October 15, 2010

MEMORANDUM TO: Patricia J. Pelke, Chief
Materials Licensing Branch
Division of Nuclear Material Safety

FROM: Brain J. Kemker, Chief
Material Control, ISFSI, and Decommissioning Branch
Division of Nuclear Material Safety

SUBJECT: REVIEW OF AMERICAN RADIOLABELED CHEMICAL'S, INC. BASIS FOR ASSESSING THE GENERAL PUBLIC DOSE AT B-400

On August 25, 2010, you requested our review of a letter dated May 25, 2010, regarding the justification of assessing the general public dose at B-400 from American Radiolabeled Chemicals (ARC) Inc. Based on the review, we determined that the licensee didn't provide adequate information to justify B-400 as the location where the general public will receive the highest dose to determine compliance with the 10 mrem/yr requirement. The licensee's response did not provide the information you requested.

Due to the wake effect, Gaussian dispersion shouldn't be used to assess the off-site effluent concentration. The highest concentration of the release would be in the nearby area of the release building. Based on the previous review, the concentrations at B-400 were not proportional to the concentrations at the release point. In other words, the B-400 may not receive the highest dose due to the changing wind direction during the year.

There are industrial facilities right next to the ARC and they might receive doses higher than B-400. The additional air sampling at the ARC's site boundary should be required to justify that B-400 receives the highest dose in the general public areas.

In our view, the only alternative would be for the licensee to demonstrate compliance by appropriate measurements.

License No.: 24-21362-01
Docket No.: 030-20567
Control No.: 318694

CONTACT: Peter J. Lee, DNMS
630-829-9870

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