



Constellation Energy®

Calvert Cliffs Nuclear Power Plant



The way energy **works™**

Early Perspectives in the Plant Process
Computer (PPC) Replacement Project

August 19, 2010

Background

- Combustion Engineering – 2 Units (1975 & 1977)
- Current PPC installed mid-80s (Encore Gould 32/97)
- PPC made Top Ten Materiel Condition list in Jan 2006
- Replacement Business Case approved in Feb 2008

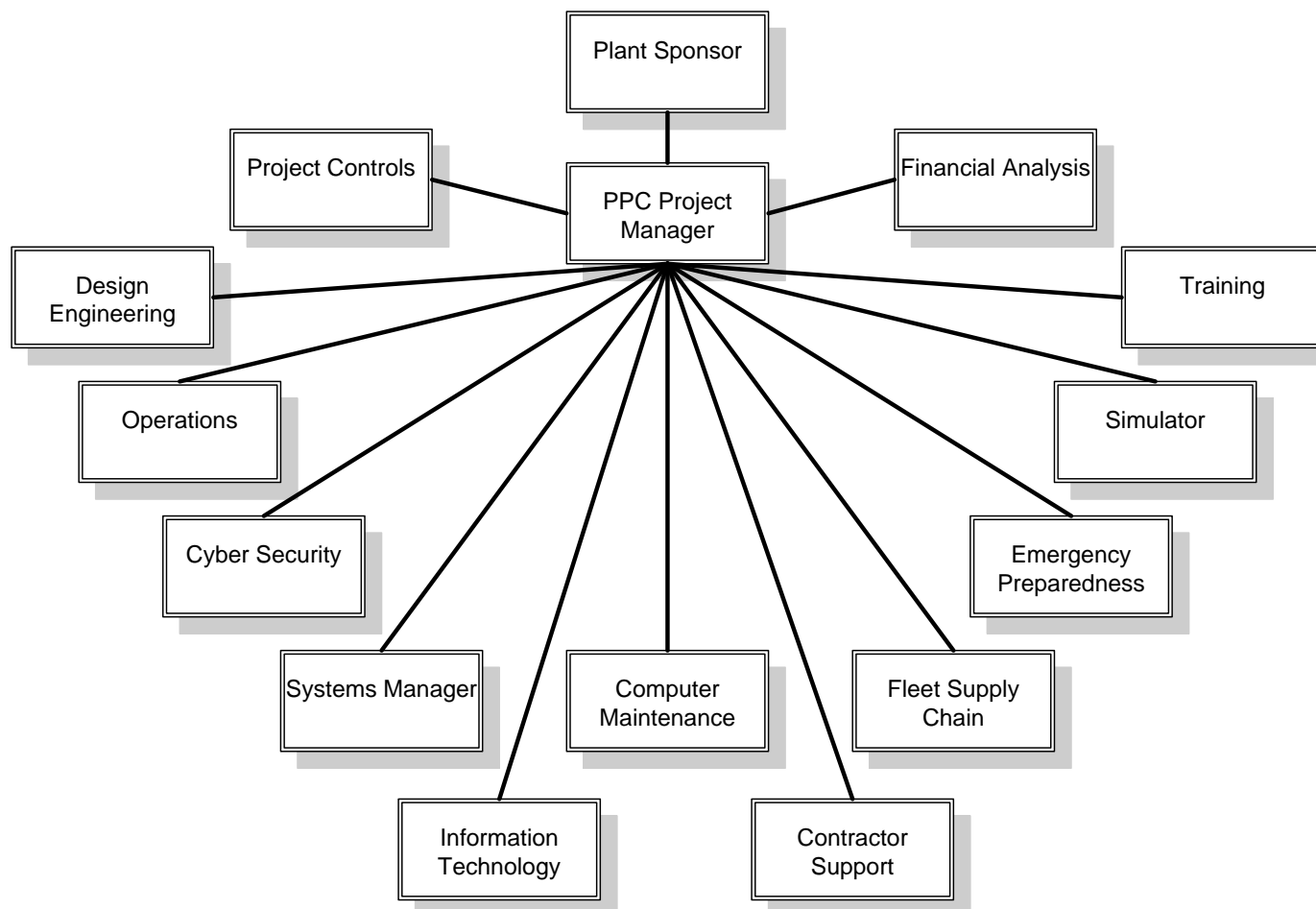
Conceptual Design Discovery

- Reviewed original PPC requirements and documentation
- Incorporated additions and modifications as new plant systems came online
- Examined operational and engineering historian and trending requirements

Conceptual Design Specification

- Benchmarked PPC Project at Nine Mile Point Unit 1
 - Constellation fleet
 - Engaged in detailed design phase of PPC replacement
- Released bid specification for Conceptual Design
 - 3rd party engineering firm provides an outsider perspective
 - Minimize workload on CCNPP's organizations
 - systems management, design engineering, and Information Technology (IT)

Cross-Discipline Team



Other plant orgs involved as needed
(e.g. Chemistry, Fuels)

Conceptual Design Development

- Peer Nuclear Plant Benchmarking
 - Focused on CE plants with varied PPC architectures and suppliers
 - Incorporated best practices and new ideas into CCNPP conceptual design
 - Have PPC vendor train operators directly
 - Dedicated full time support from Systems Management, Engineering, IT, and Operations
- Operator interviews/surveys
 - Provided questionnaires and conducted one-on-one interviews with plant operators

Conceptual Design Takeaways

- Assemble a focused team early
 - High level organizational sponsors can help
- Carefully define the scope and stick to it
 - Phase in additional capabilities after the core project is complete
- Leverage existing industry knowledge base
 - Benchmarking
 - Operating Experience