Exelon Simulator Software Management
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Agenda

Exelon Nuclear
Exelon IT Simulator Applications
Simulator Upgrade Strategy
Simulator Projects
T/H Project Management
Exelon Nuclear Fleet

One Fleet, One Vision
To be the best operator of nuclear plants worldwide
Exelon Nuclear Stations

✓ J A Fitzpatrick Acquisition
  • April 2017
  • SW analyst move from Training to IT 2018
✓ Commitment to keep Clinton and Quad Cities open for 10 more years
  • Illinois legislation
✓ Commitment to keep Ginna and NMP 1 open
  • New York legislation
IT Simulator Applications

✓ Maintains the simulator software
✓ Panel maintenance provided by Site IT or plant maintenance
✓ 1 Programmer per site, at the site
  • 2 Project Managers
  • 1 Architect
✓ Major mods/upgrades are outsourced
✓ Programmers are a mix of engineers or computer science majors
✓ Commonality as appropriate
Simulator Upgrade Strategy

✓ Exelon understands the importance of simulator investments
✓ The quality of the simulator is important to Exelon’s licensed operator programs
✓ Site Training and Simulator Applications identifies and prioritizes upgrades yearly
✓ Simulator Applications works with vendors to provide estimates
✓ Corporate Training then seeks strategic Project funding
✓ Mods are funded by the site mod project

Exelon Simulator Software Management
Simulator Strategic Projects

✔ 2009 – 2013, $9M

- Clinton rehost
- 8 electrical models
- 5 secondary models
- TMI Rad transport
- 4 I/O systems
- 53 NUMACS
- Executive System and Instructor stations
- Configuration management software
Simulator Strategic Projects (cont.)

✓ 2014 – 2017, $8M

- By, BW, Dre, Las, QC, Lim and TMI T/H upgrades
- Dre, QC SPING
- Las P&IDs
- Lim RCIC, CS, P&IDs and SA
- Lim, Las, QC RTA board (DFW) replacement
- Dre, Las, QC Virtual Mark 6 Upgrade
- Bw, Dre, PB VPanels
- PB Containment, SimExec Upgrade
- DRE Containment
- Brw, CPS, Lim, TMI, PB I/O upgrades
Simulator Strategic Projects (cont.)

✔ 2016 – 2020, $15M

- Lim, TMI, Las, CPS T/H upgrades
- Dre, Las, Lim, PB, QC Containments
- NMP1,2, PB Electrical AC
- Bw, By, CPS, Dre, Lim. PB Electrical DC
- Misc. BOP models
T/H Upgrades to THOR3G

✓ Byron, Braidwood, Dresden, LaSalle, Quad Cities
  • Upgrade from THOR
  • 1998 – 2000 with a rehost
    − Coupled with Studsvik Ramona core model

✓ Limerick
  • Upgrade from ATHENA, 1994
    − S3R implemented 2003

✓ TMI
  • Upgrade from L3 ANTHEM, 2004
    − Keeping COMET core

✓ Peach Bottom and Oyster Creek THOR/S3R
✓ NMP and CC already THOR/S3R

Exelon Simulator Software Management
Exelon T/H Upgrades

12 month upgrades spaced over 4 years
Eliminates annual budget restrictions
Accommodates training schedules better

Exelon Simulator Software Management
Project Management

✓ IT Project Methodology
  • Based on industry standards and best practices
  • Software development life cycle
  • Closely aligns with site methodology

✓ Simulator project lessons learned database

✓ 3 PMI PMPs and 6 analyst capable of PM

✓ Detailed contract specifications
  • Requirements matrix
  • Testing
  • Competitive bids

✓ Status monitoring
General Upgrade Risks

✓ Training Participation
✓ Schedule adherence
✓ Simulator availability for SAT
✓ Lack of timely approval of deliverables
✓ Legacy model problems
✓ Configuration management
Questions?

Braidwood Simulator

Dresden Simulator

Exelon Core and T/H Upgrades