

UNION ELECTRIC COMPANY

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VICE PRESIDENT

May 9, 1985

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

ULNRC-1092

Dear Mr. Denton:

DOCKET NUMBER 50-483
CALLAWAY PLANT, UNIT 1
INDUCTION OF EXHAUST GASES INTO THE CONTROL ROOM

- References: 1. NRC letter dated 4/2/85
2. ULNRC-1001 12/21/84
3. BLSE-13,391 3/21/84

This is in response to the request for additional information on the subject issue contained in Mr. Youngblood's letter (reference 1) dated April 2, 1985. In the initial evaluation of the incident by our A/E (reference 3), the infiltration of SO₂ was concluded to represent no threat to operator performance. Also, as indicated previously in reference 2, the normal air supply to the Control Room HVAC is isolated by operator action upon indication of CO, CO₂, or the presence of a malodor, i.e., exhaust fumes. With this action the makeup air is provided by the pressurization system. The makeup air intake for the pressurization system is located considerably more distant from the auxiliary boiler exhaust stack and has a different relative orientation than the normal Control Room HVAC intake.

Taking into account this location and orientation, it has been conservatively estimated that the concentration of exhaust gases at the pressurization system intake is a factor of 10 less than that at the normal air intake (reference 3, Table 1). Assuming the Control Room isolation is due to the CO/CO₂ alarm, the SO₂ level is estimated to be 3.33 ppm; however, once isolation is initiated, the Control Room will reach an SO₂ equilibrium concentration of approximately 2 ppm which is well below the Regulatory Guide 1.78 limit (10 ppm) and the concentration which results in nose, throat, and eye irritation (20 ppm). The previous assessment (reference 3) did indicate an equilibrium concentration of SO₂ equal to 20 ppm; however, this assumed that control room isolation was not initiated. Therefore, long term protection is provided with this operator action and provisions of the existing design.

It should be stressed once again that the auxiliary boiler is not normally running while the plant is operating. Operation will occur during unit outages and infrequent testing.

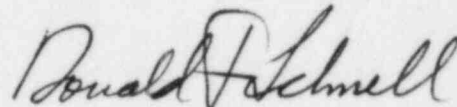
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Therefore, in view of the the very low equilibrium SO₂ concentration that could be reached in the Control Room, we do not believe that an estimate of the frequency and duration of boiler operation, an assessment of the effect of SCBA on operator performance, or an evaluation of the feasibility of periodic drills is necessary to conclude that additional occurrences of the subject incident will not interfere with or preclude operators from performing their safety functions. We trust this information will conclude your review of this subject.

Very truly yours,

A handwritten signature in cursive script, reading "Donald F. Schnell". The signature is written in dark ink and is positioned above the printed name.

Donald F. Schnell

RPW/JJS/JJM/sla

STATE OF MISSOURI)
) S S
CITY OF ST. LOUIS)

Donald F. Schnell, of lawful age, being first duly sworn upon oath says that he is Vice President-Nuclear and an officer of Union Electric Company; that he has read the foregoing document and knows the content thereof; that he has executed the same for and on behalf of said company with full power and authority to do so; and that the facts therein stated are true and correct to the best of his knowledge, information and belief.

By Donald F. Schnell
Donald F. Schnell
Vice President
Nuclear

SUBSCRIBED and sworn to before me this 9th day of May, 1985.

Barbara J. Pfaff
BARBARA J. PFAFF
NOTARY PUBLIC, STATE OF MISSOURI
MY COMMISSION EXPIRES APRIL 22, 1989
ST. LOUIS COUNTY

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