

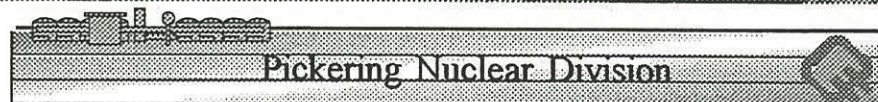
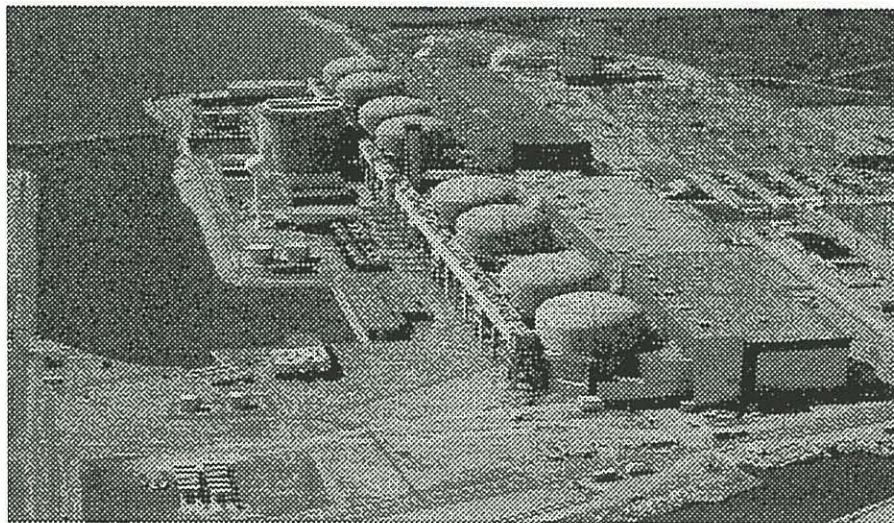
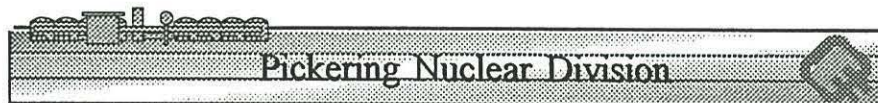
# Pickering's Return to Operational Excellence

**Ken Talbot**

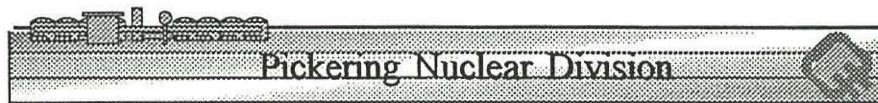
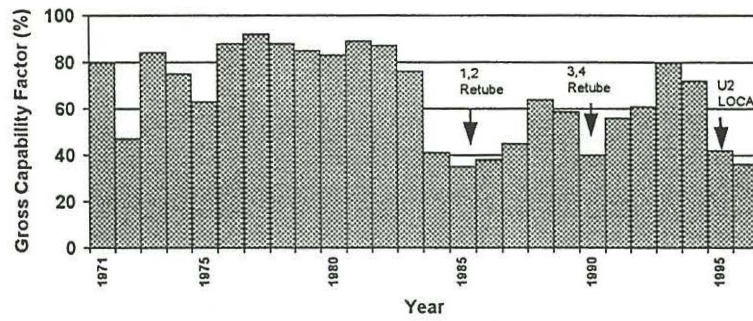
**Vice President, Pickering Nuclear**

Ontario Hydro

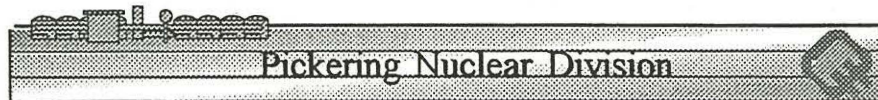
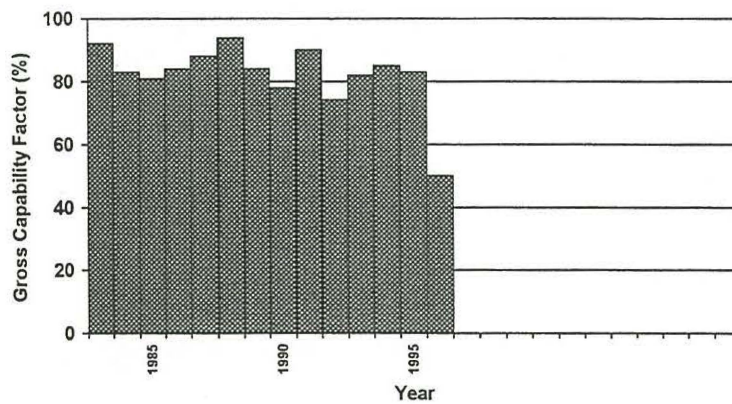
June, 1997



## Pickering A Historical Performance



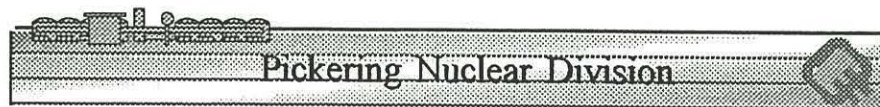
## Pickering B Historical Performance



## Pickering Performance Problems

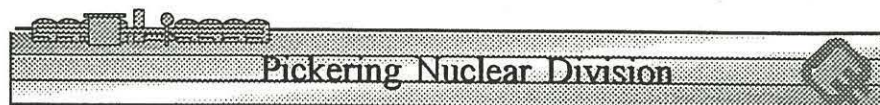
- Material Condition
- Managed Processes
- Human Resources
- Culture

*The technology did not fail us, we failed it!*



## Material Condition

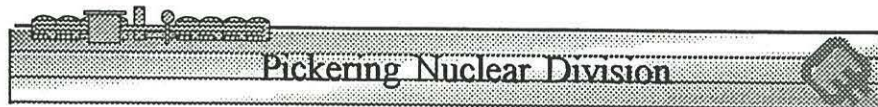
- Focus on production
  - Outage cancellations
  - Outage scope reductions
- Configuration management
  - change culture (eliminate the hazard)
- Major incident focus
  - Retubing
  - LOCA
- Lack of sustaining capital program
  - Poor facility and equipment condition





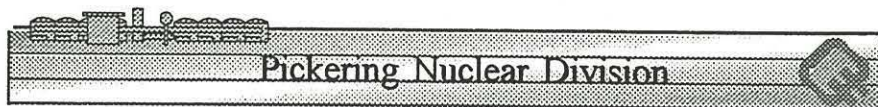
## Managed Processes

- **Lack of attention to assessments**
  - Ineffective Quality Assurance Program
  - Peer Evaluations Ignored
- **Inward Focus**
  - No benchmark
  - Slipping standards
  - Failure to even learn from other OH sites



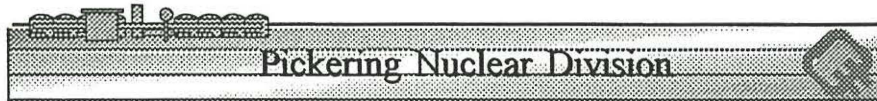
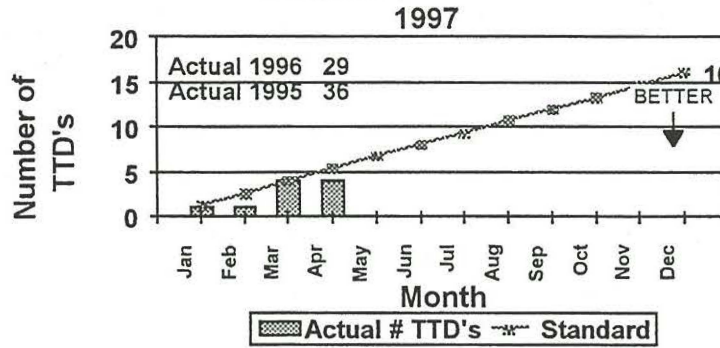
## Managed Processes

- **Focus on technology, not management**
  - Inefficient processes for work management
  - inadequate compliance monitoring at all levels
- **High level indicators did not work**
  - Special Safety System Performance/Year 90-96
  - OP&P Non-compliance/Year
  - RP Violations 1994/95/96

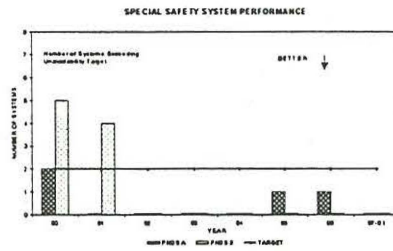


# Employee Safety Performance

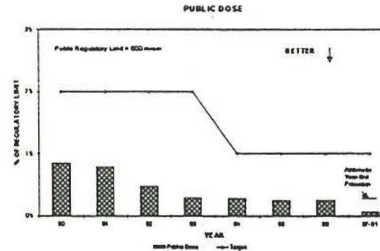
## Temporary Total Disabilities



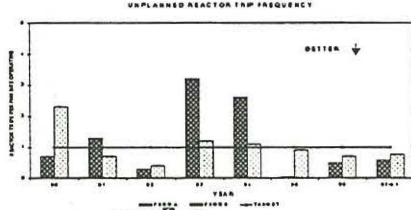
### SPECIAL SAFETY SYSTEMS



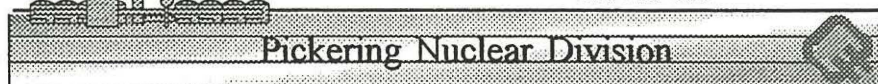
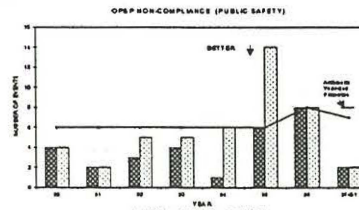
### DOSE TO PUBLIC



### REACTOR TRIPS

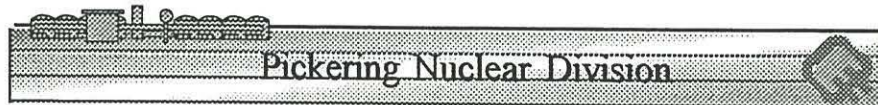


### OP&P NON COMPLIANCE



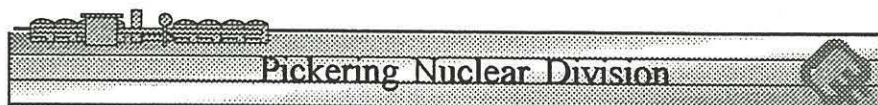
## Human Resources

- **Supervision neglected**
  - Selection and training at all levels
  - Communication problems
- **Resource management inadequate**
  - Resource integration internally
  - No succession planning
  - Impact of corporate downsizing
  - Inflexible contractual agreements
- **Management process flawed**
  - Roles & responsibilities unclear
  - Inadequate accountability



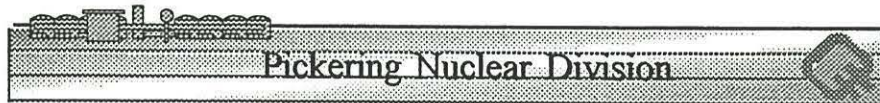
## Culture

- **Non conservative decision making**
  - Production focus
  - Lost sight of fundamentals
- **Work arounds a norm**
- **Procedural compliance not a norm**
  - Radiation protection procedures
  - Flawed operating & maintenance procedures
- **Entitlement culture**
  - Lack of supervisory control
- **Lack of personal commitment**



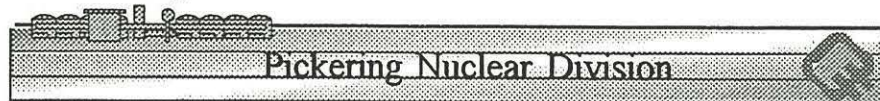
## Quality of Work Process Development

- QOW Initiative initiated in September 1995
- Response to weaknesses identified by 1995 PEER Evaluation and concerns raised by the Atomic Energy Control Board



## Pickering Quality of Work

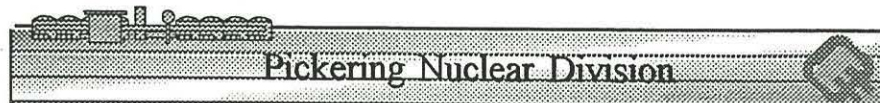
- Material condition improvements
  - Backlog reduction
  - Facility improvements
  - Housekeeping
- Managed process improvements
  - Overall management process
  - Procedural compliance
  - Rigor in work planning & execution
- Human resource
  - Supervisory excellence
  - Training
- Culture
  - Communications
  - Organizational effectiveness





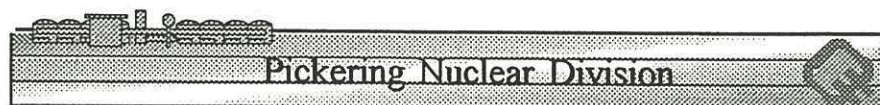
## Recovery Kickstart

- Station Outage
- Readiness for Service Process
- Restart Monitoring
- Continuous Operational Improvement



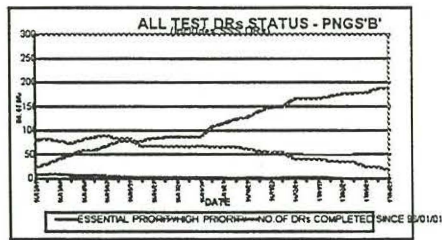
## Current Pickering Priorities

- All work activities
  - Employee safety
  - Public safety
  - Production
  - Cost
- Resource allocation priorities
  - Safe operation of running units
  - Key Quality of Work Initiatives
  - Respond to forced outages
  - Planned outages

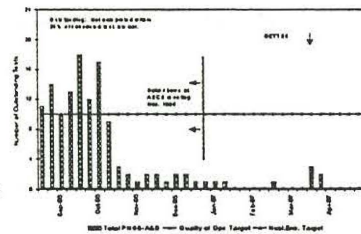




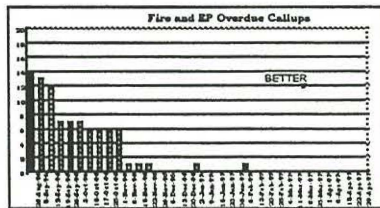
#### Quality of Operating Procedures



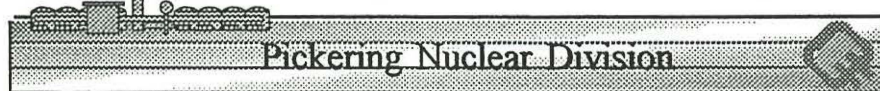
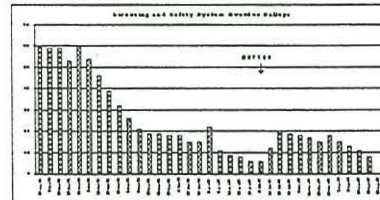
#### Safety System Tests



#### Fire and Emergency Preparedness Call Ups



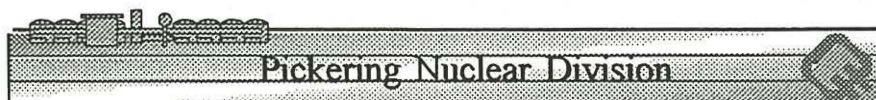
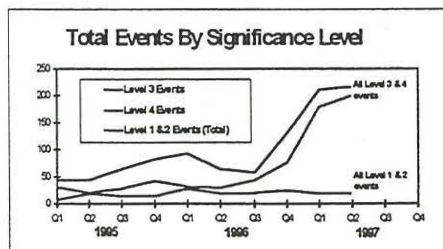
#### Safety Support & Special Safety System Callups Overdue

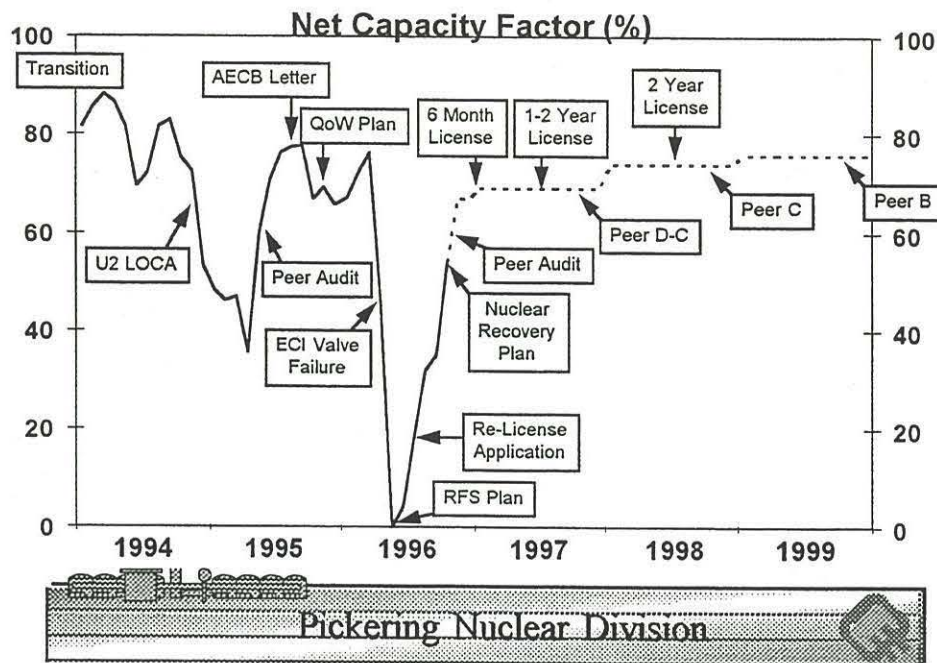


#### Improved Event Analysis

- Event Significance Levels 1, 2, 3, 4  
>> AECB R-99 Reports -- Can be Level 1, 2, or 3
- Level 1 & 2 -- Significant Events
- Level 3 -- Adverse Conditions, Precursors
- Level 4 -- Minor Conditions, for Trend Analysis

#### Event Reporting





## Post 2000 Performance

- Safety - Peer/Wano  $\geq$  B/2 rating
- Safety -  $\leq 4$  Lost time days/200,000 hrs worked
- Production -  $\rightarrow$  80% Capability Factor
- Cost -  $\leq 1.5$  ¢ /KWhr Production Cost
- Cost -  $\leq 1.75$  ¢/KWhr Production & Sustaining Capital Costs
- Cost -  $\leq 3.0$  ¢/KWhr Total Cost

