

Docket 50-320



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

JUN 4 1979

MEMORANDUM FOR: Distribution

FROM: Phillip R. Reed  
Environmental Effects Research Branch  
Division of Safeguards, Fuel Cycle  
and Environmental Research, RES

SUBJECT: <sup>131</sup>I IN THYROIDS AND THE THREE MILE ISLAND INCIDENT

On May 14, 1979, I received a telephone call from Dr. L. Van Middlesworth of the University of Tennessee at Memphis concerning recent results he obtained from his research program to determine <sup>131</sup>I levels in cow, sheep and human thyroids and the relationship of these findings with the Three Mile Island nuclear incident. A follow-up conversation occurred on May 16, 1979 to clarify and expand on several topics discussed in the initial telephone conversation. (Dr. Van Middlesworth is funded by DOE to study global <sup>131</sup>I levels in animal thyroids and currently receives thyroids for analysis from slaughterhouses throughout the world. He has over 20 years of experience in this area, and, in 1958, published a paper in Nature on iodine levels in thyroids of sheep before and after the release of iodine from the Windscale nuclear accident.)

The following was discussed by Dr. Van Middlesworth:

1. He analyzed for and detected <sup>131</sup>I in sheep thyroids from Bi...ingham, England from April 15 to April 30, 1979. The preliminary data indicated levels of <sup>131</sup>I as:
  - a. April 15 - less than 0.1 pCi/g
  - b. April 23 - 0.2 ± 0.1 pCi/g
  - c. April 30 - 0.7 ± 0.3 pCi/g
2. No <sup>131</sup>I was found in 18 cattle thyroids obtained from the Philadelphia slaughterhouse. However, he indicated the cattle may have originally come from the midwest and he had no idea how long they were penned in the Philadelphia area before being slaughtered.
3. No <sup>131</sup>I was found in about 40 cattle thyroids from Memphis, Tennessee from April 12 through May 9, 1979.

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JUN 4 1979

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4. No detectable  $^{131}\text{I}$  was found in some 15 human thyroids from Philadelphia from April 13 to April 23, 1979.
5. He tried to obtain thyroid samples from the Harrisburg/Middletown, Pa. area but had little success. He sent a letter to a private citizen in the area requesting information and assistance in obtaining thyroids, but the private citizen told him no cows were being slaughtered.
6. He prepared a short summary of his findings for publication in Science and he stated some statements were made in the paper about his research results and the Three Mile Island incident. I asked for a copy of the preprint and he said one would be sent immediately.

*Phillip R. Reed*  
Phillip R. Reed  
Environmental Effects Research Branch  
Division of Safeguards, Fuel Cycle  
and Environmental Research, RES

50-320

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Distribution - Memorandum dated

JUN 4 1979

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