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November 3, 1982

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

Subject: Byron Station Units 1 and 2
Braidwood Station Units 1 and 2
Volume Reduction System
NRC Docket Nos. 50-454, 50-455,
50-456, and 50-457

Reference (a): October 4, 1982, letter from
B. J. Youngblood to L. O. DelGeorge.

Dear Mr. Denton:

This is to provide an advance copy of the response to a Byron/Braidwood FSAR question regarding the volume reduction system. Attachment A to this letter contains the response to question 321.53. This response will be incorporated into the FSAR at the earliest opportunity.

One signed original and fifteen copies of this letter and the attachment are provided for your use. Please address further questions to this office.

Very truly yours,

T. R. Tramm
Nuclear Licensing Administrator

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Attachment

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DOIA

8211070216 821103
PDR ADOCK 05000454
A PDR

ATTACHMENT A

Question 321.53

"Your response to Questions 321.43 states that you are unaware of any federal, state, or local agency approvals or permits that are necessary to construct or operate the volume reduction system. It is our understanding that all incinerators require a permit from the Illinois Environmental Protection Agency and that under Rule 203.(e).(4) all new incinerators are limited to 0.1 grains per SCFM corrected to 12% CO₂. opacity limits as stated in Rule 202, and to CO emissions of 500 ppm when corrected to 50% excess air. Please address your conclusion that additional permits or approvals are not required and address the capability of the gaseous effluents to meet the above limitations for stationary sources."

Response

Application will be made to the Illinois Environmental Protection Agency for incinerator operating permits for the Byron and Braidwood volume reduction systems (VRS). However, it is our position that the VRS with its evaporators, scrubbers and two high efficiency and one charcoal filter is not a conventional incinerator and does not need a permit.

Comparison of emissions from the VRS system to the emission limits contained in current State of Illinois Air Pollution Control Regulations, are shown on Table 351.53. The emission limits in the regulations are for exhaust into the atmosphere which, in this case, is the Unit 2 ventilation exhaust stack with a discharge of 229,440 CFM. The VRS has an exhaust of 466 SCFM. The comparison shows that particulate emissions due to the VRS are over 8 orders of magnitude less than the limit and the carbon monoxide emissions are over 3 orders of magnitude less than the limit. It is assumed that the opacity "Rules 202(a) and 202(b) shall not apply if it is shown that the emission source was, at the time of such emission, in compliance with the mass emission limitation of Rule 203." Since the mass flow is over 8 orders of magnitude less than the limits of Rule 203, one can predict with confidence compliance with the opacity rule.

The response to Question 321.43 will be revised to conform to this response.

Table 321.53

Comparison of Volume Reduction System
Air Emissions to Emission Limitation for Incinerators

<u>Criteria</u>	<u>Emission⁽¹⁾ Limit</u>	<u>At VRS Exhaust</u>	<u>At Building Exhaust</u>
Particulate Emissions - Grains per Standard Cubic Feet per Minute corrected to 12% CO ₂ Rule 203(e)(4)	0.1 gr	$0.107 \times 10^{-5} \text{gr}$	$2.17 \times 10^{-9} \text{gr}$
Opacity limits - Rule 202(b)	30%	0 ⁽²⁾	0 ⁽²⁾
Emissions of carbon monoxide into the atmosphere (corrected to 50% excess air) Rule 206(b)	500 ppm	129 ppm	0.262 ppm

(1) Emission limits are for exhaust to the atmosphere.

(2) Rule 202(c)(3) states "Rules 202(a) and 202(b) shall not apply if it is shown that the emission source was, at the time of such emission, in compliance with the mass emission limitation of Rule 203.