Plant Design Integration, General Arrangement Drawings

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Plant Design Integration

• Requirements
  • Allocate space within NCSX Facility - Includes test cell and adjacent areas
  • Maintain 3D model and use it to extract general arrangement drawings
  • Update general arrangement drawings
    • Distribute to all NCSX WBS Managers monthly

• Interfaces
  • Include input from
    • All WBS elements which have items to install
    • Safety personnel
    • Operations personnel
    • Maintenance/upgrade personnel
Plant Design Integration

- Design status
  - 3D plant model developed over the past 8 years
  - Updated general arrangement drawings extracted from the 3D model are being emailed to WBS managers and posted on website
  - Brainstorming meetings being held for complex interfaces

- Cost and schedule estimates
  - To update models during April/May 2008:
    - 10 MD designer
    - 5 MD engineer
  - To maintain model/drawings until CD4 (based on cost of general arrangement drawings for NSTX)
    - 1.5 MD per month engineer
    - 1 MD per month designer
General Arrangement Drawings

- NCSX Test Cell Model
General Arrangement Drawings

- General Arrangement drawing of NCSX Test Cell above platform
General Arrangement Drawings

- General Arrangement drawing of NCSX Test Cell below platform
General Arrangement Drawings

- General Arrangement drawing of NCSX Test Cell elevation
  - Basement / first floor / platform / catwalk around top of machine
3D Model of NCSX Platform

- 3D Model of NCSX Platform
  - Reviewing Life Safety Code requirements
  - Reviewing potential equipment interferences with platform legs
  - Reviewing placement of each item on/under platform to assure that all items can be installed, maintained and de-installed
Integrated Plant Design Related Items

• Review installation plans from all WBS Managers to assure that each piece does not interfere with other installations / maintenance / operations
  • Review crane coverage and roll-up door sizes with respect to items which need to be moved into the NCSX Test Cell (NCTC)
  • Also review equipment to be used to move material into NCTC
  • Establish staging areas for items waiting to be installed

• Coordinate installation of plant services (electric, air, lighting, HVAC etc) with Facilities Division