



Managing Nuclear Safety at Point Lepreau

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23



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Point Lepreau G.S.

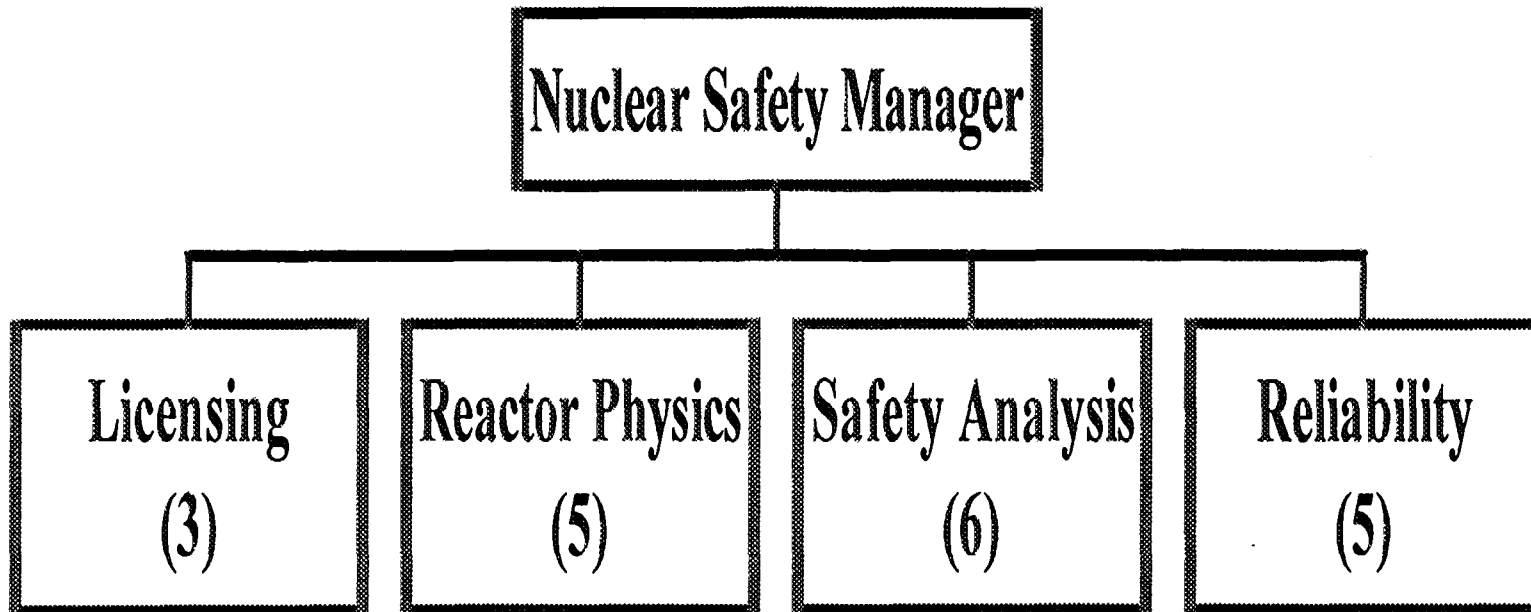
- 680 MWe CANDU
- In-service Feb. 1983
- Lifetime capacity factor 85.3% to Mar. 97
- Supplies 35% of Provincial electricity
- Staff of 485 - all support staff at site
- O&M Budget \$63M/y

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Nuclear Safety Unit



25

Technical Issues

- Station ageing
 - feeders, boiler tubes, pressure tubes
- Definition of the safe operating envelope
- Design configuration management
- Code validation
- Safety analysis and engineering standards



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Regulatory Issues

- Action items - Specific & Generic
- Probabilistic Safety Assessment
- Event investigation & root cause analysis
- Periodic Safety Reviews
- Prioritization of regulatory issues
- Cost-benefit assessments



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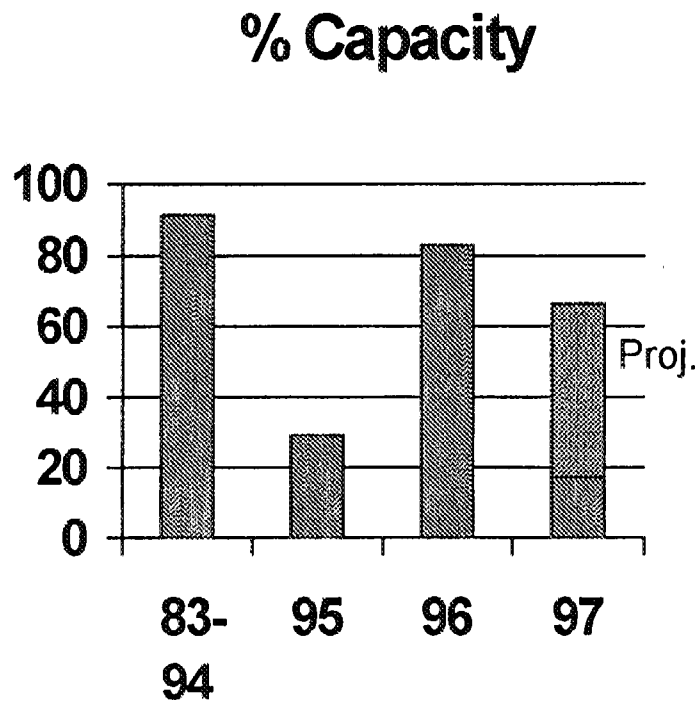
Human Performance Issues

- Goals, measures and targets
- Expectations and accountability
- Supervisory training & development
- Safety culture
- Configuration management
- Quality of operations and maintenance



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Recent Performance



- **1995 Outages**
 - SLAR (6 months)
 - Boiler cover (3 mo.)
- **1996 Outage**
 - EWS Header corrosion (2 mo.)
- **1997 Outages**
 - Channel S08 unlocked (3 mo.)
 - Planned - Oct (1 mo)



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Diagnosis of Obstacles to Success

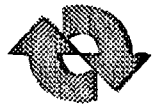
- Goals, measures and targets not well defined
- Resources, programs and management methods not derived from targets and task analysis
- Backlogs from longer outages
- Loss of experience through staff re-allocations
- Production reputation discouraged in-depth performance evaluation



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Station Improvement Program

- Strategic plan with goals, measures, targets
- Design assurance program
- Configuration assurance program
- Improve event root cause analysis
- Improve work processes
- Improve materiel condition



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Configuration Assurance Program

- Review of station systems to verify design configuration
- Review of previous configuration events for generic causes
- Review of previous outage work
- System Engineer reviews and system walkdowns
- Configuration Assessment Team review
- About 800 work orders undertaken in 1997 outage
- Re-established design benchmark and configuration assurance

Safety Culture Workshops

- Two-day program for all station staff
- Focus on experiences of others
- Review of key events at PLGS
- Feedback:
 - Improve communication
 - Expectations and accountability
 - Field supervision and coaching

Event Investigations - TapRootT

- Currently implementing TapRootT method
- Systematic approach based on:
 - events and conditions charting
 - selection of causal factors
 - analysis of specific and generic root causes
- Identifies institutional and human performance contributors



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We want to achieve consistency in:

Safety, Quality, Productivity

Nuclear Safety Focus

- More emphasis on operational and human performance issues
- Better communicate nuclear safety awareness to station staff
- Increase nuclear safety involvement in resolving station safety issues
- Balance short and long term views



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107



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108