Point Beach Nuclear Plant
Potential Common Mode Failure
Auxiliary Feedwater

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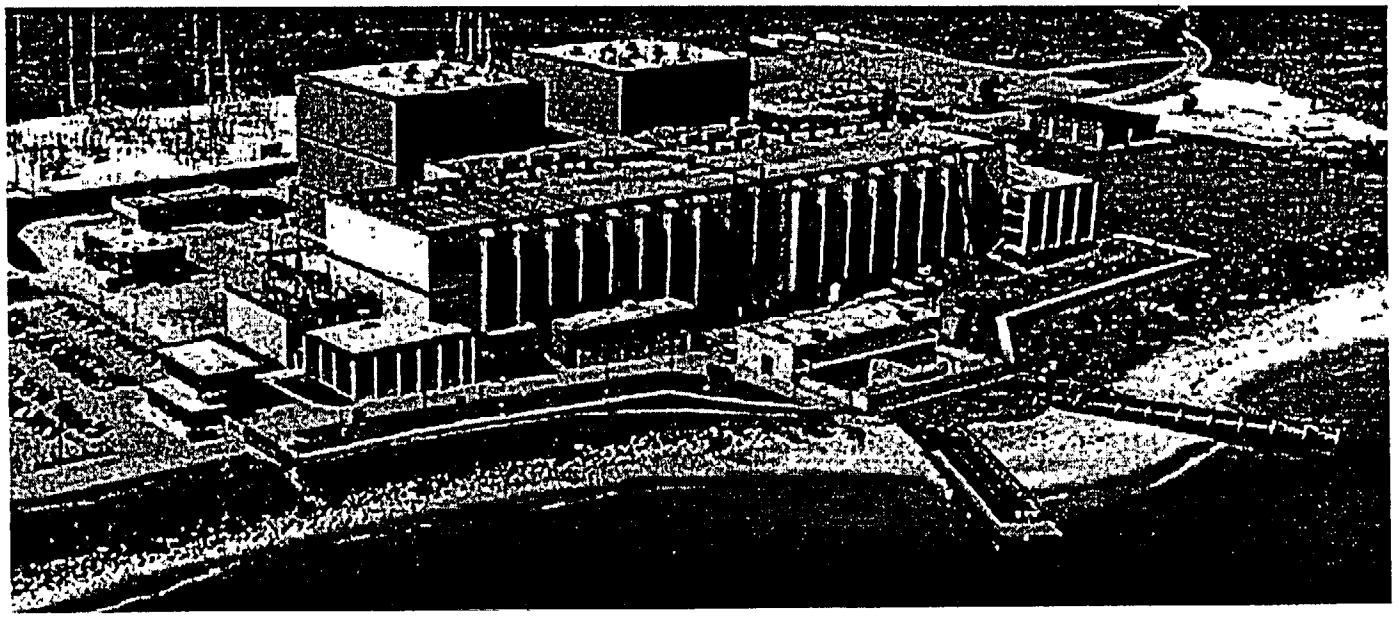
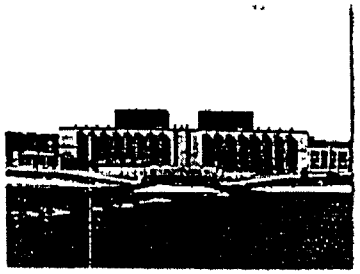


October 31, 2002



INTRODUCTION

Fred Cayia

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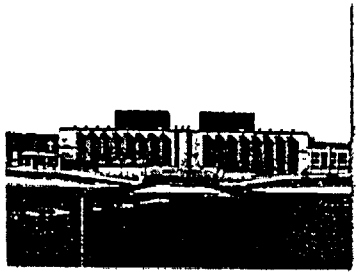

AGENDA

- Introduction (Fred Cayia)
- Response (Ken Peveler)
- System Design/Orifice Design (Tom Kendall)
- Root Cause Status (Rich Flessner)
- Immediate Corrective Actions (Duane Schoon)
- On-Line Risk Assessment (Jim Masterlark)
- Incident Investigation (Stu Thomas)
- Closing Comments (Fred Cayia)

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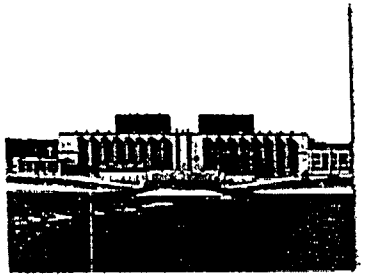
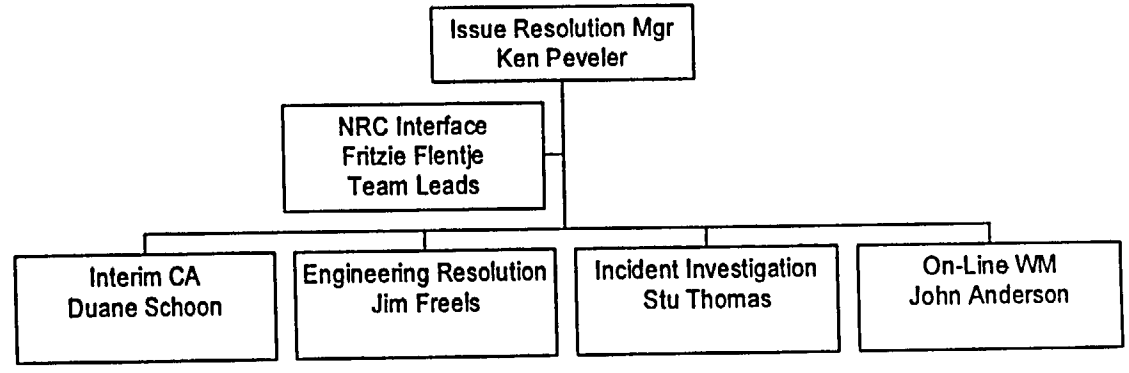
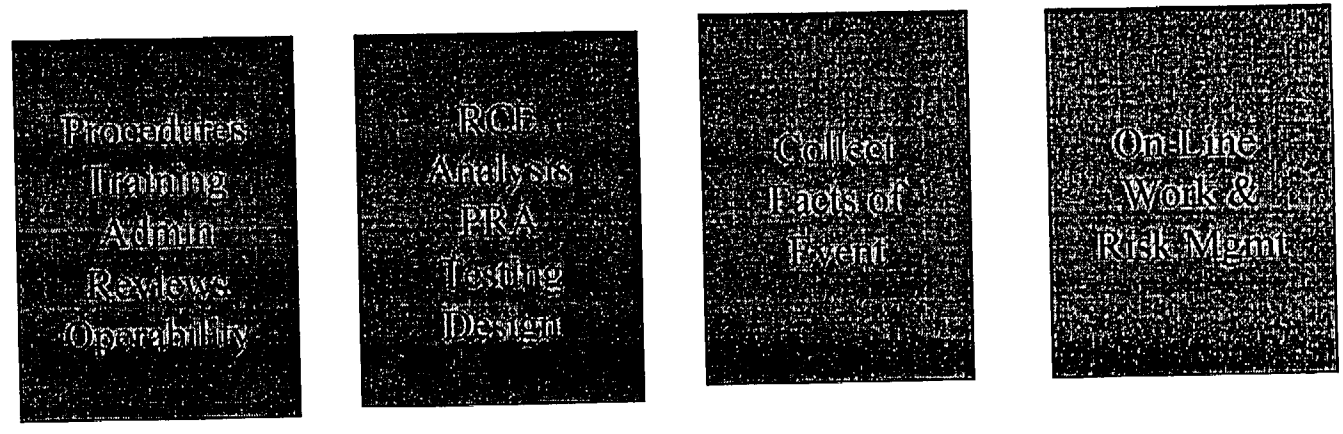


ORGANIZATIONAL RESPONSE





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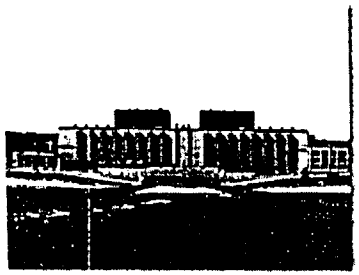

AFW SYSTEM DESIGN/RECIRC LINE ORIFICE DESIGN

Tom Kendall

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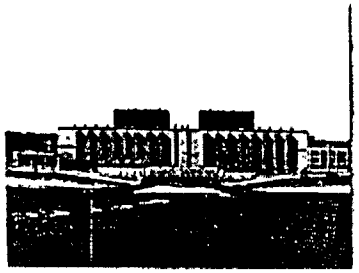

AFW DESIGN BASIS

- Supply water to SG to remove decay heat and replenish SG inventory
- Safety-Related Functions:
  - Supply FW during accidents with main steam safety valve opening
  - Supply FW during accidents which require rapid RCS cooldown
  - Isolation capability

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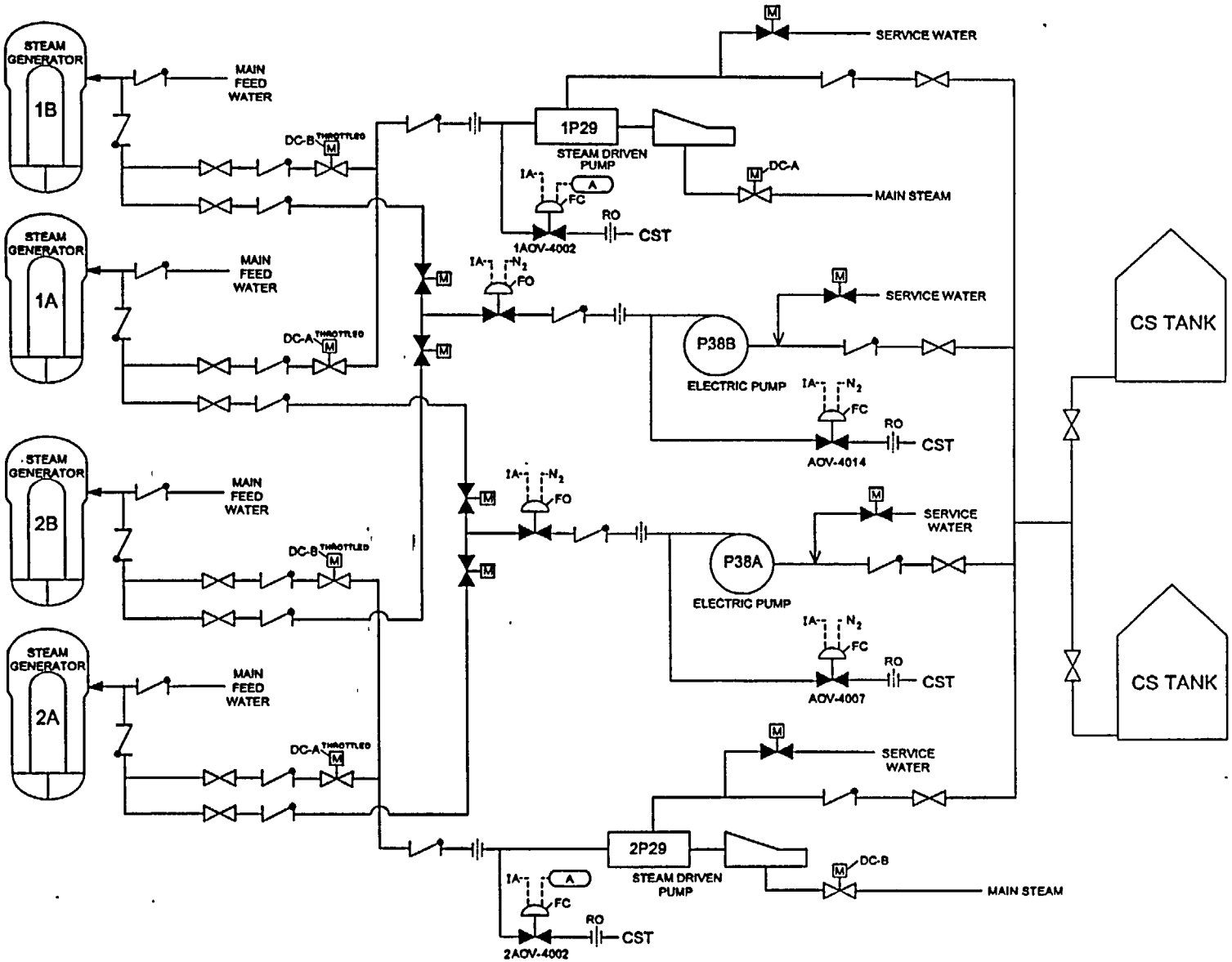
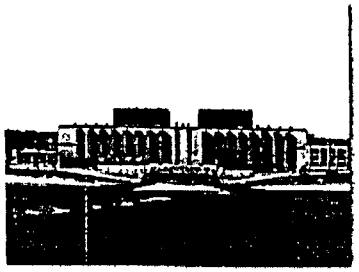
AFW System - Major Flow Paths





ROOT CAUSE EVALUATION STATUS

Rich Flessner

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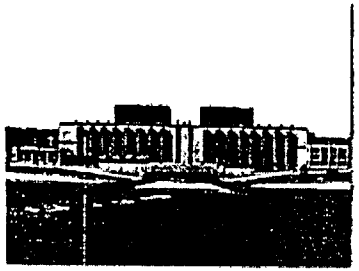

ROOT CAUSE TEAM

- Team Leader – Engineering Processes
- Team Member – Engineering Processes
- Team Member – AFW System Engineer
- Team Member – Design Engineer (KNPP)

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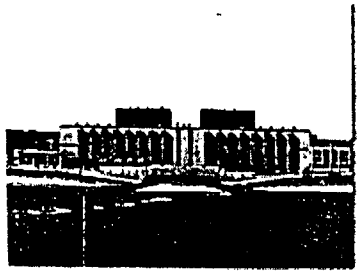

ROOT CAUSE CHARTER

- Determine the following:
  - Timeline of key events
  - The root and contributing causes of why the condition exists, including any potential human performance issues
  - Why the problem was not identified previously

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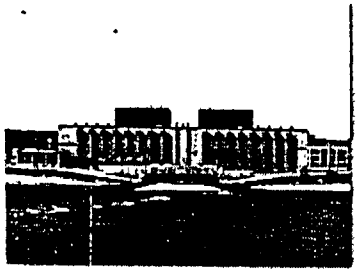

ROOT CAUSE CHARTER

- Make recommendations for:
  - Correcting the problem, including any remedial actions
  - Preventing recurrence of the problem
  - Applicability of the root cause to other areas (extent of condition), including verification that a safety-related AFW recirculation flow path exists for the postulated failure modes

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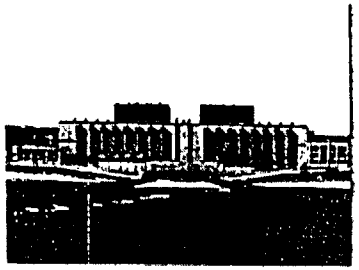

RCE INVESTIGATION

- SE/SCR for MR 99-029*A-D recognized potential for SW plugging of RO
- Plugging not considered a concern because recirc flow not required
- 3 AFW pump recirc lines modified with new design RO prior to decision to upgrade recirc line to have a safety-function to provide flow to CST
- 1 AFW pump recirc line modified after recirc line safety function was changed

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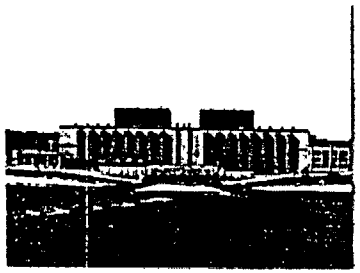

IMMEDIATE CORRECTIVE ACTIONS

- Immediate Actions
  - Information tags placed
  - Shifts briefed and trained on issue
  - Procedure changes
  - Notification made to NRC
  - Root Cause Evaluation initiated
    - Multi-discipline RCE Team

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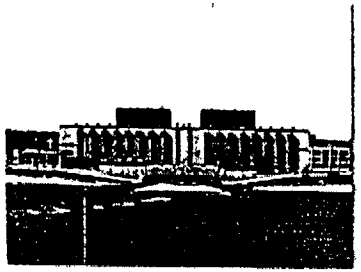

ON-LINE RISK ASSESSMENT

Jim Masterlark

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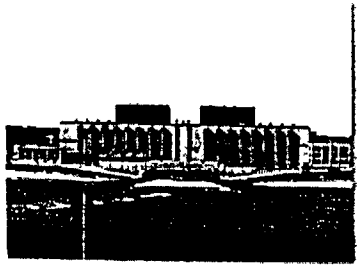

On-Line Risk Monitoring

- Plant is currently at an elevated risk level due to additional Operator Actions.

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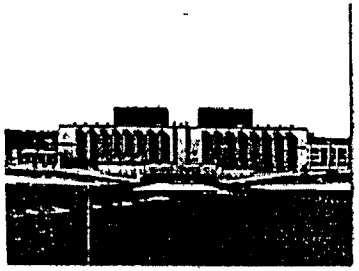

On-Line Risk Monitoring

Continued

- Performed a Bounding Risk Evaluation
  - Large Uncertainty in Failure Probabilities
  - Bound Risk to ensure that we do not underestimate risk associated with both planned and unplanned configurations
  - Performed Simulator Runs and Operator/Training Interviews to assist with evaluation of Human Error Probabilities

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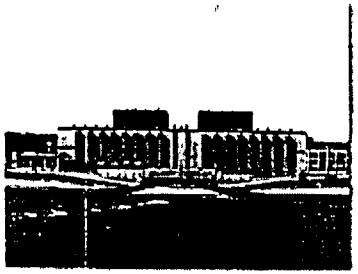

On-Line Risk Monitoring

Continued

- Analysis Provides an Upper Bound for Risk
  - Assumes high probability for plugging orifice if Service Water is used
  - Does not account for water treatment for CST make-up. This would reduce probability for need to use raw Service Water for some transients/accidents.

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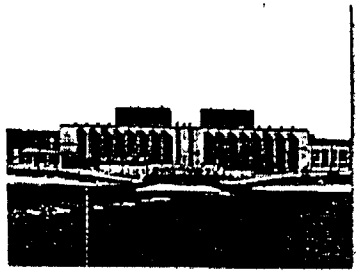

On-Line Risk Monitoring
Current Risk

- Current Risk Level is Yellow (safety monitor)
- Monitoring Planned plant activities to evaluate impact on risk
- Will receive appropriate approvals and take appropriate compensatory measures as needed.
- Risk model currently credits temporary information tags. Model will be updated as procedure changes are implemented.
- Expect risk to be near Green/Yellow threshold after all procedure changes are complete.

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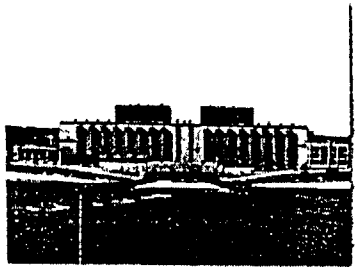

INCIDENT INVESTIGATION

Stu Thomas

- Investigation of the maintenance and post-maintenance testing of P38A continues.
- Based on initial discussions and written statements of both operators and maintenance personnel, maintenance and testing activities were performed in accordance with procedures.

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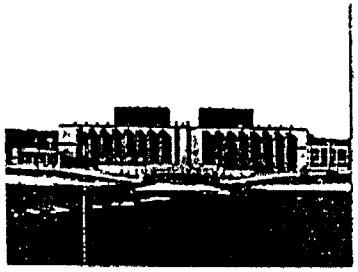

CLOSING COMMENTS

Fred Cayia

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