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February 11, 1986

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

Subject: LaSalle County Station Units 1 and 2
Piping Design Criteria
NRC Docket Nos. 50-373 and 50-374

Dear Mr. Denton:

This letter is to request NRC concurrence in the use of Pressure Vessel Research Council dampening recommendations contained in ASME Code Case N-411 for LaSalle Units 1 and 2. Use of this code case has previously been approved for Commonwealth Edison's Byron and Braidwood plants as well as for Illinois Power Company's, Clinton Power Plant.

Details concerning the implementation of this code case are discussed in the Attachment. Our request is essentially the same as that for which approval has been previously granted for Byron, Braidwood and Clinton Power Plants. We believe that there are no adverse consequences on the total design of the piping system resulting from the use of higher PVRC recommended dampening values.

The use of ASME Code Case N-411 will be documented in an update to the FSAR. A license change is not required.

Your expeditious response is requested on this matter, and if further information is needed by your staff please contact this office.

Sincerely,

M. S. Turbak

M. S. Turbak
Operating Plant Licensing Director

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Attachment

cc: Resident Inspector - LSCS
A. Bournia - NRR

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ATTACHMENT

Subject: LaSalle County Nuclear Station Units 1&2
ASME Code Case N-411
Request for NRC Review and Approval

References:
1. June 18, 1984 letter from T.R. Tramm (CECo) to H.R. Denton (NRC).
2. January 17, 1985 letter from B.J. Youngblood (NRC) to D.L. Farrar (CECo).
3. June 19, 1985 letter from K.A. Ainger (CECo) to H.R. Denton (NRC).
4. July 18,1985 letter from B.J. Youngblood (NRC) to D.L. Farrar (CECo).
5. Letter from F.A. Spangenberg (Illinois Power) to A. Schwencer (NRC).
6. April 5, 1985 letter from A. Schwencer (NRC) to F.A. Spangenberg (Illinois Power).
7. June 24, 1985 letter from F.A. Spangenberg (Illinois Power) to W.R. Butler (NRC).
8. July 19, 1985 letter from W.R. Butler (NRC) to F.A. Spangenberg (Illinois Power).

This letter is Commonwealth Edison Company's (CECo) request to implement the Pressure Vessel Research Council (PVRC) damping recommendations contained in ASME Code Case N-411 as an alternative to guidance in Regulatory Guide (R.G.) 1.61. Damping recommendations from R.G. 1.61 were used in the original design of the piping at LaSalle County Nuclear Station, Units 1 & 2.

The NRC has approved Code Case N-411 for use at CECo's Byron and Braidwood Nuclear Stations and Illinois Power Company's Clinton Nuclear Station. References 1 through 8 are the letters which document the approval. In these letters, the NRC has listed restrictions on the use of Code Case N-411. CECo agrees to comply with these restrictions as addressed in the paragraphs below.

The damping values in Code Case N-411 will only be used for response spectra analyses of building filtered loads. Building filtered loads include seismic (OBE and SSE) and hydrodynamic (SRV induced building inertial, condensation oscillation, chugging, etc.) loads in which dynamic building displacements excite the pipe via the pipe supports. Code Case N-411 damping values will not be used in time history analyses.

When Code Case N-411 damping values are used, they will be used for all portions of a subsystem in a given analysis. Damping values from Code Case N-411 will not be combined with R.G. 1.61 values in any given analysis.

If piping supports are moved, modified, or eliminated as a result of using the damping values in Code Case N-411, the existing piping displacement limits for LaSalle County Nuclear Station Units 1 & 2 will be maintained. In cases where the piping movements exceed the displacement limits, adjacent structures, components, and equipment will be reviewed for adverse effects.

Code Case N-411 will be used in new piping and equipment dynamic analyses and in reanalyses for support reconciliation work, support optimization, and piping evaluation.

CECo believes that the PVRC damping values in Code Case N-411 represent an advancement to improved nuclear piping design and no adverse consequences will result from their use. The PVRC recommendations are based on a wide spectrum of sources including laboratory and in-plant tests of piping of different sizes, a variety of support types, and several different methods of excitation. Much of this data was not available at the time the R.G. 1.61 damping values were established, thus the PVRC recommendations are based on more realistic and well founded data.

Use of the higher PVRC damping values will indicate that fewer supports are required to provide adequate design margin for seismic and hydrodynamic events. The more flexible systems which result will be less susceptible to thermal expansion problems and will perform more reliably during normal operation.

CECo seeks an expedited NRC review of Code Case N-411 so that PVRC damping values may be used in several piping evaluations critical to Unit 1 startup. Unit 1 is currently in a refueling outage. During the outage, the Technical Specifications of LaSalle require 100% visual examination of safety related snubbers. However, a total of three snubbers on two Unit 1 subsystems are inaccessible and cannot be inspected. Unit 2 also has two inaccessible snubbers. Therefore, in lieu of inspection, analyses incorporating Code Case N-411 will be used in a 10 CFR 50.59 safety evaluation to determine if the inaccessible snubbers are required. All other design criteria used in the analysis will remain the same as the original design. If the 10 CFR 50.59 safety evaluation demonstrates that leaving the snubbers in place uninspected poses no safety concern, the snubbers will be removed from the inspection list and no Technical Specification changes will be required.

The three inaccessible snubbers are located in a congested area below the bottom of the reactor pressure vessel. Equipment erection and insulation placement occurring after the snubbers were installed prevent snubber visual examination. Extensive disassembly of safety-related components is necessary to gain access to the snubbers. Furthermore, the snubbers are in a high radiation area which poses a safety hazard to those working in the area.

To demonstrate that leaving the snubbers in-place uninspected poses no safety concern, the affected subsystems are being reanalyzed to account for the worst case failure modes of the snubbers. The piping and support loads will be checked to ensure design allowables are not exceeded. Should the analysis indicate that overstress occurs in the pipe or a component, the support arrangement may be altered to alleviate the overstress. The final option is to undertake the extensive disassembly of safety-related equipment in the high radiation area and inspect the snubbers.

Because the inaccessible snubber problem must be resolved before startup of Unit 1, CECo requests an NRC response on the use of Code Case N-411 by mid-March. Unit 1 is currently scheduled to startup in early May, 1986. To prevent the inaccessible snubber problem from extending the Unit 1 refueling outage, at least seven weeks must be available to perform the analyses and design and install modified supports or disassemble equipment, if necessary.

Necessary FSAR changes will be implemented in a future update. No license change is required.