

Commonwealth Edison Company  
LaSalle Generating Station  
2601 North 21st Road  
Marseilles, IL 61341-9757  
Tel 815-357-6761



March 31, 2000

United States Nuclear Regulatory Commission  
Attention: Document Control Desk  
Washington, D.C. 20555

LaSalle County Station, Units 1 and 2  
Facility Operating License Nos. NPF-11 and NPF-18  
NRC Docket Nos. 50-373 and 50-374

Subject: Response to Request for Additional Information License  
Amendment Request for Power Uprate Operation

- References:
- (1) Letter from R. M. Krich (Commonwealth Edison (ComEd) Company) to U.S. NRC, "Request for License Amendment for Power Uprate Operation," dated July 14, 1999.
  - (2) Letter from D. M. Skay (U.S. NRC) to ComEd, "LaSalle - Request for Additional Information (TAC Nos. MA6070 and MA6071)," dated February 15, 2000.
  - (3) Letter from C. G. Pardee (ComEd) to U.S. NRC, "Response to Request for Additional Information License Amendment for Power Uprate Operation," dated March 10, 2000.

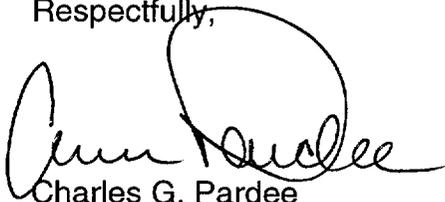
In the Reference 1 letter, pursuant to 10 CFR 50.90, "Application for Amendment of License or Construction Permit," we proposed to operate both LaSalle County Station Units at an "uprate" power level of 3489 Megawatts Thermal (MWT). In Reference 2, the NRC requested additional information concerning the proposed amendment request to support their review. Reference 3 provided our response to questions 2 through 4 of the request for additional information. The attachment to this letter provides our response to Question 1 of the request for additional information.

March 31, 2000  
U.S. Nuclear Regulatory Commission  
Page 2

The no significant hazards consideration, submitted in Reference 1, remains valid for the information attached.

Should you have any questions concerning this letter, please contact Mr. Frank A. Spangenberg, III, Regulatory Assurance Manager, at (815) 357-6761, extension 2383.

Respectfully,

A handwritten signature in black ink, appearing to read "Charles G. Pardee". The signature is written in a cursive style with a large, prominent loop at the end.

Charles G. Pardee  
Site Vice President  
LaSalle County Station

Attachment

cc: Regional Administrator – NRC Region III  
NRC Senior Resident Inspector – LaSalle County Station

STATE OF ILLINOIS )  
IN THE MATTER OF )  
COMMONWEALTH EDISON COMPANY )  
LASALLE COUNTY STATION - UNIT 1 & UNIT 2 ) Docket Nos. 50-373  
50-374

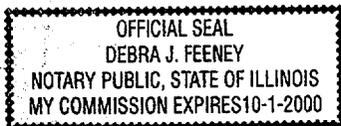
Subject: Response to Request for Additional Information License  
Amendment Request for Power Uprate Operation

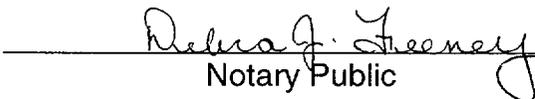
**AFFIDAVIT**

I affirm that the content of this transmittal is true and correct to the best of my knowledge, information and belief.

  
\_\_\_\_\_  
Charles G. Pardee  
Site Vice President  
LaSalle County Station

Subscribed and sworn to before me, a Notary Public in and for the State above named, this 31<sup>st</sup> day of March, 2000.  
My Commission expires on 10-1, 2000.



  
\_\_\_\_\_  
Notary Public

**Attachment**  
**Response to Request for Additional Information**

The following questions refer to Attachment E of your submittal dated July 14, 1999, GE Report NEDC-32701P, "Power Uprate Safety Analysis Report for LaSalle County Station, Units 1 and 2."

Question 1:

Section 4.1.1.1 for Local Pool Temperature with SRV Discharge, indicates that LaSalle T-Quenchers are at a submersion of 24 feet and provide 20 degrees Fahrenheit subcooling with a bulk temperature of 208 degrees Fahrenheit and the wetwell at atmospheric pressure. Is there any scenario under EOP heat capacity temperature limit curve in which 20 degrees Fahrenheit subcooling may not be maintained?

Response 1:

Yes there are EOP scenarios in which the heat capacity limit curve (HCTL) will not maintain 20 degrees Fahrenheit subcooling. During our review of the HCTL curve derivation, we noted that, for certain low suppression pool level cases, 20 °F subcooling would not be maintained. The derivation of the HCTL curves looks at reactor pressure vessel (RPV) pressure versus suppression pool temperature as a function of suppression pool level. At high suppression pool water levels the main concern is containment overpressurization during a Safety Relief Valve (SRV) actuation. At lower suppression pool water levels the concern is having adequate suppression capacity in the suppression pool to accommodate an automatic depressurization system (ADS) actuation.

The possibility of revising the HCTL curves to maintain 20 °F subcooling was investigated. However, this was determined to be imprudent, because ADS actuation would be required at significantly lower suppression pool temperature, which was judged to have an adverse safety impact. For example, during a postulated Anticipated Transient Without Scram (ATWS) event, the lower temperature would require an earlier ADS actuation.

As stated in our July 14, 1999 submittal in section 4.1.1.1 of Attachment E, the 20 °F subcooling was necessary to preclude steam ingestion at the emergency core cooling system (ECCS) suction strainers. Based on our review, an analysis was performed to ensure that steam ingestion is not a concern under any condition. The analysis modeled the steam plume formation from an SRV T-Quencher, determined the extent of steam plume projection, and verified that the plume can not enter the ECCS suction strainers. The analysis used the following conservative assumptions:

- maximum ECCS pump flows;
- none of the steam discharged was assumed to condense;
- the suppression pool bulk temperature at the SRV T-Quenchers was at saturated conditions; and
- no credit was given for SRV T-Quencher submergence.

**Attachment**  
**Response to Request for Additional Information**

The LaSalle T-quenchers have perforations along the sides and on one end. The origin of the steam plume from the T-quencher is predominantly out the sides of the T-quencher with a smaller plume out the perforated end. The conservative analysis showed that the steam plume from the sides of the T-Quencher extends approximately 7.4 feet from the centerline of the quencher, on each side of the quencher. The steam plume from the end extends approximately 2.3 feet from the centerline of the end cap.

The T-quenchers and ECCS strainers are located essentially at the same elevation. By comparing the location and orientation of the T-Quenchers to the location of the ECCS strainers, and using the conservative plume size, the analysis concluded that it is not possible for a steam plume to enter an ECCS strainer.

However, during this review it was discovered that there is a potential steam ingestion concern for the Reactor Core Isolation Cooling (RCIC) suction strainer due to the SRV "K" T-Quencher, if the temperature of the suppression pool is above 200 °F. The current accident analyses make use of SRVs and RCIC during the following events: RPV isolation with loss of one train of Residual Heat Removal; Station Blackout (SBO); and the Fire Protection – Safe Shutdown Analysis. In the RPV isolation and the Fire Protection events, the suppression pool stays below 190 °F and plume formation is not a concern since adequate subcooling exists. However, in the current SBO scenario using RCIC, the suppression pool is projected to reach 217 °F. Therefore the potential exists for plume formation and potential steam ingestion into the RCIC system if the "K" SRV is discharging to the suppression pool when adequate subcooling no longer exists. This would occur when the suppression pool exceeds 200 °F. Procedures have been revised and plaques installed on the Main Control Room and Simulator panels to caution the operators on the use of the "K" SRV and RCIC simultaneously, when the suppression pool temperature is above 200 °F, pending evaluation of the permanent resolution. This ensures that steam ingestion is not a concern, and that the bases for emergency operating procedures remain "symptom-based."

Under power uprate conditions, the reactor coolant cooldown during an SBO will be limited to 20 °F/hr, which will reduce the maximum suppression pool temperature to 196 °F. This will maintain the required subcooling to preclude steam ingestion.

In summary, all the design and licensing basis events analyzed at uprated power conditions show that the 20 °F subcooling margins are maintained, precluding steam ingestion in the ECCS and RCIC suction strainers. Even though the Emergency Operating Procedures conditions can be outside of the analyzed design and licensing basis conditions, there are no steam ingestion concerns. This is based on adequate orientation and separation on the ECCS suction strainers, and controls placed on the use of the "K" SRV and RCIC when the suppression pool exceeds 200 °F. Therefore, the HCTL curves are only being modified for the effects of the higher power level but do not need to be modified to reflect the 20 °F subcooling at all conditions to preclude steam ingestion of the ECCS pumps.