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UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

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MAY 31 1979

Docket Nos. 50-461  
50-462

Mr. Peter Penner  
Prairie Alliance  
P. O. Box 2424  
Station A  
Champaign, Illinois 61820

Dear Mr. Penner:

This is in response to your letter to Mr. Oliver D. T. Lynch, Jr., of my staff, dated April 26, 1979.

In essence, your interpretation of Mr. Lynch's telephone response to your questions is correct:

1. The Nuclear Regulatory Commission has no jurisdiction over coal-fired power plants nor their emissions, radioactive or not.
2. It is easily possible to distinguish the gaseous and particulate radioactive releases from a coal plant from the routine releases from a nuclear plant. Coal plants produce gaseous and particulate releases of uranium, radium and thorium radionuclides and their daughters while nuclear plants radioactive releases under normal operation are other radionuclides entirely. Therefore, a radioisotope and analysis could easily distinguish between coal and nuclear plant emissions.
3. The coal plant radioactive emissions do not affect the nuclear plant's ability to adhere to its emission standards under the authority of the Nuclear Regulatory Commission.

I am enclosing two reports for your information which describe the radioactive emissions from coal plants and also from the Clinton Power Station, Units 1 and 2: (1) Radiological Impact of Airborne Effluents of Coal-Fired and Nuclear Power Plants (ORNL-5315), and (2) Section 3 of the Final Environmental Statement Related to the Proposed Clinton Power Station, Units 1 and 2, October 1974. The radioactive source term for a Model Advanced 1000-MW(e) Coal-Fired Power Plant is provided in Chapter 3 of Enclosure 1, and the source terms for Model Advanced

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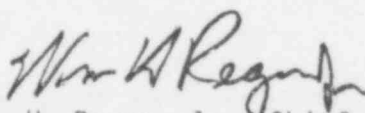
Nuclear Plant is provided in Chapter 4 of Enclosure 1. Using these documents a comparison can be made regarding the radionuclides emitted by each type of plant. Through radioisotopic analysis, the nature of the radionuclides can be easily determined and thus, the source identified.

In your letter you asked three additional questions: First, is there really no standard whatsoever for gaseous release of uranium daughters (etc.) from operating nuclear plants? Secondly, aren't there standards for emissions of these radioactive products into the cooling water? If so, could the coal plant's gaseous releases settle onto the cooling lake in such a way as to accumulate these radioisotopes enough to make it look like the nuclear plant was releasing too much into its cooling lake?

In answer to your first question, the Nuclear Regulatory Commission regulates all releases of radionuclides from nuclear power plants, including any uranium or its daughters, should in the unlikely event any be released. Nuclear power plants must comply with Appendix I of 10 CFR 50, which sets forth numerical guides for design objectives and limiting conditions for operation to meet the criterion "as low as reasonably achievable" for radioactive material in light-water-cooled nuclear power reactor effluents. In addition, all licensees must comply with 10 CFR 20.106, Radioactivity in Effluents to Unrestricted Areas, which sets forth maximum permissible concentrations of radionuclides, including uranium, radium and thorium and their daughters in effluents from any nuclear facility. In answer to your second question, these same regulations apply to any radionuclides released to cooling water. As to your third question, I have pointed out that radionuclide releases from coal plants are different than those from nuclear power plants. It is a rather simple matter to differentiate between the sources of the radionuclides. For this reason, using the baseline radiological environmental monitoring performed for each nuclear power facility, it would be possible to show that radionuclide contamination of the cooling lake was from a nearby coal-fired plant rather than the nuclear facility.

I trust that you find this responsive to your inquiry. Your interest is appreciated.

Sincerely,



Wm. H. Regan, Jr., Chief  
Environmental Projects Branch 2  
Division of Site Safety and  
Environmental Analysis

Enclosures:

1. ORNL-5315
2. Section 3, Clinton 1&2 FES