TEXAS DEPARTMENT OF STATE HEALTH SERVICES

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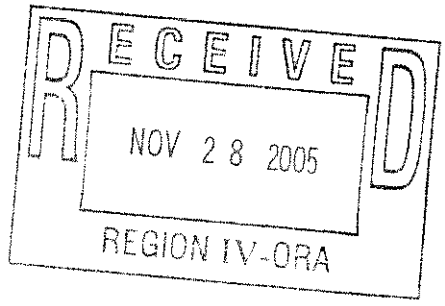

WILLIAM MAIER
REGIONAL STATE LIAISON OFFICER
USNRC REGION IV
611 RYAN PLAZA DRIVE
SUITE 400
ARLINGTON, TX 76011-4005

Dear Mr. Maier:

We have received a request from Nucor, a Texas foundry, located in Jewett, Texas, for an exemption concurrence to release a waste stream, consisting of less than 25 railcars of KO-61 waste. The enclosed radiological assessment is provided to the United States Nuclear Regulatory Commission (NRC), based on discussions made during a conference call November 7, 2005, between various NRC and Texas staff.

Nucor's exemption request to have Texas release them from allowing stabilization-treatment of KO-61 waste for RCRA facility acceptance, by a U.S. Ecology-Idaho, who operates a RCRA hazardous waste landfill would appear appropriate for receipt and burial, but without a by-product material waste processing license issued by a radiation regulatory agency. But for granting the requested exemption from a specific regulatory clause that waste processing shall be performed by a licensed waste processor, the Agency finds that all other specifications and criteria for releasing the KO-61 waste to U.S. Ecology-Idaho has been met.

Texas is now requesting Technical Assistance from the NRC, as to concurrence with the safety conclusions for the radiological impact analysis, which will apply to granting the requested exemption. The requested concurrence is primarily with the finding that, possession and treatment by U.S. Ecology's RCRA workers will not constitute an unacceptable risk to individuals who are characterized as members of the public. In handling this as exempt material, the dose from the radioactivity should not be greater than one millirem per year.

If you need additional information regarding this matter, please contact Mr. David Wood of my staff at (512) 834-6688 ext. 2208; or by electronic mail at david.wood@dshs.state.tx.us.

Sincerely,

Ruth E. McBurney

Ruth E. McBurney, CHP, Manager
Radiation Safety Licensing Branch

Enclosure Radiological Impact Assessment

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Radiological Impact Assessment of Processing and Disposal of KO-61 from Nucor to U.S. Ecology at Idaho, Subtitle C RCRA-Permitted Disposal Facility.

The Agency received a request dated November 7, 2005, for an exemption from Title 25 Texas Administrative Code §289.202 (ee)(2)(A). This rule would require treatment operations for KO-61 undertaken by either: (i) the electric arc furnace or foundry licensed to possess/treat/transfer, or (ii) a service contractor licensed to possess/treat/transfer. Therefore, Nucor requests an exemption for relief from this rule and provides justifications for requesting to allow KO-61 waste processing at a site not licensed by the regulatory authority in Idaho, the United States Nuclear Regulatory Commission (NRC). The NRC's Final Staff Technical Position is the basis for current Texas rules that allows for KO-61 waste of limited concentrations, to be buried at RCRA facility without regard for its radioactivity. Therefore, review of the NRC's Final Staff Technical Position, for Disposal of Contaminated Emission Control Dust and other Incident Related Material, issued in Federal Register March 19, 1997, is also considered for its original rationale and criteria.

With this knowledge, the NRC's document was reviewed along with the data and assumptions made during the NRC's radiological impact, which concluded that bulk disposal would be found acceptable and without regard to its radioactivity, when the waste's pretreatment concentrations were below 100 picocuries (pCi) /gram (g). The bottom line for the NRC's position, was that under the worst case scenario, described as 1 curie, diluted in 40,000 cubic feet, yielding a pre-treatment concentration of 100 picocuries per gram and post-treatment concentration of 77 pCi per g, and using a maximum worker exposure time of (32 worker hours) during the handling by non-radiation workers at a RCRA facility while processing this volume for bulk disposal, no single worker will be expected to receive an exposure greater than 0.5 mrem above background.

The unique conditions of the Nucor incidental gauge melting, resulted in a 10 mCi sealed Cs-137 source, generating an average pretreatment concentrations of 3.0 pCi/g over the first twenty railcars, with a high concentration of 20.70 pCi/g. Therefore for the RCRA facility workers who would participate in the transportation and/or burial of this KO-61 waste, would be exposed to 1 percent of the activity, or 10 mCi, would only be exposed to 3% of the assumed pre-treatment concentration of 3.0 pCi/g. Nucor estimates that the total waste may reach as high as 2400 tons, similar to the NRC's 2000 ton assumption. Therefore taking the worst case scenario, and scaling back the worst case exposure per single worker, 3 % of the 0.5 exposure would represent a maximum exposure of 0.015 mrem/yr from these activities.

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Of course NRC's scenario opts not to address the waste processing workers, by requiring that the dose be assumed by a licensed waste processor employee working under licensed activities. However, in Nucor's case, the processing/treating employee must also be considered for a non-licensed U.S. Ecology, Idaho. Nucor, after consultation, offers time-distance details reflecting that the stabilization process operator would not be any closer than 4.56 meters from the surface of the treated materials. Batches would be processed by the operator for 30 minutes each, by two batches per day over a twenty day period, resulting in a employee exposure of 20 working-hours. Therefore over the coarse of the project, a single operator's estimated total dose for the year from this waste stream would be 0.0284 mrem. This also is well below the possible exposure of 1 mrem/yr worker exposure, the criteria used to assess unimportant exposure dose to a member of the public. Based on potential exposure to U.S. Ecology Idaho workers by additionally performing stabilization of this waste, will not result in a significant risk of exposure, and an exemption for transferring for treatment to a RCRA facility would who also be burying, is found acceptable.

The final burden will rest with the NRC, who according to their own final technical position, must maintain a public record of the total incident-related ^{137}Cs activity received by the facility (U.S. Ecology, Idaho) over its operating life, to ensure that the total disposed of ^{137}Cs activity does not exceed 1 Curies (37 GBq). It is also noted that under DOT regulations, material with concentrations of less than 2000 pCi/g (74 BQ/g) is not considered radioactive.