UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

50-237/249
50-254/265

April 1, 1998

LICENSEE: COMMONWEALTH EDISON COMPANY (ComEd)

FACILITIES: Quad Cities Nuclear Power Station, Units 1 and 2
Dresden Nuclear Power Station, Units 2 and 3

SUBJECT: SUMMARY OF MEETING CONCERNING QUAD CITIES AND DRESDEN LICENSING ACTIVITIES

On March 4, 1998, the staff met with ComEd to discuss licensing activities regarding the Dresden and Quad Cities Nuclear Power Stations. A list of attendees is provided as Enclosure 1.

The objective of the meeting was to discuss active as well as future licensing activities. The discussion centered around the status of open activities under review by the staff and future actions under development by ComEd. Communications between the staff and ComEd were discussed and an assessment was provided by the staff of the licensee's performance regarding licensing activities.

The licensee provided a short presentation of their ongoing study of the loss of the Dresden lock and dam. ComEd addressed a dam failure coincident with a Loss of Coolant Accident (LOCA) and dam failure during normal plant operation as discussed in the Updated Final Safety Analysis Report (UFSAR) section 9.2.5. The licensee is proposing a license amendment to eliminate a dam failure coincident with a LOCA as a credible accident from the UFSAR.

The licensee also discussed their plans regarding the resolution of the post-LOCA reactor building temperature concerns. Dresden and Quad Cities had reconstituted the design basis reactor building temperature calculation and determined that maximum temperatures may be higher than previously assumed for the environmental qualification of equipment. The licensee is presently developing a final resolution of this issue. An initial operability evaluation has been performed for Dresden. An operability evaluation has not been performed for Quad Cities station at this time because it is not operating. Near term actions planned at Dresden include replacing some electrical components; longer term actions involve installing additional air handling units for reactor building cooling. The licensee also anticipates preparing a Justification for Continued Operation for Dresden for the period after the current operability evaluation expires at the end of April 1998.

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All active licensing activities were addressed with the licensee to discuss the status of the staff's review, the schedule for a response from the licensee on a request for additional information or the expected completion date for the licensing action.

A discussion was held concerning communications between ComEd and the NRR licensing group. It was noted that the quality of communications between these organizations were not consistent between the six ComEd sites and the NRR projects staff. ComEd is working on a program to improve the quality of communications between all the sites, the Downers Grove office and the NRC staff.

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An assessment was provided to ComEd on the licensing activities for Dresden and Quad Cities. At Quad Cities the submittals from ComEd have been generally good. They usually provided sufficient information for the staff to provide an evaluation. Several Requests for Additional Information (RAI) were required on complex issues such as seismic qualification of electrical and mechanical equipment (unresolved safety issue A-46), IPEEE, and pressure locking and pressure binding of power operated gate valves (GL 95-07). Two issues needing closer attention by ComEd include a response needed for a RAI issued 05/28/97 for GL 95-07 and closure of R.G. 1.97 issues. Inadequate review of two submittals was also noted where the "Summary Report of Changes, Tests and Experiments Completed" dated October 31, 1997, included two safety evaluation descriptions that incorrectly stated there was a reduction in the margin of safety and the "Q2C15 Core Operating Limits Report, Revision 1" dated November 4, 1997, included propriety information that was not requested to be held in confidence.

At Dresden, the submittals from ComEd have generally been satisfactory, although a few have been very good and a few were not well done. A few submittals, such as amendments 156/151 which removed the 24/28 Vdc batteries and distribution system from technical specifications, would have benefitted from a concise summary since they gave rather complicated descriptions of simple issues. Two issues needing closer attention from ComEd include documenting any changes in commitment dates and documenting closure of R.G. 1.97 issues.

A list of attendees is provided as Enclosure 1. A copy of the visual aids used by ComEd at this meeting outlining the licensee's presentation of loss of the Dresden lock and dam is provided as Enclosure 2. A copy of a flow chart of actions the licensee is taking with respect to the post-LOCA reactor building temperature concerns is provided as Enclosure 3.

Robert M. Pulsifer, Project Manager
Project Directorage III-2
Division of Reactor Projects
Office of Nuclear Reactor Regulation

Docket Nos. 50-237, 50-249,
50-254, 50-265

Enclosures: 1. List of Attendees
2. Licensee's Visual Aids
3. Flow Chart

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Orig. signed by
Robert M. Pulsifer, Project Manager
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March 4, 1998, Meeting
Between Commonwealth Edison Company and NRC
Dresden/Quad Cities Licensing Activities

Name	Company
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Robert Pulsifer	NRC/NRR
Larry Rossbach	NRC/NRR
Mark Ring	NRC/RIII
John Fox	ComED/Dresden
Steve Tutich	ComEd/Dresden
Linda Weir	ComEd/Dresden
John Nosko	ComEd/Dresden
R. D. Freeman	ComEd/Dresden
Tom Petersen	ComEd/Quad Cities
Chuck Peterson	ComEd/Quad Cities
Frank Spangenberg	ComEd/Dresden
Mark Wagner	ComEd
Tony Fuhs	ComEd
Denny Farrar	ComEd
Bob Rybak	ComEd

ENCLOSURE 1

Loss of Dresden Lock & Dam

Licensing Basis Issues and Proposed Resolution

ENCLOSURE 2

ISSUES

- Dam Failure Coincident With a LOCA
  - UFSAR Section 9.2.5.3.2
- Dam Failure During Normal Plant Operation
  - UFSAR Section 9.2.5.3.1
  - IPEEE Seismic

Dam Failure Coincident With a LOCA

- UFSAR Section 9.2.5.3.2 Description
  - Earthquake, loss of dam, loss of Class II systems, loss of offsite power
  - Water level drops to 495'
  - CCSW intake pipes in Bay 13 at 500'
  - Refuse pit pumps needed to refill Bay 13
    - » Install Stop Logs
    - » Open CW Drain Valves
    - » Connect Refuse Pump Motors to DG

Dam Failure Coincident With a LOCA

- UFSAR Section 9.2.5.3.2 Description (cont.)
  - 2 Hours Before Containment Cooling is Needed, Only 1 CCSW Pump Used
- ☹ Discrepancies With UFSAR Description
  - All existing LOCA Analyses Are Based on:
    - » Containment Cooling Within 10 Minutes, Not 2 Hours
    - » 2 CCSW Pumps, Not 1

Dam Failure Coincident With a LOCA

Proposed Resolution

- Licensing Amendment to Eliminate Dam Failure Coincident With a LOCA as a Credible Accident (i.e. remove from UFSAR)
  - » AEC question was based on dam failure from earthquake
  - » Dam was evaluated for earthquakes to 0.05g pga
  - » Probability of an earthquake > 0.05g occuring in same 30 day period as LOCA is 1.6E-07/year (new LOCA frequencies will further decrease it)

Dam Failure Coincident With a LOCA

- Standard Review Plan
  - » <1.0E-07 is incredible
  - » <1.0E-06 is incredible is qualitative arguments indicate that realistic probability is lower

- Systematic Evaluation Program
  - » Review criteria for UHS included ability to handle LOCA in one unit and safe shutdown in the other
  - » Dam failure coincident with a LOCA was not evaluated

Dam Failure During Normal Plant Operation

- UFSAR Description
  - Earthquake, loss of dam, loss of Seismic Class II systems, loss of offsite power
  - Rapid decrease in pool level to 495'
  - Loss of condenser vacuum then scram
  - Isocondenser actuates

Dam Failure During Normal Plant Operation

- UFSAR Description (cont'd)
  - Make-up to Isocondenser per:
    - » Diesel-driven make-up pumps from clean demin tank (not in orig. FSAR)
    - » Clean demin water pumps from clean demin tank
    - » Condensate transfer pumps from CST's
    - » Diesel-driven fire pump from UHS
    - » Service water pumps from UHS (not in original FSAR)

Dam Failure During Normal Plant Operation

- UFSAR Description (cont'd)
  - Failed parts of fire protection system piping can be isolated and meet Seismic Class I requirements
  - Service water pump could be used to cool RBCCW and achieve cold shutdown via the shutdown cooling heat exchangers

Dam Failure During Normal Plant Operation

- UFSAR Description (cont'd)
  - Fire pump suction is at elevation 492'-0"
  - Diesel generator cooling water pump suction is at elevation 487'-8"
  - 2.5 million gallons required by each unit over a 30-day period (implies that water in the Ultimate Heat Sink must eventually be used)

Dam Failure During Normal Plant Operation

- ☹ Discrepancies With UFSAR
  - None of the Isocondenser make-up sources are Seismic Category I
  - Suction strainer for fire pump becomes uncovered at 495'-10", not 492'
  - Top of service water pump inlets is 493'-6.5" but no NPSH or vortex calculations exist
  - No procedure to isolate failed FP piping

Dam Failure During Normal Plant Operation

- Proposed Resolution
- UFSAR Change Per 10CFR50.59
  - Short-Term Make-Up to Isocondenser
    - » SEP did not credit fire pump with immediate make-up capability (time available following an earthquake is insufficient to isolate failed FP piping)
    - » Redundancy and diversity of other makeup sources provides a high level of confidence that at least one source will be available following a seismic event although none of these are Seismic Class I

Dam Failure During Normal Plant Operation

- Long-Term Make-Up to Isocondenser
  - » Bay 13 stop logs and refuse pumps are needed to use diesel-driven fire pump
  - » Service water pumps offset any decreased reliability of fire pump
  - » Generate NPSH and vortex calculations for service water pumps
  - » Portable gasoline powered pumps for each unit which draw from the canals and pump to the isocondenser system will further improve reliability of long-term make-up source

Dam Failure During Normal Plant Operation

- IPEEE Seismic
  - CCSW Selected As Decay Heat Removal Path for Safe Shutdown
    - » It takes 2 hours to install stop logs, align CW drain valves, and align refuse pumps to refill Bay 13

Dam Failure During Normal Plant Operation

- ☹ Discrepancies With IPEEE Submittal
  - Refuse pumps and support equipment not on SQUG list (NTS exists to perform)
  - Piping and breaker for refuse pump cannot be SQUGed
  - No calculation exists to demonstrate that 2-hour delay in establishing CCSW is acceptable
  - No tests have been performed to prove that CW drain valves can deliver the required flow without the CW pumps on
  - NRC concern about leakage though stop logs

Dam Failure During Normal Plant Operation

- Proposed Resolution

- Revise IPEEE submittal to indicate that the isolation condenser must be used to achieve safe shutdown following a dam failure

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Wednesday, March 4, 1998

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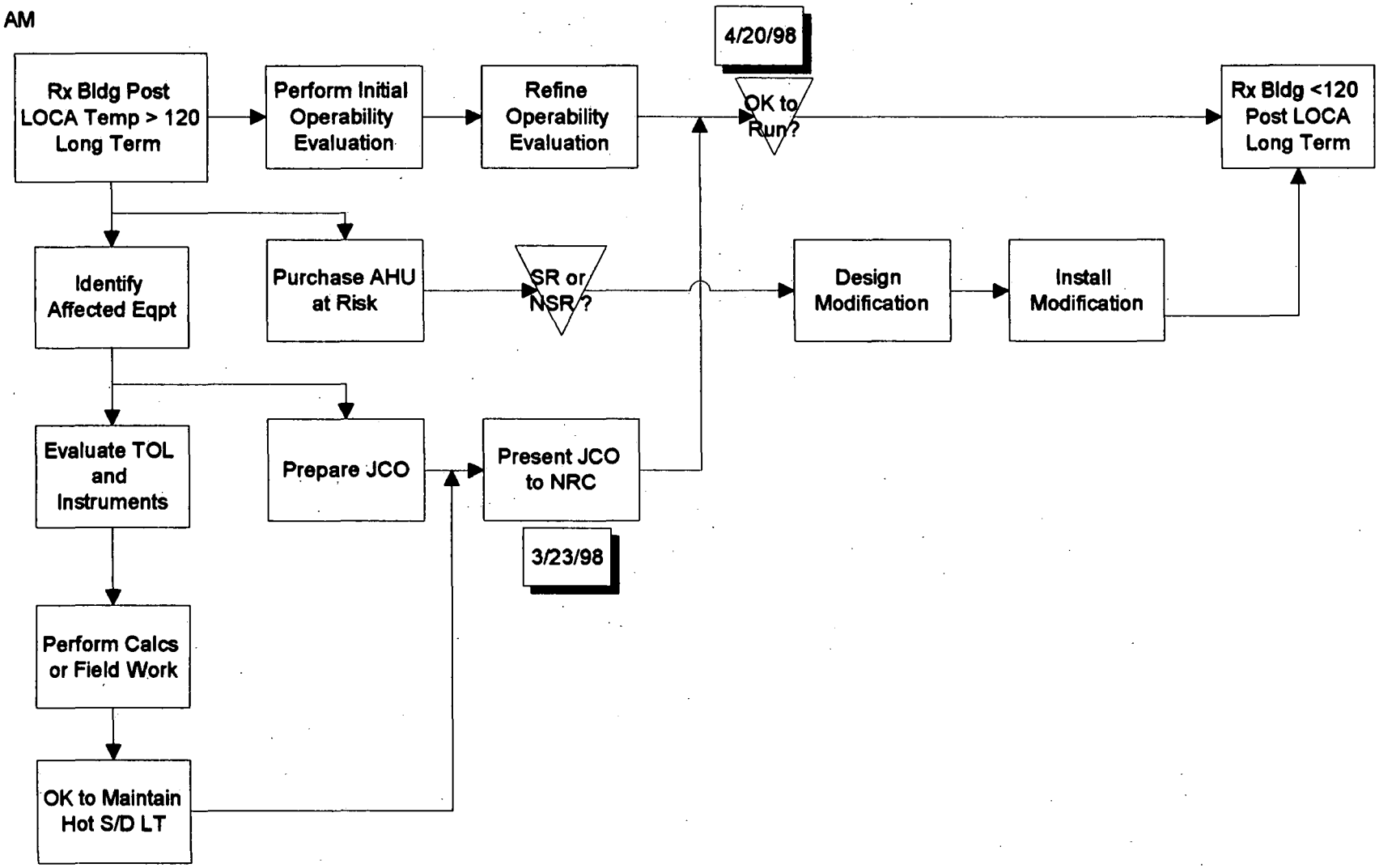

ENCLOSURE 3