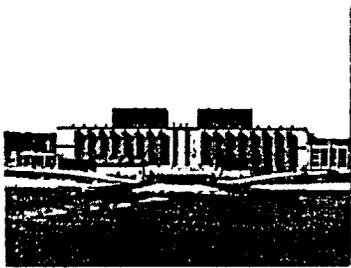


PRELIMINARY
EVENT TIMELINE
10/23/02

1821A

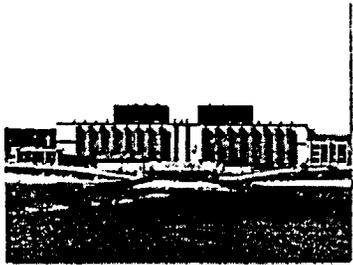
- 0400 – P-38A OOS for scheduled maintenance – TSAC entered
- Day Shift – Maintenance performed on P-38A AFW Pump
 - AF-38 valve replacement
 - AF-4012-O diaphragm change
 - P-38A seal replacement
 - ICP 6.086 flow calibration



EVENT TIMELINE

10/24/02

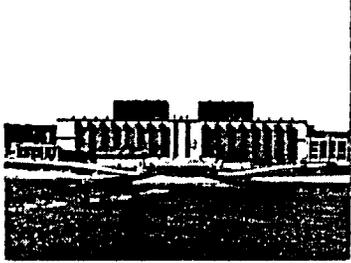
- 0110 – Commenced IT-10
- 0159 – Started P-38A
- 0212 – Secured P-38A
 - Indicated flow was 64.5 gpm
 - Acceptance criteria was 70 gpm
- 0215-0500 – I&C contacted and flow transmitter was revented and recalibrated; ran P-38A and flow still only 65 gpm



EVENT TIMELINE

10/24/02

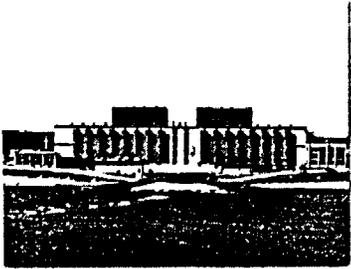
- 0323 – CAP029908 initiated on inadequate recirculation flow
- 0400 – Engineering contacted; Operations informed pump is OK and investigation will begin
- 0500-0700 – Engineering postulated potential failure modes
- 0630 – BOP/NSSS Engineering Supervisor designated lead for issue



EVENT TIMELINE

10/24/02

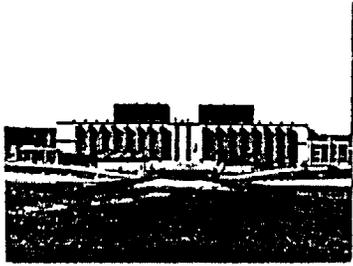
- 0830 – Meeting with Engineering, Maintenance, Shift Manger
 - Action plan established to investigate
- 1030 – Installed UT flow meter on recirc line and ran P-38A; installed FE indicates 65 gpm and UT indicates 60 gpm
- 1100-1300 – RO disassembled and found to have rust-like particles blocking some orifice holes (24 of 54 outer holes had some degree of blockage)



EVENT TIMELINE

10/24/02

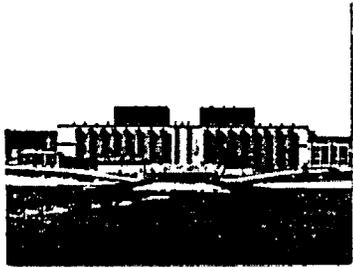
- 1100-1300 cont. – Boroscope inspection of upstream piping shows no evidence of FME
- 1700 – 50.59 screening completed for temp change to IT-10 acceptance criteria
- 1830 Meeting with Shift Manager, Maintenance, and Engineering to review plans



EVENT TIMELINE

10/24/02

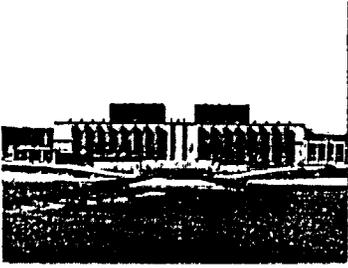
- 2115-2117 – Ran P-38A per OI-62A
 - Flow was 75 gpm
- Evening – CST/AFW samples normal



EVENT TIMELINE

10/25/02

- 0008-0050 – Ran P-38A per IT-10
- 0155 – Commenced IT-10C for P-38A
- 0216 – P-38A RTS and TSAC exited
- 0300-1255 – Additional tests run on other AFW pumps; all SAT
- 1030 – ACE initiated to evaluate inadequate flow
- 1600 – Operations requests short term action plan from Engineering by 11/1

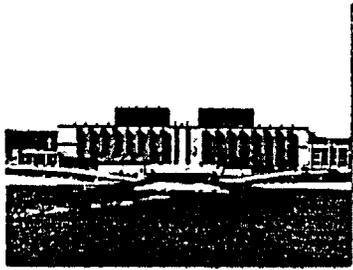


EVENT TIMELINE

10/28/02

- 1100 – Engineering held meeting to brainstorm problem
 - What is material
 - Origin of material
 - Pump tolerances
 - SW strainer size
 - Need for OD for SW issue
 - Previous silt study
 - Obtain details of RO

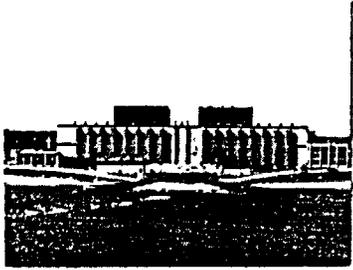
Afternoon – Operations and Engineering management briefed on issue



EVENT TIMELINE

10/29/02

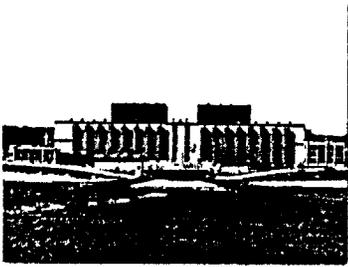
- 0900 - Meeting with Engineering Director
 - Conclude system operation would be adversely affected by SW plugging RO
 - Licensing and Operations briefed
- 0945 – Management Meeting identified immediate actions to be taken
 - Crew briefings
 - NRC notifications
 - Procedure changes (102)
 - Temporary information tags



EVENT TIMELINE

10/29/02

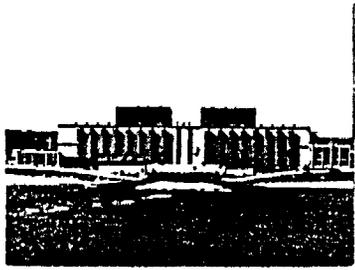
- 1027 – Declared all 4 AFW pumps OOS
- 1110 – Crew briefed on AFW recirc flow issue
- 1210 – Posted temporary information tags for all 4 AFW pumps
 - Secure pumps if min flow not maintained
- 1241 – CAP029952 initiated on potential common mode failure of AFW recirc lines
- 1305 – All 4 AFW pumps RTS based on compensatory measures taken



EVENT TIMELINE

10/29/02

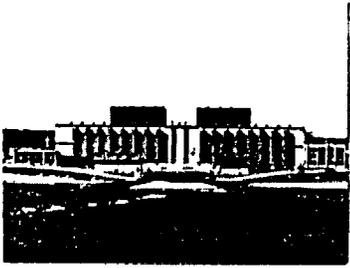
- 1410 – Engineering Director forms RCE Team
 - RCE expertise
 - AFW System Engineer
 - KNPP Design Engineer
- 1525 – Need for OD discussed between Engineering and Operations
- 1530-1630 – Simulator runs performed to evaluate effect of compensatory measures on risk



EVENT TIMELINE

10/29/02

- 1711 – NRC 8 hour notification made
- 1830 – Operations request an operability determination for CAP029952
- 2030 – Safety Monitor transitions to Yellow based on PRA Group input



EVENT TIMELINE

10/30/02

- 0700 – Initial RCE Team Meeting
- 1030 – Qualifications suspended for 3 individuals
- 1100 – Notified on NRC Special inspection
- 1250 – RCE Charter Approved
- 1850 – Operability Determination approved and accepted by Operations