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ComEd

April 16, 1996

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

- Subject: LaSalle County Nuclear Power Station Units 1 and 2 Application for Amendment of Facility Operating Licenses NPF-11 and NPF-18, Appendix A, Technical Specifications, Elimination of Selected Response Time Testing Requirements. NRC Docket Nos. 50-373 and 50-374
- Reference: April 9, 1996 R. Querio letter to USNRC, Request for Application for Amendment to Facility Operating Licenses NPF-11 an NPF-18.

Pursuant to 10 CFR 50.90, Commonwealth Edison Company (ComEd) proposes to revise Appendix A, Technical Specifications of Facility Operating Licenses NPF-11 and NPF-18, LaSalle County Station Units 1 and 2. The proposed changes include changes to the Technical Specifications (TS) to eliminate selected response time testing (RTT) requirements. The TS affected are TS 3/4.3.1, Reactor Protection System Instrumentation; TS 3/4.3.2, Isolation Actuation Instrumentation; and TS 3/4.3.3, Emergency Core Cooling System Actuation Instrumentation. The proposed changes are supported by analyses performed by the Boiling Water Reactor Owners' Group (BWROG) as documented in NEDO-32291-A.

This proposed amendment request is subdivided as follows:

- 1. Attachment A gives a description and safety analysis of the proposed changes in this amendment.
- Attachment B includes the marked-up License/Technical Specifications pages for LaSalle Units 1 and 2 with the requested changes indicated.
- 220061 3. Attachment C describes ComEd's evaluation performed in accordance with 10 CFR 50.92 (c), which confirms that no significant hazard consideration is involved.

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- Attachment D provides an Environmental Assessment Applicability Review per 10 CFR 51.21.
- 5. Attachment E provides a list of affected instrument loop components.

Elimination of selected RTTs will save LaSalle approximately 1000 manhours (about \$50,000) per Unit per cycle, and approximately 2 man-rem per Unit per cycle. The savings in man-hours will help reduce refuel outage time. LaSalle Units 1 and 2 are planning to begin 24 month fuel cycles for the next cycle on each unit, thus this should result in savings of approximately \$1.3 million for the lifetime of the plant. Therefore, this amendment request is being submitted as a Cost Beneficial Licensing Action (CBLA).

This amendment is affected by the request for amendment referenced above. The April 9, 1996 letter proposes to delete the main steam line high radiation scram and isolations. One of the changes in the attached request for amendment proposes to delete the main steam line high radiation scram sensor response time test and will not be required if referenced amendment request is approved first.

This proposed amendment has been reviewed and approved by ComEd On-Site and Off-Site Review in accordance with procedures.

ComEd requests approval of this amendment request prior to the next refueling outage, which is for the Unit 2 seventh refueling outage, L2R07, beginning in September 1996, with an implementation time of 60 days.

ComEd is notifying the State of Illinois of this application for amendment by transmitting a copy of this letter and its attachments to the designated state official.

If there are any further questions or comments concerning this submittal, please refer them to Joellen Burns at (815) 357-6761, extension 2383.

Respectfully,

Querio

R. E. Querio Site Vice President LaSalle County Station

Enclosure

 H. J. Miller, NRC Region III Administrator
P. G. Brochman, NRC Senior Resident Inspector - LaSalle
D. M. Skay, Project Manager - NRR - LaSalle
F. Niziolek, Office of Nuclear Facility Safety - IDNS Central File STATE OF ILLINOIS

COUNTY OF LASALLE

IN THE MATTER OF

Docket Nos. 50-373 50-374

COMMONWEALTH EDISON COMPANY

LASALLE COUNTY - UNITS 1 & 2

AFFIDAVIT

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

Querio

R. E. Querio Site Vice President LaSalle County Station

Subscribed and sworn to before me, a Notary Public in and for the State and County above named, this <u>16th</u> day of <u>April</u>, 19<u>46</u>. My Commission expires on <u>Occurrence</u> 5, 19<u>46</u>.

Alenna Bloomfuld

~~~~~ OFFICIAL SEAL GLENNA BLOOMFIELD NOTARY PUBLIC, STATE OF ILLINOIS MY COMMISSION EXPIRES 12/05/96 -----

#### **Description of the Proposed Change**

This LaSalle Unit 1 and 2 Technical Specifications (TS) change request proposes to eliminate selected response time testing requirements. The TS affected are TS 3/4.3.1, Reactor Protection System Instrumentation; TS 3/4.3.2, Isolation Actuation Instrumentation; and TS 3/4.3.3, Emergency Core Cooling System Actuation Instrumentation. The proposed changes to eliminate selected response time testing requirements are supported by analyses performed by the Boiling Water Reactor Owners' Group (BWROG) as documented in NEDO-32291-A (Reference a).

LaSalle has already received approval to delete Response Time Testing of instrumentation channels with response times equal to the response time of the LaSalle diesel generators, in accordance with NRC Generic Letter 93-05 (References b and c). The changes proposed in this submittal involve the elimination of selected response time testing requirements per NEDO-32291-A that were not covered by NRC Generic Letter 93-05.

#### Description of the Current Operating License/Technical Specification Requirement

1. Reactor Protection System (RPS) Instrumentation Technical Specification, TS 3.3.1:

Technical Specification 3.3.1 requires that the RPS Instrumentation channels shown in TS Table 3.3.1-1 be operable with their trip setpoints set consistent with the values shown in the Trip Setpoint column of TS Table 2.2.1-1, and with isolation system response time as shown in TS Table 3.3.1-2.

TS Surveillance Requirement 4.3.1.1 requires that the RPS instrumentation channels be demonstrated OPERABLE by performing channel checks, functional tests, and calibrations. TS Surveillance Requirement 4.3.1.2 requires the performance of logic system functional tests and simulated automatic operation of all channels at least once per 18 months.

TS Surveillance Requirement 4.3.1.3 requires that the Reactor Protection System Response Time of each isolation trip function shown in TS Table 3.3.1-2 be demonstrated within its limit at least once per 18 months.

The performance of these surveillances permits detecting degraded components and/or system conditions which could adversely affect Reactor Protection System response times.

2. Isolation Actuation Instrumentation Technical Specification, TS 3.3.2:

Technical Specification 3.3.2 requires that the isolation actuation instrumentation channels shown in TS Table 3.3.2-1 be operable with their trip setpoints set consistent with the values shown in the Trip Setpoint column of TS Table 3.3.2-2, and with isolation system response time as shown in TS Table 3.3.2-3.

TS Surveillance Requirement 4.3.2.1 requires that the isolation actuation instrumentation channels be demonstrated OPERABLE by performing channel checks, functional tests, and calibrations. TS Surveillance Requirement 4.3.2.2 requires the performance of logic system functional tests and simulated automatic operation of all channels at least once per 18 months.

TS Surveillance Requirement 4.3.2.3 requires that the isolation system response time of each isolation trip function shown in TS Table 3.3.2-2 be demonstrated within its limit at least once per 18 months.

The performance of these surveillances permits detecting degraded components and/or system conditions which could adversely affect isolation actuation instrumentation system response times.

3. Emergency Core Cooling System (ECCS) Actuation Instrumentation Technical Specification, TS 3.3.3:

Technical Specification 3.3.3 requires that the ECCS actuation instrumentation channels shown in TS Table 3.3.3-1 be operable with their trip setpoints set consistent with the values shown in the Trip Setpoint column of TS Table 3.3.3-2, and with ECCS response time as shown in TS Table 3.3.3-3.

TS Surveillance Requirement 4.3.3.1 requires that the ECCS actuation instrumentation channels be demonstrated OPERABLE by performing channel checks, functional tests, and calibrations. TS Surveillance

Requirement 4.3.3.2 requires the performance of logic system functional tests and simulated automatic operation of all channels at least once per 18 months.

TS Surveillance Requirement 4.3.3.3 requires that the ECCS response time of each isolation trip function shown in TS Table 3.3.3-3 be demonstrated within its limit at least once per 18 months.

The performance of these surveillances permits detecting degraded components and/or system conditions which could adversely affect ECCS instrumentation loop response times.

#### **Bases for the Current Requirement**

The Technical Specification Bases section 3/4.3.1 states the bases for RPS instrumentation response time is as follows:

"The measurement of response time at the specified frequencies provides assurance that the protective functions associated with each channel are completed within the time limit assumed in the accident analysis. No credit was taken for those channels with response times indicated as not applicable. Response time may be demonstrated by any series of sequential, overlapping or total channel test measurement, provided such tests demonstrate the total channel response time as defined. Sensor response time verification may be demonstrated by either (1) inplace, onsite or offsite test measurements, or (2) utilizing replacement sensors with certified response times."

The Technical Specification Bases section 3/4.3.2 states the bases for Isolation Actuation instrumentation response time is as follows:

"Except for the MSIVs, the safety analysis does not address individual sensor response times or the response times of the logic systems to which the sensors are connected. For A.C. operated valves, it is assumed that the A.C. power supply is lost and is restored by startup of the emergency diesel generators. In this event, a time of 13 seconds is assumed before the valve starts to move. The safety analysis considers an allowable inventory loss which in turn determines the valve speed in conjunction with the 13 second delay."

The Technical Specification Bases section 3/4.3.3 states the bases for Emergency Core Cooling System Actuation instrumentation response time is as follows:

"The emergency core cooling system actuation instrumentation is provided to initiate actions to mitigate the consequences of accidents that are beyond the ability of the operator to control. This specification provides the OPERABILITY requirements, trip setpoints and response times that will ensure effectiveness of the systems to provide the design protection. Although the instruments are listed by system, in some cases the same instrument may be used to send the actuation signal to more than one system at the same time."

# Description of the Need for Amending the Technical Specification

Analyses have been performed by the Boiling Water Reactor Owners Group (BWROG) demonstrating that other periodic tests required by Technical Specifications provide adequate assurance that instrument response times are within acceptable limits. These other periodic tests include channel calibrations, channel checks, channel functional tests, and logic system functional tests, in conjunction with actions taken in response to NRC Bulletin 90-01, "Loss of Fill Oil in Transmitters Manufactured by Rosemount," and Supplement 1. The evaluation is documented in NEDO-32291-A, "System Analyses for the Elimination of Selected Response Time Testing Requirement." The analyses assert that the response time tests proposed for elimination are of little safety significance and result in unnecessary personnel radiation exposure, reduced availability of systems during plant shutdown, increased potential for inadvertent actuations of safety systems, and a significant burden to utility resources.

Elimination of selected RTTs will save LaSalle approximately 1000 man-hours (about \$50,000) per Unit per cycle, and approximately 2 man-rem per Unit per cycle. The savings in man-hours will help reduce refuel outage time. LaSalle Units 1 and 2 are planning to begin 24 month fuel cycles for the next cycle on each unit, thus this should result in savings of approximately \$1.3 million for the lifetime of the plant. Therefore, this amendment request is being submitted as a Cost Beneficial Licensing Action (CBLA).

#### **Description of the Amended Technical Specification Requirement**

In accordance with IOCFR50.90, and following the guidance of NEDO-32291-A (Reference a), the following changes to the LaSalle TS are being proposed:

1. RPS Instrumentation changes are:

Note ## is added to Table 3.3.1-2 in order to clarify that certain sensors associated with actuation logic circuits do not require response time testing. The note applies to Functional Units 3 and 4 of the table. The proposed note is Note # from Table H-1 of NEDO-32291-A. Note ## is proposed as follows:

## "Sensor is eliminated from response time testing for the RPS circuits. Response time testing and conformance to the administrative limits for the remaining channel including trip unit and relay logic are required."

2. Isolation Actuation Instrumentation changes are:

Note ## is added to Table 3.3.2-3 in order to clarify that sensors associated with MSIV actuation logic circuits do not require response time testing. The note applies to Functional Units A.1.a.3) and A.1.c of the table. The proposed note is Note ## from Table H-1 of NEDO-32291-A. Note ## is proposed as follows:

- ## "Sensor is eliminated from response time testing for the MSIV actuation logic circuits. Response time testing and conformance to the administrative limits for the remaining channel including trip unit and relay logic are required."
- 3. Emergency Core Cooling System Actuation Instrumentation changes are:

Note # is added to Table 3.3.3-3 in order to clarify that ECCS actuation instrumentation is eliminated from response time testing. The note applies to the Low Pressure Core Spray System (LPCS), Low Pressure Coolant Injection (LPCI) mode of the Residual Heat Removal (RHR) System (pumps A, B, and C), and the High Pressure Core Spray (HPCS) System. The proposed note is Note && from Table H-1 of NEDO-32291-A. The requirement to calibrate time delay relays associated with the

ECCS pumps is already required by TS Surveillance Requirement 4.8.1.1.2.d.12, and thus would be a duplicate requirement if listed here as well. Note # is proposed as follows:

\* "ECCS actuation instrumentation is eliminated from response time testing."

The proposed TS changes are reflected on a marked-up copy of the affected pages from the LaSalle Unit 1 and Unit 2 Technical Specifications in Attachment B. In addition, changes to the LaSalle Unit 1 and Unit 2 Technical Specification Bases, which are consistent with the proposed TS changes have been provided as part of Attachment B.

#### **Bases for the Amended Technical Specification Request**

This proposed change involves elimination of selected response time testing requirements from the Technical Specifications (TS). Specifically, this includes the response time testing of sensors for selected parameters of the (1) Reactor Protection System (RPS) instrumentation, (2) MSIV Isolation actuation instrumentation, and (3) Emergency Core Cooling System (ECCS) actuation instrumentation as well as the remainder of the associated instrumentation loops for the ECCS actuation instrumentation.

Analyses have been performed by the Boiling Water Reactor Owners Group (BWROG) demonstrating that other periodic tests required by TS, such as channel calibrations, channel checks, channel functional tests, and logic system functional tests, in conjunction with actions taken in response to NRC Bulletin 90-01, "Loss of Fill Oil in Transmitters Manufactured by Rosemount," and Supplement 1, provide adequate assurance that instrument response times are within acceptable limits.

LaSalle has evaluated the surveillances required for the instrumentation channels addressed by this amendment request and verified that they all have periodic channel calibrations, channel functional tests, and logic system functional tests. The level instrumentation and the main steam line radiation high also require channel checks. Also, channels with Rosemount pressure or differential pressure transmitters are part of a monitoring/testing program in accordance with NRC Bulletin 90-01, "Loss of Fill Oil in Transmitters Manufactured by Rosemount," and Supplement 1.

The evaluation is documented in NEDO-32291-A, "System Analyses for Elimination of Selected Response Time Testing." The analyses assert that the response time tests proposed for elimination are of little safety significance and result in unnecessary personnel radiation exposure, reduced availability of systems during plant shutdown, increased potential for inadvertent actuations of safety systems, and a significant burden to utility resources.

The basis for this request is consistent with Regulatory Guide 1.118 (Revision 2) which endorses IEEE 338-1977, which states:

"Response time testing of all safety related equipment per se, is not required if, in lieu of response time testing, the response time of safety system equipment is verified by functional testing, calibration checks or other tests, or both. This is acceptable if it can be demonstrated that changes in response time beyond acceptable limits are accompanied by changes in performance characteristics which are detectable during routine periodic tests."

NEDO-32291-A identifies the potential failure mode of components in the affected instrumentation loops which could potentially impact the instrument loop response time. In addition, industry operating experience was reviewed to identify failures that affect response times and how they were detected. The failure modes identified were then evaluated to determine if the effect on response time would be detected by other testing requirements in TS. The results of this analysis demonstrate that other TS testing requirements (channel calibrations, channel checks, channel functional tests, and logic system functional tests) and actions taken in response to NRC Bulletin 90-01, Supplement 1 are sufficient to identify failure modes or degradations in instrument response times and assure operation of the analyzed instrument loops within acceptable limits. Furthermore, there were no failure modes identified that can be detected by response time testing that cannot also be detected by other TS-required tests.

The evaluations documented in NEDO-32291-A demonstrate that response time testing can be eliminated for the following:

- 1) All ECCS actuation instrumentation,
- 2) Sensors for selected RPS instrumentation, and
- 3) Sensors for selected main steam line isolation valve (MSIV) closure actuation instrumentation.

By letter dated December 28, 1994 and supplemented by letter dated May 31, 1995, the NRC staff provided their acceptance of NEDO-32291-A subject to certain conditions, for reference in license amendment applications. An approved version of the topical report was issued in October 1995 as NEDO-32291-A (Reference a)

#### **Additional Information**

In accordance with the conditions identified in the NRC staffs safety evaluation report included in NEDO-32291-A, the following information is provided:

ComEd has confirmed that NEDO-32291-A is applicable to LaSalle Units 1 and 2. As documented in Appendix A to that report, LaSalle was a participating utility in the evaluation. LaSalle has confirmed that the components within the scope of this request have been evaluated in NEDO-32291-A. These components are identified in Appendix G (Table G-8 for LaSalle) of NEDO-32291-A and Table 1 of the NRC staffs safety evaluation of NEDO-32291-A.

A list of affected instrument loop components as shown in NEDO-32291-A, Appendix C.1, is included in Attachment E. Unless indicated otherwise, channel A is represented in the Tables for each trip function and is representative of the remaining channels for each trip function. Only the sensors (transmitter or switch) are eliminated for the RPS and PCIS instrumentation channels. For ECCS instrumentation, the sensor and relay logic is eliminated.

Based on Attachment E and the above information, Response Time Testing is being eliminated for the following components: 1) Rosemount transmitters models 1152, 1153, 1154; 2) Rosemount trip units type 710DU; 3) Static-O-Ring (SOR) differential pressure switches; 4) SOR pressure switches; 5) General Electric relays type HMA and HFA; and 6) Agastat relays, type EGP.

As required by the December 28, 1994 NRC Safety Evaluation Report (SER) (included in NEDO-32291-A), LaSalle confirms that LaSalle County Station Units 1 and 2 are in conformance with the following recommendations from EPRI NP-7243, "Investigation of Response Time Testing Requirements", Dated May 1991:

(a) The SER states, "Prior to installation of a new transmitter/switch or following refurbishment of a transmitter/switch (e.g., sensor cell or variable damping components), a hydraulic RTT shall be performed to determine an initial sensor-specific response time value, and"

Applicable LaSalle procedures are being reviewed and will be revised if necessary to fulfill this recommendation prior to implementation following approval of this request for amendment to the TS for the upcoming LaSalle Unit 2 seventh refueling outage (L2R07).

(b) The SER states, "For transmitters and switches that have capillary tubes, capillary tube testing shall be performed after initial installation and after any maintenance or modification activity that could damage the lines."

LaSalle currently does not utilize any transmitters or switches that use capillary tubes in any application that requires response time testing. Therefore, this recommendation is not applicable to LaSalle.

LaSalle commits to the following, as required by the December 28, 1994 NRC Safety Evaluation Report (SER) (Reference a).

(a) The SER states, "That calibration is being done with equipment designed to provide a step function or fast ramp in the process variable,"

Applicable LaSalle procedures will be revised to ensure calibrations include steps to input a fast ramp or step change at the input to the system component under test while simultaneously monitoring the output response. Equipment designed to provide a step function or fast ramp in the process variable will be used. Procedure revisions will be completed prior to implementation following approval of this request for amendment to the TS for L2R07.

(b) The SER states, "That provisions have been made to ensure that operators and technicians, through an appropriate training program, are aware of the consequences of instrument response time degradation, and that applicable procedures have been reviewed and revised as necessary to assure that technicians monitor for response time degradation during the performance of calibrations and functional tests,"

LaSalle will conduct appropriate training to assure that operators and technicians are aware of the consequences of instrument response time degradation and the method for monitoring instrument response time during the performance of calibrations and functional testing. Training will be completed prior to implementation following approval of this request for amendment to the TS for L2R07, which is the next refuel outage requiring response time testing that will be affected by this amendment request. Applicable procedures are being reviewed and will be revised as necessary prior to implementation following approval of this request for amendment to the TS for L2R07 to assure that technicians monitor for response time degradation during the performance of calibrations and functional tests.

(c) The SER states, "That surveillance testing procedures have been reviewed and revised if necessary to ensure calibrations and functional tests are being performed in a manner that allows simultaneous monitoring of both the input and output response of units under test,"

In cases where the output is monitored remotely from the input, two technicians in direct communication with each other will be required to verify the response is prompt and in all cases not more than 5 seconds. The functional test step input may be applied at the trip unit input in lieu of the sensor as defined in NEDO-32291-A, Appendix B, section B.3.2. The applicable procedures will be revised prior to implementation following approval of this request for amendment to the TS for L2R07.

(d) The SER states, "That for any request involving the elimination of RTT for Rosemount pressure transmitters, the licensee is in compliance with the guidelines of Supplement 1 to Bulletin 90-01, "Loss of Fill-Oil in Transmitters Manufactured by Rosemount", and"

LaSalle's compliance with the guidelines of Supplement 1 to NRC Bulletin 90-01 was reviewed and documented in a safety evaluation transmitted to LaSalle by NRC letter from A.T. Gody, Jr. to D.L. Farrar, dated May 20, 1994 (Reference e). The NRC's evaluation concluded that LaSalle's responses to the NRC Bulletin 90-01 and Supplement 1 conform to the Requested Actions of NRC Bulletin 90-01 and Supplement 1.

LaSalle conducted training for operators and technicians in response to requested Action 4.a of NRC Bulletin 90-01, "Loss of Fill-Oil in Transmitters Manufactured by Rosemount." The commitment to do this training was documented in response to the bulletin, Reference d. In addition to addressing the symptoms that a transmitter exhibits if it is experiencing a loss of fill oil, this training also addressed the consequences of instrument response time degradation.

(e) The SER states, "That for those instruments where the manufacturer recommends periodic RTT as well as calibration to ensure correct functioning, the licensee has ensured that elimination of RTT is nevertheless acceptable for the particular application involved."

As stated above, the components affected by this TS request are limited to Rosemount transmitters model 1152, 1153, 1154; Rosemount trip units type 710DU, Static-O-Ring (SOR) differential pressure switches, SOR pressure switches, General Electric relays type HMA and HFA, and Agastat relays, type EGP. LaSalle has reviewed the vendor recommendations for these devices and confirmed that they do not contain recommendations for periodic response time testing.

The Clinton Power Station has received approval of a request to eliminate selected instrument response time testing in accordance with NEDO-32291-A (References f and g). This request for amendment is similar to the Clinton Power Station request.

# Schedule

ComEd requests approval of this amendment request prior to the next refueling outage, which is for the Unit 2 seventh refueling outage, L2R07, beginning in September 1996, with an implementation time of 60 days.

#### REFERENCES

a. NEDO-32291-A, "System Analyses for the Elimination of Selected Response Time Testing Requirements," dated October 1995.

- b. Letter dated January 24, 1994 from G.G. Benes to Dr. T.E. Murley; Application for Amendment of Facility Operating Licenses NPF-11 and NPF-18 to Technical Specifications, NRC Docket 50-373 and 50-374, to delete the requirement for response time testing where the required time corresponds to the diesel start time.
- c. Letter dated April 7, 1994 from A.T. Gody, Jr. to D.L. Farrar; Issuance of Amendments for LaSalle County Station Units 1 and 2 (TAC Nos. M88604 and M88605.).
- d. Letter dated July 20, 1990 from M.H. Richter to USNRC, Commonwealth Edison Co. (now ComEd) response to NRC Bulletin 90-01.
- e. Letter dated May 20, 1994 from A.T. Gody, Jr. to D.L. Farrar, transmitting the NRC Safety Evaluation Report accepting ComEd's response to NRC Bulletin 90-01, Supplement 1.
- f. Letter dated January 27, 1995 from J.G. Cook, Vice President, Illinois Power, to USNRC; Clinton Power Station Proposed Amendment of Facility Operating License No. NPF-62 (LS-94-003).
- g. Letter dated March 9, 1995 from D.V. Pickett, NRR, to R.F. Phares, Clinton Power Station; Issuance of Amendment No. 98 to Facility Operating License No. NPF-62 - Clinton Power Station, Unit 1 (TAC No. M91387)