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March 10, 2003

Thomas R. Decker, Chief  
Materials Licensing / Inspection Branch 1  
Division of Nuclear Materials Safety

Dear Mr. Decker:

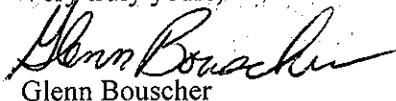
Enclosed is Homer Laughlin's response to the Commission's 11-5-2002 questions on the H-L risk assessment submittal of 4/2/2002.

There are two general points to be made relative to the questions submitted by the commission.

1. It should be noted that the NUREG's referenced<sup>1</sup> by the commission are documents that were not promulgated for public use until about or after the time of the H-L submittal. Homer Laughlin is concerned that the Commission will continue to develop questions and issues that result from material that is developed during our risk assessment process and that no successful conclusion can ever be achieved because of that process. Homer Laughlin would suggest that some sort of "sunset" provision should be established so that future documents promulgated by the Commission are not used for developing new inquiries.
2. A number of the questions asked by the Commission in the 11-5-2002 letter are troublesome as they ask for clarification on assumptions that to us are clearly delineated in the text of the document. In addition one question asks for survey data that was contained in the original submittal, which causes us to conclude that the current reviewers do not have access to or are not using the original reports.

Finally, and most importantly, the areas in question are not high use or traffic areas within the facility. The dose assessment uses extremely conservative parameters to ensure the dose has been over-estimated and an upper bound to the risk assigned. We believe this method is prudent for public health and safety. Further dissection of these parameters and models may result in a more accurate risk value but does not, to us, appear to improve upon satisfying public health and safety concerns.

Very truly yours,

  
Glenn Bouscher

Safety & Environmental Manager

<sup>1</sup> NUREG 1720 promulgated in June 2002 and NUREG 6755 published February 2002

## Response to NRC 11-5-2002 Questions

1. The RESRAD Build program as well as the documents referenced by the commission calls for a zero removal fraction if the material is "fixed" to the surface. The observation that there were several wipe samples of greater than non-zero values is correct. However, the conclusion that this material results from surface erosion is incorrect. This material is residual removable material that was not removed during the remediation process. Because the removable levels were less than the prescribed (1.86 action levels) for this remediation effort no attempt was made to clean to zero.

In retrospect it may have been better just to assign the prescribed "zero" value to the removable fraction. However even if one assumes the 36 dpm/ 100 cm<sup>2</sup> is a result of surface degradation and is representative of the floor surface conditions, the resulting dose contribution from this source to the maximally exposed receptor is only 0.1 mrem.

It should be noted that there are only limited areas where removable surface contamination exists. The use of a small but non-zero removable fraction value was done to provide another conservatism in the calculated values.

2. RESRAD only incorporates the dose from U-234 if one runs the chain to equilibrium. i.e. in the first several years the program only accounts for the U-234 relative to its build-up in the chain. The U-234 was separated from the U-238 because the values are indeed different in the mix of radionuclides used at the facility. The values used were based upon the isotopic composition determined when analyzing materials for waste disposal acceptance criteria. The isotopic results show minimum to no thorium contamination. Again this was a conservative assumption, which would tend to "drive" the final dose assessment to an "upper-bound" value.
3. The light industry scenario does not apply in this case, as there is explicit knowledge as to work tasks and use of this area due to current practices, which will not change in the future. Consequently, the dose assignment is made based upon a worker being assigned to each of the selected locations for the designated fraction of 0.23. Please re-read the section titled "behavioral parameters" on page 4 of the report as all the information related to assumptions and their applications are stated there in.
4. The inhalation and ingestion pathways were not considered credible so the "independent" consultant neglected them in the calculation. Please note that the use of an independent consultant was to verify whether the resulting calculated doses in the risk assessment were reasonable numbers. The review was not done as a duplication of the risk assessment calculations. Consequently, a different methodology was used for the calculations.
5. Again while the conversion is a mathematical error it is an error leading to a more conservative dose. Consequently, it does not to us warrant a revision of the numbers.

## Response to NRC 11-5-2002 Questions

6. Please re-read the section titled "Pipe Source Parameters" on pages 5 and 6 as all the assumptions and parameters used are contained there in. We believe the information is adequately and clearly presented and should answer your concerns. As stated in this section, because of the significant depth of concrete covering the pipe any changes to model parameters do not alter the conclusion the pipe activity contributes virtually no dose to any worker in the area.
7. As stated in the risk assessment 365 days was chosen to provide a conservative and upper-bound estimate of the dose as removal of all material in the first year as opposed to over ten years would be more conservative. Unless there is a compelling reason to "re-do" the RESRAD runs to produce a "smaller" assigned dose then the doses should remain as stated as they still meet the NRC unrestricted rule of less than 25 mrem per year.
8. The use of the term affected floor area was an editorial error not identified during the proof reading of the document. The word floor should have been deleted.

The survey data is contained in previously submitted documents (the 1995 original risk assessment submittal), which are referred to in the original risk analysis and subsequent correspondence with the Commission. The Commission is in possession of these documents and should reference them for the appropriate information.