

October 19, 2007

MEMORANDUM TO: Samuel J. Collins, Regional Administrator
Region I

FROM: Brian W. Sheron, Director */RA/* Michael Johnson for/
Office of Nuclear Regulatory Research

SUBJECT: RESPONSE TO TECHNICAL ASSISTANCE REQUEST
REGARDING STRONTIUM-90 IN ENVIRONMENTAL SAMPLES
COLLECTED FROM THE HUDSON RIVER

I am forwarding for your information and use the enclosed report of background strontium-90 (Sr-90) concentrations in environmental samples collected from the Hudson River in the vicinity of the Indian Point Energy Center (IPEC). The staff of the Office of Nuclear Regulatory Research (RES) developed this report in response to a technical assistance request (TAR), dated August 24, 2007, from Marsha K. Gamberoni (Region I) to Jennifer L. Uhle (RES). Specifically, the TAR asked RES to (1) research existing information to explore the extent to which Sr-90 is generally ubiquitous in the environment, (2) document known studies and measurements that may be relevant to IPEC, and (3) investigate potential dose contributions.

The enclosed report discusses the sources and evolution of background Sr-90 concentrations in New York State, briefly describes two fish sampling programs that currently monitor Sr-90 concentrations in fish, and estimates the hypothetical dose to humans from annual consumption of 15 pounds of fish containing Sr-90 at concentrations comparable to those measured in the vicinity of (and upstream from) IPEC. Research in this area revealed that New York State maintains elevated background Sr-90 concentrations attributable to the nuclear weapons testing at the Nevada Test Site. This is because meteorological conditions historically transported and deposited higher levels of Sr-90 in New York State than in other areas of the United States.

Both Brookhaven National Laboratory and the West Valley Demonstration Project currently monitor Sr-90 concentrations in fish as part of their environmental monitoring programs. An evaluation of the fish sampling data collected from the respective control sites revealed Sr-90 concentrations that were comparable to those measured in fish collected from the Hudson River near IPEC, as well as upstream at the sampling location in Roseton, New York. In addition, a secondary evaluation indicated that the estimated human doses attributable to consuming the tainted fish would be well below the established exposure limits and pose no significant impact to the health and safety of the population consuming fish from the Hudson River in the vicinity of IPEC.

Enclosure:
As stated

CONTACT: Adam L. Schwartzman, RES/DRA
301-415-8172

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CONTACT: Adam L. Schwartzman, RES/DRA
301-415-8172
301-415-8173

DIST: J. Dyer, NRR
J. Wiggins, NRR
W. Kane, DEDR
B. Mallett, DEDR
M. Virgilio, DEDMRT
J. Boska, IP 2&3 PM

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NAME	A. Schwartzman	W. Ott	J. Monninger D. Solorio for/	C. Lui	P. Garrity		B. Sheron
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