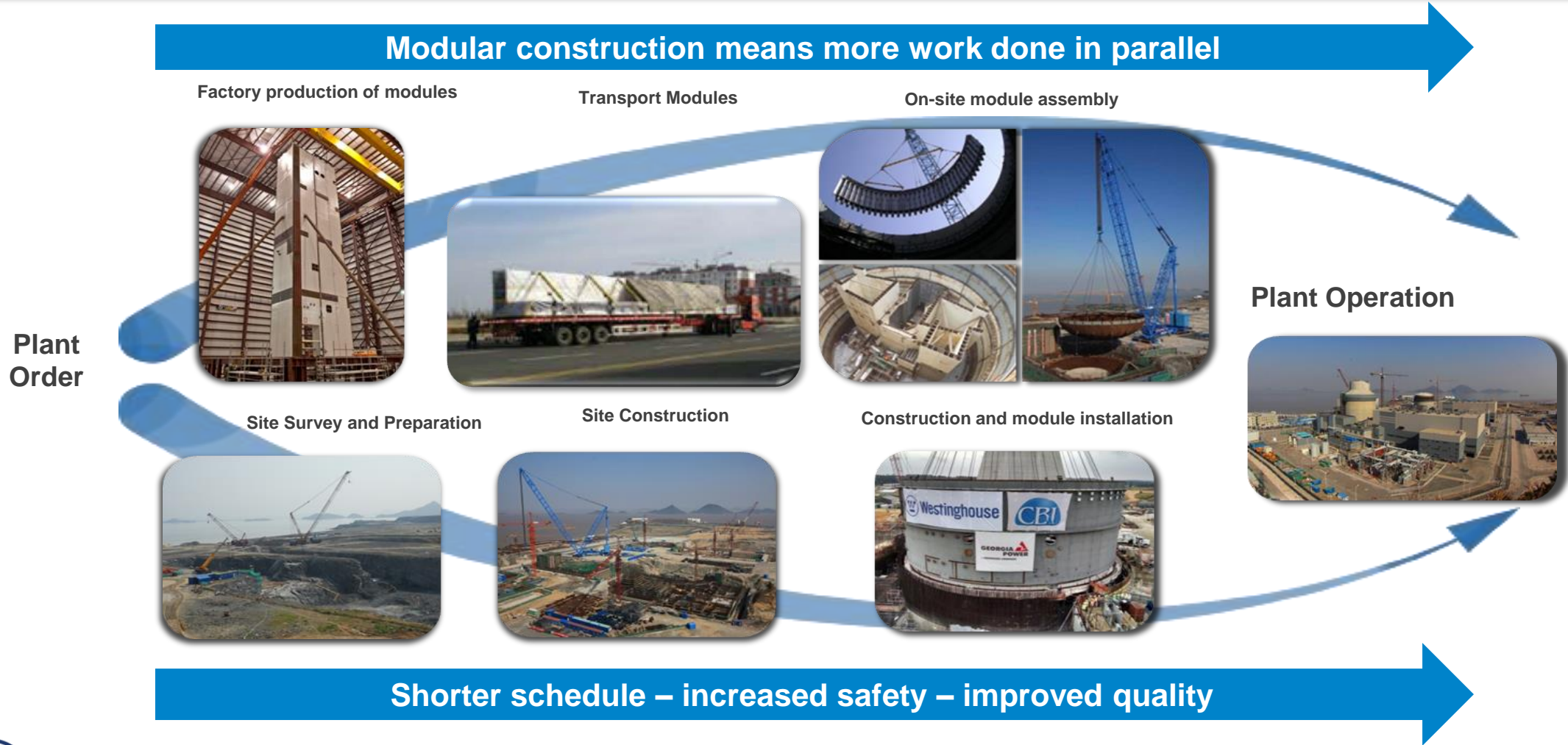
# Supplier Performance & Supplier Qualification

- Westinghouse maintains a list of “Approved” and “Qualified” suppliers
- Manage size of supply base to influence strategic relationships
- Leveraging AP1000 experience in China and US Vogtle Projects
- Schedule and cost responsibility for procurement
- Boots on the ground validation of supplier status
- Supplier Qualification and Technical Assessments
- Triage for poor performance

Technical & Quality at the Source



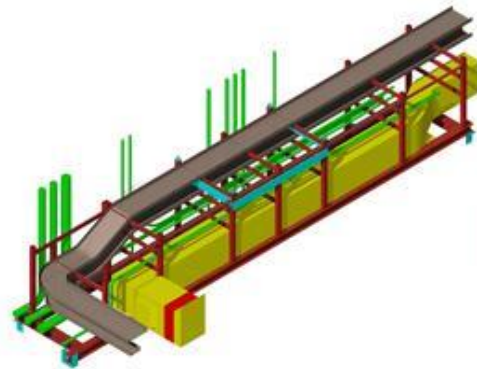
# Modular Construction



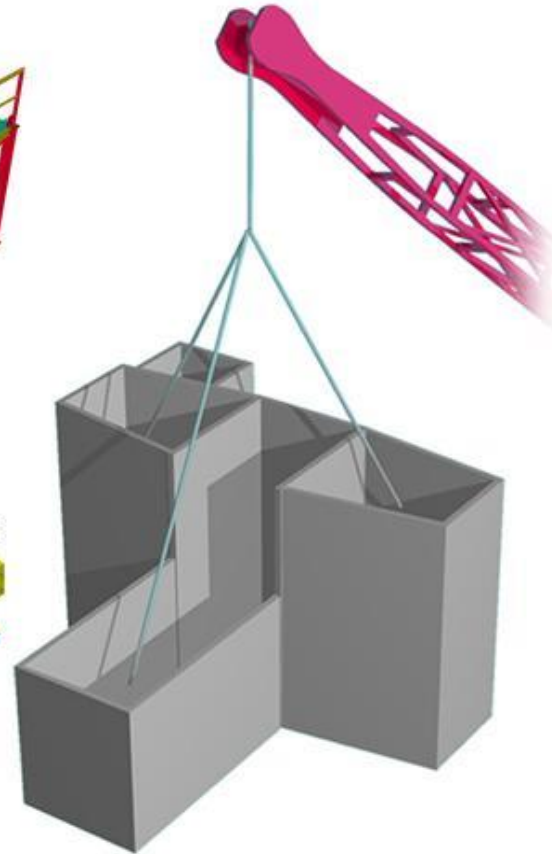
# The AP1000 PWR: A Case Study

## Modules Designed into the AP1000 Plant From the Beginning

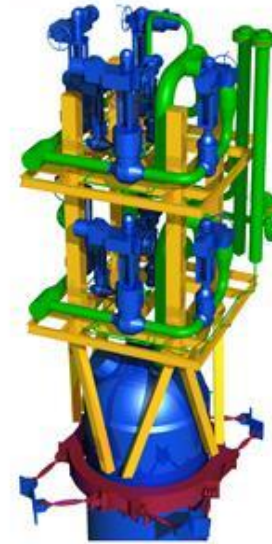
Pump/Valve Module



Raceway Module



Structural Module



Depressurization Module

<u>Module Type</u>	<u>Number</u>
Structural	122
Piping	154
Mechanical	55
Electrical	11
<b>TOTAL</b>	<b>342</b>

Thank You