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August 1, 1983

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Subject: LaSalle County Station Unit 2
Conformance to 10CFR50.49 Requirements
NRC Docket No. 50-374

Dear Mr. Denton:

Commonwealth Edison submitted an environmental qualification status report on May 29, 1983 in response to the requirements of the new rule. Coverage for that report included all safety-related equipment: active mechanical equipment and that Class IE apparatus in the HARSH and non-harsh environmental zones. The "display " equipment, or those devices referenced by the operator to accomplish the Emergency Procedures Guideline actions, was also included in the status list. The items identified as "important to safety" because of their potential interaction with safety - related systems or equipment with safety functions were specifically treated via responses to Questions 031.288 - through 296. The remaining part of the coverage is that equipment designated as Reg Guide 1.97 equipment for the post-accident monitoring of plant status. This letter addresses this last category of equipment.

The attached table is provided to indicate the environmental qualification status of the Reg Guide 1.97 equipment. Listed in the table are those Category 1 and Category 2 paramenters with the associated LaSalle equipment by part number which meets the scope of Reg Guide 1.97 consistent with Edison's complicance position of June 29, 1982 (Letter C.W. Schroeder to A. Schwencer).

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Equipment providing control room indication of each parameter, its model number and manufacturer, and qualification status is indicated. The applicable qualification standard is NUREG 0588 Category II which is the LaSalle requirement, except for replacement equipment. In those cases where qualification of equipment is potentially HARSH environments is not complete, a discriptive summary of planned actions or test progress is given, and a justification for interim operation is provided. This record establishes the fact that the equipment which provides control room indication of plant parameters, defined under Reg Guide 1.97 as necessary to determine the condition of the plant following an accident, are now or will be environmentally qualified by the March 31, 1985 terminal date.

To the best of my knowledge and belief the statements contained herein and in the enclosure are ture and correct. In some respects these statements are not based on my personal knowledge but upon information furnished by other Commonwealth Edison and contractor employees. Such information has been reviewed in accordance with Company practice and I believe it to be reliable.

Very truly yours,

for C. W. Schroeder
Nuclear Licensing Administrator

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Parameter	Existing Equipment	Manufacturer and Model	Qualification Status
A1. H_2 concentration and O_2 conc.	AIR-CM012 (indic.)	Westronics, D4E	Mild environment application
	PL76J (analyzer)	Comsip, Inc., K-IV	Qualification efforts in progress
C11.	AIR-CM018 (indic.)	Westronics, D4E	Mild environment application
C12.	PL77J (analyzer)	Comsip, Inc., K-IV	Qualification efforts in progress
A2. RPV Pressure	B21-R884A&B (indic.)	Westronics, D4E	Mild environment application
B6.	B21-K613A&B (pwr)	GE, 9T66Y987	Mild environment application
C4.	B21-N051A&B (sensor)	Bailey, KG556	Will be replaced with a qualified instr.
C9.			
A3. Suppression Pool Water Temperature	TR-CM037 (indic.)	Westronics, M11E	Mild environment application
	TR-CM038 (indic.)	Westronics, M11E	Mild environment application
	TY-CM057AA (conv.)	Love Controls, 54	Qualified
	TY-CM057UB (conv.)	Love Controls, 54	Qualified
	TE-CM057A-V (sensor)	Weed, 611	Qualified
A4. Suppression Pool Water Level	UR-CM031 (indic.)	Westronics, D4E	Mild environment application
	EY-CM082 (pwr)	Kepco, PCX-72-0.3	Mild environment application
C7.	LT-CM032 (sensor)	Rosemount, 1152	Will be replaced with a qualified instr.
	UR-CM029 (indic.)	Westronics, D4E	Mild environment application
	EY-CM083 (pwr)	Kepco, PCX-72-0.3	Mild environment application
	LT-CM030 (sensor)	Rosemount, 1152	Will be replaced with a qualified instr.
A5. Drywell Pressure	UR-CM029 (indic.)	Westronics, D4E	Mild environment application
B7.	EY-CM083 (pwr)	Kepco, PCX-72-0.3	Mild environment application
B9.	PT-CM029 (sensor)	Rosemount, 1152	Qualified
C8.	UR-CM031 (indic.)	Westronics, D4E	Mild environment application
C10.	EY-CM082 (pwr)	Kepco, PCX-72-0.3	Mild environment application
	PT-CM031 (sensor)	Rosemount, 1152	Qualified
B1. Neutron Flux	C51-R603A-D (IRM meter)	Bailey 732233AAAA1FAA	Mild environment application
	C51-K601A-H (IRM conv.)	GE, 368X102AA	Mild environment application
	C51-K002A-H (IRM preamp)	GE, 828E309AA	Mild environment application
	C51-N002A-H (IRM det.)	GE, 112C3144	Qualification efforts in progress
	H13-P608 (indic. & avg.)	GE, 791E597 TD	Mild environment application
	B13-D193(all) (LPRM sensor)	GE, NA200	Qualification efforts in progress

Parameter	Existing Equipment	Manufacturer and Model	Qualification Status
B4. Reactor Water Level	B21-R884A&B (indic.)	Westronics, D4E	Mild environment application
	B21-K613A&B (pwr)	GE, 9T66Y987	Mild environment application
	B21-N026A&B (sensor)	Barton, 760	Qualification efforts in progress
	B21-R604 (indic.)	GE, 159C4540P14559	Mild environment application
	B33-K600 (pwr supply)	GE, 9T66Y987	Mild environment application
	B21-N026C (sensor)	Barton, 760	Qualification efforts in progress
B10. Containment Isolation Valve Position	Group 1		
	B21-F019	Limitorque	Qualified
	B21-F016	Limitorque	Qualified
	B21-F067	Limitorque	Qualified
	MSIV's		
	B21-F022A-D	Namco, EA-740	Qualified
	B21-F028A-D	Namco, EA-740	Qualified
	Group 2		
	IN074	Namco, EA-180	Qualified
	IN075	Namco, EA-180	Qualified
	CM017A&B	Valcor	Qualified
	CM018A&B	Valcor	Qualified
	CM019A&B	Valcor	Qualified
	CM020A&B	Valcor	Qualified
	CM029	Valcor	Qualified
	CM030	Valcor	Qualified
	CM031	Valcor	Qualified
	CM032	Valcor	Qualified
	CM033	Valcor	Qualified
	CM034	Valcor	Qualified
	IN001A&B	Namco, EA-180	Qualified
	WR029	Limitorque	Qualified
	WR040	Limitorque	Qualified
	WR179	Limitorque	Qualified
	WR180	Limitorque	Qualified
	B33-F338A&B	Valcor	Qualified
	B33-F339A&B	Valcor	Qualified
	B33-F340A&B	Valcor	Qualified
	B33-F341A&B	Valcor	Qualified

Parameter	Existing Equipment	Manufacturer and Model	Qualification Status
B10. Containment Isolation Valve Position	Group 2 (cont'd)		
	RE024	Namco, EA-180	Qualified
	RE025	Namco, EA-180	Qualified
	RE026	Namco, EA-180	Qualified
	RE029	Namco, EA-180	Qualified
	RF012	Namco, EA-180	Qualified
	RF013	Namco, EA-180	Qualified
	B33-F342A&B	Valcor	Qualified
	B33-F343A&B	Valcor	Qualified
	B33-F344A&B	Valcor	Qualified
	B33-F345A&B	Valcor	Qualified
	VP053A&B	Limitorque	
	VP063A&B	Limitorque	
	VP113A&B	Limitorque	
	VP114A&B	Limitorque	
	IN017	Namco, EA-180	Qualified
	IN031	Valcor	Qualified
	B21-F032A&B	Namco, EA-180	Qualified
		Indication is given by various lights in the main control room.	Mild environment application

Parameter	Existing Equipment	Manufacturer and Model	Qualification Status
C5. Primary Contain. Area Radiation	RR-CM011 (indic.)	Westronics, S4E	Mild environment application
	RIT-CM011 (transmitter)	Gen. Atomics, RP2C	Mild environment application
	RE-CM011 (sensor)	Gen. Atomics, RD23	Qualification efforts in progress
	RR-CM017 (indic.)	Westronics, S4E	Mild environment application
	RIT-CM017 (transmitter)	Gen. Atomics, RP2C	Mild environment application
	RE-CM017 (sensor)	Gen. Atomics, RD23	Qualification efforts in progress
C13. Containment Effluent Rad.	D18-R800 (indic.)	Westronics, M11E	Mild environment application
	D18-R801 (indic.)	Westronics, D4E	Mild environment application
	D18-R803 (indic.)	Westronics, D4E	Mild environment application
	D18-R804 (indic.)	Westronics, D4E	Mild environment application
	PL58JA&B (monitor)	Gen. Atomics	Mild environment application
D3. Suppression Spray Flow	E12-R603A&B (RHR flow indic.)	GE, 180	Mild environment application
	E12-K603A&B (pwr)	GE, 9T66Y989	Mild environment application
	E12-N015A&B (sensor)	Rosemount, 1151	Will be replaced with a qualified instr.
D7. Drywell Air Temperature	TR-CM037 (indic.)	Westronics, M11E	Mild environment application
	TE-CM058 (sensor)	Weed, E4B	Qualified
	TE-CM059 (sensor)	Weed, E4B	Qualified
	TR-CM038 (indic.)	Westronics, M11E	Mild environment application
	TE-CM060 (sensor)	Weed, E4B	Qualified
	TE-CM061 (sensor)	Weed, E4B	Qualified
D9. MSIV Leakage Control System Pressure	E32-N061A-N	Rosemount, 1152	Mild environment application
	E32-N661A-N	Bailey, 745	Mild environment application
D10. SRV Position	B21F013A-V (sensor)	Crosby, LVDT	Qualified
D13. RCIC Flow	E51-R606 (indic.)	GE, 180	Mild environment application
	C61-K010 (pwr)	GE, 9T66Y987	Mild
	E51-N003 (sensor)	Rosemount, 1151	Will be replaced with a qualified instr.
D14. HPCS Flow	E22-R603 (indic.)	GE, 180	Mild environment application
	E22-K600 (pwr)	GE, 9T66Y989	Mild environment application
	E22-N005 (sensor)	Rosemount, 1152	Will be replaced with a qualified instr.
D15. LPCS Flow	E21-R600 (indic.)	GE, 180	Mild environment application
	E21-K603A (pwr)	GE, 9T66Y989	Mild environment application
	E21-N003 (sensor)	Rosemount, 1151	Will be replaced with a qualified instr.

Parameter	Existing Equipment	Manufacturer and Model	Qualification Status
D19. RHR Flow	E12-R603A-C (indic.)	GE, 180	Mild environment application
	E12-K603A-C (conv.)	GE, 9T66Y989	Mild environment application
	E12-N015A-C (sensor)	Rosemount, 1151	Will be replaced with a qualified instr.
D20. RHR HX Outlet Temperature	E12-R601A&B	GE, 235A1136P002	Mild environment application
	E12-N027A&B	Pyco	Qualification efforts in progress
D21. CSCS Temperature	E12-R601	GE, 235A1136P002	Mild environment application
	E12-N005A,B	Pyco	Qualification efforts in progress
D22. CSCS Flow	E12-R602A&B (indic.)	GE, 180	Mild environment application
	E12-K603A&B (conv.)	GE, 9T66Y989	Mild environment application
	E12-N007A&B (sensor)	Rosemount, 1151	Will be replaced with a qualified instr.
D24. Emergency Damper Position	VR04YA&B	Techno Corp.	Mild environment application
	VR05YA&B	Techno Corp.	Mild environment application
	OVC52YA&B	Powers Regulator	Mild environment application
D25. Status of Standby Power Supplies	II-DG019 (indic.)	GE, DB40	Mild environment application
	IT-DG019 (current xmtr)	GE, 20-500	Mild environment application
	JI-DG022 (indic.)	GE, DB40	Mild environment application
	JT-DG022 (power xmtr)	GE, 20-610	Mild environment application
	Indication is given by various lights in the main control room.		Mild environment application
	Note unit prefixes are "0, 1, and 2".		

A1. H_2 and O_2 Concentrations

PL76J, PL77J

Qualification Status

Efforts are continuing with the vendor to both qualify the sample pump to a LaSalle-specific radiation level and to answer questions relating to catalyst poisoning. Additionally, measures have been identified to relocate the sensitive electronics to an area subject to less harsh post-DBA conditions.

Justification for Interim Operation

These items are exposed to harsh conditions for an Instrument Line Break outside of containment or for the high radiation associated with a LOCA. Failure of these devices will affect the capability to sample the H_2-O_2 percentages inside the primary containment; this capability is not needed for the line break. With respect to the LOCA, justification for interim operation is established by the limited testing done to date which shows acceptable performance in harsh conditions less severe than LaSalle's (both radiation and iodine poisoning tests). Also, credit must be taken for LaSalle's inerted containment.

A2. RPV Pressure

B21-N051A, B

Qualification Status

These Bailey transmitters will be replaced with Rosemount 1153 transmitters, which are fully qualified to NUREG 0588 Cat. I for this environment.

Justification for Interim Operation

These devices may be subject to a harsh environment for an Instrument Line Break outside of containment or from the high radiation associated with a LOCA inside containment. Since this device is not required in the Instrument Line Break event, only the LOCA need be considered.

These devices provide information to the main control room and do not impact any automatic functions. Alternate information is available to the operator from other pressure instrumentation. The operator will take action in accordance with the emergency procedures to maintain reactor level and core cooling functions. No other systems are affected by the failure of this device.

A4. Suppression Pool Water Level

LT-CM030, LT-CM032

Qualification Status

These instruments will be upgraded from a Rosemount 1152 to a 1153 pressure transmitter, which is fully qualified to NUREG 0588 Cat. I for this environment.

Justification for Interim Operation

These devices are exposed to harsh environments for an Instrument Line Break inside the HPCS cubicle and for the high radiation which follows a LOCA. Since the device is not required for the Line Break event, only the LOCA need be considered.

Since these instruments provide information only and do not impact any safety functions, loss of the instruments will not preclude safe shutdown. Alternate information is available to the operator, who will take action in accordance with the emergency procedures. No other systems are affected by the failure of these devices.

B1. Neutron Flux

C51-N002A-H

Qualification Status

Power range equipment is not in our EQ program. Intermediate range equipment is included in the EQ program. A test on the weak link, the connector, is ongoing at Wyle Laboratories. This test report will close out the documentation requirements.

Justification for Interim Operation

The primary concern for monitoring neutron flux in a postaccident situation is not to detect approach to criticality but approach to the point of adding heat. Criticality by itself does not pose any threat to the fuel boundary or the environment. The threat occurs after criticality when power has reached the point of adding heat. Criticality does not occur at a fixed power level but varies with moderator temperature, time since shutdown, core life and other variables. The point of adding heat, however, will always occur at 1% power, which simplifies the indication the operator must be aware of.

Once the reactor has been shut down by inserting all control rods, it will remain subcritical until those rods are once again withdrawn. Even with the most reactive control rod removed, the reactivity control systems will keep the reactor subcritical.

An acceptable range for the neutron flux monitoring should be 10^{-2} percent, which gives the operator 2.0 decades to monitor neutron flux before adding heat.

Actual reactor power levels corresponding to the IRM range are 1×10^{-4}% to about 40% power. This range is adequate to monitor 3.0 decades of monitoring range before the core starts adding heat to the coolant.

Previously, the LaSalle position indicated SRM channels would meet Reg. Guide 1.97. The information provided above justifies monitoring the low end of neutron flux with IRM's. Monitoring the upper range will be addressed in a schedule consistent with our previous commitments.

The IRM's, whose qualification is incomplete at this time, are located in the reactor vessel and are therefore normally exposed to a harsh environment. Their function is to monitor neutron level in the reactor and provide a scram signal during start-up. Failure of these components will not affect automatic reactor scram because other variables, such as reactor pressure, are available to provide the required safety function. During start-up, the portion of the assembly external to the vessel, the connector, will not be exposed to a harsh environment and will therefore be able to maintain electrical continuity. In the event of a LOCA, the IRM's perform no mitigating action and need not function. Therefore, although connector integrity has not been verified, interim operation is justified.

B4. Reactor Water Level

B21-N026A, B, C

Qualification Status

These Barton level transmitter switches will be replaced with a pressure transmitter and switch arrangement in order to meet qualification requirements. The transmitter will be a Rosemount 1153, which is fully qualified to NUREG 0588 Cat. I. The switch will be selected once our qualification test series at Wyle Laboratories is complete. There, we are testing a Barton 288A and a SOR 103 (prototype) side by side to determine best suitability for this environment.

Justification for Interim Operation

These devices are exposed to harsh environments as a result of an Instrument Line Break and a LOCA (high radiation exposure only). In addition to providing indication, these instruments provide a low reactor level initiation signal to the RWCU isolation valve, SGTS, and MSIV. No other systems are affected by their failure.

Due to physical separation, failure of one instrument line will not impact the other division's components. These devices are not required when the harsh environment caused by the line break prevails and they perform their function prior to being affected by the LOCA radiation. With regard to the indication feature of this instrument, the operator may refer to alternate indication from other sensors and will take action in accordance with the emergency procedures.

C5. Primary Containment Area Radiation

RE-CM011, RE-CM017

Qualification Status

A test report is presently in-house for review and evaluation. In anticipation that additional qualification testing may be required for the connector, they are being included in a test program at Wyle Laboratories.

Justification for Interim Operation

These components are exposed to harsh environments only for an Instrument Line Break outside containment and the high radiation associated with a LOCA. Their sole function is to provide signals for monitoring and recording drywell radiation levels; they perform no automatic function. No other system is affected by their failure. Alternate information may be obtained from the HRSS and/or the portable radiation detectors.

D3. Suppression Spray Flow, D19 - RHR Flow

E12-N015A & B

Qualification Status

These Rosemount 1151's will be replaced with 1153's, which are fully qualified to NUREG 0588, Cat. I.

Justification for Interim Operation

These transmitters sense flow from the RHR heat exchanger to the drywell spray header. They may be subject to a harsh environment for an Instrument Line Break outside of containment or from the high radiation associated with a LOCA.

These devices provide information to the main control room and do not impact any automatic functions. Alternate information is available to the operator to monitor post-accident conditions. The operator will take action in accordance with the emergency procedures to maintain reactor level and core cooling functions. No other systems are affected by the failure of this device.

D13. RCIC Flow

E51-N003

Qualification Status

This Rosemount 1151 will be replaced with a Rosemount 1153, which is fully qualified to NUREG 0588 Cat. I.

Justification for Interim Operation

This component is located inside the RCIC/LPCS cubicle and is exposed to a harsh environment for an Instrument Line Break outside of containment and for the high radiation associated with a LOCA. For the break in the cubicle, it is presumed to fail and therefore is not required for that event. For the LOCA event, it performs its control function (RCIC turbine initiation) prior to being affected by the radiation. Note also that in the analysis of a LOCA and HELB, no credit is taken for RCIC. With regard to the indication fed by this transmitter, the operator will follow the emergency procedures for long-term core and containment cooling.

D14. HPCS Flow

E22-N005

Qualification Status

This Rosemount 1152 will be replaced with a Rosemount 1153, which is fully qualified to NUREG 0588 Cat. I.

Justification for Interim Operation

This device is located inside the HPCS cubicle and is exposed to a harsh environment for an Instrument Line Break and the high radiation associated with a LOCA. This device is presumed to fail for a line break in the HPCS cubicle. For the LOCA event, it provides information only and does not initiate any automatic functions. Its failure does not affect any other system. The operator may refer to alternate indicators to assess post-accident conditions and will follow the emergency procedures to provide long-term core and containment cooling.

D15. LPCS Flow

E21-N003

Qualification Status

This Rosemount 1151 will be replaced with a Rosemount 1153, which is fully qualified to NUREG 0588 Cat. I.

Justification for Interim Operation

This device is located in the RCIC/LPCS cubicle and is exposed to a harsh environment for an Instrument Line Break inside the cubicle and the high radiation from a LOCA. LPCS is considered unavailable for a break in the cubicle so this device need not be qualified for that environment. For the LOCA event, it performs its control function (control minimum flow valve) prior to being affected by the radiation. With regard to its indication signal, the operator may refer to alternate sensors to assess post-accident conditions and will follow the emergency procedures to provide long-term core and containment cooling.

D20. RHR Heat Exchanger Outlet Temperature

E12-N027

Qualification Status

Vendor testing is in progress to qualify this Pyco thermocouple to NUREG 0588 Cat. I. CECo. will await the results of this test report.

Justification for Interim Operation

This instrument is located in an area where it may be exposed to a harsh environment for an Instrument Line Break outside of containment and for the high radiation associated with a LOCA. Since its sole function is to provide control room indication, its failure will not impact the performance of any safety function. The operator will rely on the emergency procedures to shut down the plant and provide long-term cooling.

D21. CSCS Temperature

E12-N005A, B

Qualification Status

The vendor is presently qualifying these Pyco thermocouples by type test per NUREG 0588 Cat. I. CECo. will await these test results.

Justification for Interim Operation

These thermocouples measure service water temperature downstream of the RHR heat exchanger. Since this service water source is the same as all other service water, the lake, it provides adequate indication of the water temperature. Although this measurement is taken downstream of the heat exchanger, the fact that it is within the proper range verifies adequate performance of the safety function and adequate service water inlet temperature.

These devices will be exposed to a harsh environment for an Instrument Line Break outside of containment and for the high radiation associated with a LOCA. Since their sole function is to provide control room indication, their failure will not impact the performance of any safety function. The operator will rely on the emergency procedures to shut down the plant and provide long-term cooling.

D22. CSCS Flow

E12-N007

Qualification Status

This Rosemount 1151 will be replaced with a model 1153, which is fully qualified to NUREG 0588 Cat. I for this environment.

Justification for Interim Operation

This transmitter may be exposed to a harsh environment for an Instrument Line Break outside of containment or for the high radiation associated with a LOCA. Since its sole function is control room indication, its failure will not adversely affect the performance of any safety function. The operator will rely on the emergency procedures to shut down the plant and to provide long-term core cooling.