



**Commonwealth Edison**

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October 30, 1984

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

Subject: Byron Generating Station Unit 1  
Request for Exemptions from 10 CFR 50  
NRC Docket No. 50-454

Reference (a): October 18, 1984 letter from T. M. Novak  
to D. L. Farrar

(b): October 29, 1984 letter from L. O. DelGeorge  
to H. R. Denton

Dear Mr. Denton:

This letter documents the justifications provided by Commonwealth Edison in support of License Conditions 16 (Reference a) and a proposed License Condition regarding steam generator snubbers. Although it is not clear that the matters covered by these Conditions are such that exemptions from 10 CFR 50 are required, Commonwealth Edison judges it to be prudent in light of NRC Staff guidance to request, in accordance with 10 CFR 50.12(a), that the justifications for these License Conditions be confirmed by the issuance of specific exemptions to the requirements of 10 CFR 50 Appendix A, General Design Criteria 4 and 2.

Attachments A and B to this letter demonstrate that exemptions from GDC's 4 and 2 are warranted with respect to the matters discussed in License Condition 16 and in the proposed condition regarding steam generator snubbers. They are in the same format as the four other justifications provided in reference (b).

Please address further questions regarding this matter to this office.

Very truly yours,

L. O. DelGeorge  
Assistant Vice President

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Attachment

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## ATTACHMENT A

### JUSTIFICATION FOR EXEMPTION FROM GDC 4

LICENSE CONDITION 16: Protection from postulated breaks or cracks  
in high-energy and moderate energy lines

Exemption: CECO's analysis of jet impingement effects has not been reviewed by NRC. The exemption would permit operation at power levels not exceeding 5% of full power pending completion of NRC's review of the analysis of the effects of jet impingement.

#### I. The Requested Exemptions and the Activities Which Would Be Allowed Thereunder are Authorized by Law

If the criteria established in 10 CFR 50.12(a) are satisfied, as they are in this case, and if no other prohibition of law exists to preclude the activities which would be authorized by the requested exemption, and there is no such prohibition, then the Commission is authorized by law to grant this exemption request.1/

#### II. The Requested Exemptions Will Not Endanger Life or Property

10 CFR 50, Appendix A, General Design Criterion 4 states that structures, systems, and components important to safety shall be designed to accommodate the effects of and to be compatible with the environmental conditions associated with postulated accidents, including loss-of-coolant accidents. These structures, systems and components are to be appropriately protected against dynamic effects, including the effects of pipe whipping and discharging fluids. These requirements have been appropriately considered in the design of Byron and Braidwood Stations.

The NRC Staff has reviewed the Sargent and Lundy analyses of the effects of jet impingement resulting from postulated high and moderate energy pipe breaks. They plan a more detailed review of the application of the methodology developed in NUREG/CR-2913.

Pending completion of this review, operation of Byron 1 at power levels not exceeding 5% of full rated power will not endanger life or property because:

- 1) the fission product inventory is low
- 2) the piping is new and it is not likely that a high or moderate energy pipe would experience a catastrophic break during the time it will take to complete the review.

III. The Requested Exemptions Will Not Endanger The Common Defense and Security

The common defense and security are not implicated in these exemption requests. Only the potential impact on public health and safety is at issue.

IV. The Requested Exemptions Are in the Public Interest

The requested exemptions are in the public interest because any delay in commencement of low power testing and power ascension would cause a delay in the attainment of commercial operation and because, as shown above, the health and safety of the public will be adequately protected.

Byron Unit 1 is physically complete in all essential respects and is ready for low power testing and ascension to full power. Upon satisfactory completion of the power ascension testing program in accordance with the license and technical specifications, the facility will be placed in commercial operation.

Unless the requested exemption to General Design Criterion 4 is granted there will be a substantial delay in the startup and operation of Byron Unit 1. As detailed in the September 27, 1984 affidavit of Ralph L. Heumann, Vice President of Commonwealth Edison Company,<sup>2/</sup> the principal costs affected by such a delay are Allowance for Funds Used During Construction ("AFUDC"), continuing overhead and standby costs, and additional fuel and purchased power costs. Presently, these costs of delay in the startup of Byron total approximately \$40 million per month of delay.

Denial of the requested exemption would have a substantial financial impact on Commonwealth Edison and its customers and is not warranted in as much as, as shown above, the public health and safety are adequately protected.

<sup>1/</sup> See U.S. vs. Allegheny-Ludlum Steel Corp., 406 U.S. 742, 755 (1972).

<sup>2/</sup> Mr. Heumann's affidavit is attachment 2 to Commonwealth Edison Company's Answer to Intervenor's Motion to Reopen the Record, submitted to the Licensing Board on October 2, 1984.

ATTACHMENT B

JUSTIFICATION FOR EXEMPTION FROM GDC 2

License Condition : Steam Generator Snubbers

Exemption: Large hydraulic snubbers are required to provide lateral restraint of the steam generators during seismic motion. These snubbers may not be in place during fuel loading, but they will be installed prior to entering Mode 4.

I. The Requested Exemptions and the Activities Which Would Be Allowed Thereunder are Authorized by Law

If the criteria established in 10 CFR 50.12(a) are satisfied, as they are in this case, and if no other prohibition of law exists to preclude the activities which would be authorized by the requested exemption, and there is no such prohibition, then the Commission is authorized by law to grant this exemption request.<sup>1/</sup>

II. The Requested Exemptions Will Not Endanger Life or Property

General Design Criteria 2 requires that structures, systems and components important to safety be designed to withstand the effects of natural phenomena such as earthquakes. The steam generator snubbers are required to prevent overstress in the reactor coolant system piping during earthquakes.

Such protection is not required by the Technical Specifications in the refueling and cold shutdown modes when the reactor coolant system temperature is less than 200°F. At these temperatures the steam generators are not necessary for decay heat removal. The residual heat removal system provides that function. Regardless, during initial core loading and startup testing there is no decay heat to be removed and no fission product inventory. A reactor coolant system pipe break in modes 5 or 6 would not produce an offsite dose. Decay heat removal would not be compromised because there is no decay heat.

The steam generator snubbers will be installed prior to heating the reactor coolant system above 200°F so that predictions of thermal movement can be verified.



III. The Requested Exemptions Will Not Endanger The Common Defense and Security

The common defense and security are not implicated in these exemption requests. Only the potential impact on public health and safety is at issue.

IV. The Requested Exemptions Are in the Public Interest

The requested exemptions are in the public interest because any delay in commencement of low power testing and power ascension would cause a delay in the attainment of commercial operation and because, as shown above, the health and safety of the public will be adequately protected.

Byron Unit 1 is physically complete in all essential respects and is ready for low power testing and ascension to full power. Upon satisfactory completion of the power ascension testing program in accordance with the license and technical specifications, the facility will be placed in commercial operation.

Unless the requested exemption to General Design Criterion 2 is granted there will be a substantial delay in the startup and operation of Byron Unit 1. As detailed in the September 27, 1984 affidavit of Ralph L. Heumann, Vice President of Commonwealth Edison Company,<sup>2/</sup> the principal costs affected by such a delay are Allowance for Funds Used During Construction ("AFUDC"), continuing overhead and standby costs, and additional fuel and purchased power costs. Presently, these costs of delay in the startup of Byron total approximately \$40 million per month of delay.

Denial of the requested exemption would have a substantial financial impact on Commonwealth Edison and its customers and is not warranted in as much as, as shown above, the public health and safety are adequately protected.

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