April 16, 2010

Alan De Backer
President
De Backer and Sons, Inc.
21750 Schmeman Avenue
Warren, MI 48089

SUBJECT: NRC REACTIVE INSPECTION REPORT NO. 99990003/2010002(DNMS) — DeBacker and Sons, Inc.

Dear Mr. De Backer:

On March 16, 2010, the U.S. Nuclear Regulatory Commission (NRC) conducted an inspection at your Warren, Michigan facility. This inspection was an examination of the Troxler Model 2402 portable moisture density gauge (gauge) recently discovered in your possession. The purpose of the inspection was to ensure that the gauge was adequately secured against theft and to verify the condition of the gauge and that no leakage of radium-226 from the gauge was evident in your facility. The enclosed report presents the results of the inspection.

Within these areas, the inspection consisted of an examination of the gauge, an interview with you, independent measurements, and observation of activities in progress. Within the scope of this inspection, no violations of NRC requirements were identified. The NRC identified during the inspection that you have made plans to dispose of the gauge in May 2010 through coordination with the Conference of Radiation Control Program Directors. The NRC requests that you notify Region III when the gauge has been shipped from your property for disposal.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter will be available electronically for public inspection in the NRC Public Document Room or from the NRC's Agencywide Documents Access and Management System (ADAMS), accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html.

Should you have any questions concerning this inspection or enclosed report, please contact Robert Hays of my staff at (630) 829-9819.

Sincerely,

/RA/

Tamara E. Bloomer, Chief
Materials Inspection Branch

Docket No. 99990003
License No. Not Applicable

Enclosure:
Inspection Report 99990003/2010002(DNMS)

cc w/ encl: James Weldy, RSO, Dow Chemical Company
State of Michigan

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Sincerely,

/RA/

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cc w/ encl: James Weldy, RSO, Dow Chemical Company
State of Michigan

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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No.:	99990003
License No.:	Not applicable
Report No.:	99990003/2010002(DNMS)
Facility:	De Backer & Sons, Inc.
Location:	21750 Schmeman Avenue Warren, Michigan 48089
Date of Inspection:	March 16, 2010 (On site)
Inspector:	Robert P. Hays, Health Physicist
Reviewed By:	Tamara E. Bloomer, Chief Materials Inspection Branch Division of Nuclear Materials Safety

Enclosure

EXECUTIVE SUMMARY

De Backer & Sons, Inc.
Warren, Michigan
Inspection Report No. 99990003/2010002(DNMS)

This was a reactive inspection to review the circumstances, condition, security and status of a Troxler Model 2402 surface moisture density gauge (gauge), containing a nominal activity of radium-226, discovered in the possession of De Backer & Sons, Inc., a former Lathing and Plastering Contractor (contractor) for Dow Chemical (Dow), Midland Michigan. The contractor had performed work for Dow Chemical approximately 25 years ago. Upon completion of the contract, Dow sold to the contractor, a trailer containing equipment used to complete the contract which included the gauge. The equipment trailer had been parked inside the contractor's warehouse, undisturbed for approximately 25 years until early March 2010. In March 2010, the contractor opened the trailer to search for scrap metal to be sold for recycling and discovered the gauge with the other equipment. The contractor contacted Dow about returning the gauge to Dow. Dow was not authorized by their license to possess radium-226. The radiation safety officer (RSO) for Dow notified the U.S. Nuclear Regulatory Commission (NRC) requesting assistance with the situation.

On March 9, 2010, the contractor was contacted by an NRC inspector for additional information. The contractor provided additional information as requested. The contractor also informed the inspector that a metal bracket which was sent to the metal recycler was rejected because it had been detected as being radioactive. Normally, a gauge does not leak radioactive material, however, because of the length of time the gauge was in storage and the presence of radioactive material had been detected on the bracket, a concern developed regarding if radioactive material contamination was present in the contractor's warehouse. A reactive inspection was conducted on March 16, 2010, to determine the condition of the gauge and if there was any radioactive material contamination in the warehouse.

The inspection on March 16, 2010, determined that no radioactive material contamination from the radium-226 gauge existed in the contractor's warehouse and the metal bracket rejected by the scrap metal recycler contained two metal parts welded together using welding material which contained undetermined low level radioactivity. Additional isotopic analysis will be required to ascertain what isotope is contained in the weld.

Report Details

1 Program Scope and Inspection History

De Backer and Sons, Inc., a contracting business firm that provided lathing and plastering services for various clients in the state of Michigan. De Backer and Sons, Inc. (De Backer) has not been a holder of an NRC license or held a Certificate of Registration for radioactive material from the State of Michigan. De Backer had no previous experience handling or possessing radioactive material.

2 Inspection of Troxler Model 2402

2.1 Inspection Scope

An announced reactive inspection was conducted on March 16, 2010, to determine the security, condition, and status of the Troxler Model 2402 surface moisture density gauge (gauge) which had been in storage at De Backer's warehouse for an estimated 25 years. The inspector interviewed the business owner, Alan De Backer, and toured the warehouse where the gauge was stored.

2.2 Observations and Findings

The inspector upon entering the facility was escorted by the owner, Alan De Backer. The inspector conducted ambient area radiation surveys while walking to the gauge storage area with only background readings noted. The gauge was secured inside a locked storage trailer which was stored within the confines of the owner's warehouse. Upon arriving at the gauge, ambient radiation surveys of the gauge did not reveal any unusual or higher than expected readings of the gauge. Radiation surveys were consistent with survey results provided in the safety evaluation of the gauge maintained in NRC's Sealed Sources and Devices Registry. The gauge's appearance indicated it to be in excellent condition with no obvious damage and previous use appeared to have been minimal. Two leak test samples of the gauge were obtained to be analyzed to ensure that no leakage of radium-226 had occurred. Initial field counting of the leak test samples did not indicate any contamination. Final analysis of the leak test samples are pending.

2.3 Conclusions

The inspection determined that the Troxler Model 2402 gauge which had been in storage with two tangible barriers for an estimated 25 years was still in excellent condition with no obvious damage. Initial leak tests and ambient area surveys of the gauge determined that no radium-226 contamination existed in De Backer's warehouse.

3 Inspection of metal bracket rejected by scrap metal recycler

3.1 Inspection Scope

The inspector inspected the metal bracket that had been rejected by the scrap metal recycler. Contamination surveys and an analysis to identify the radioactive material on the metal bracket was performed.

3.2 Observations and Findings

The owner and inspector went to another area of the warehouse to inspect the rejected metal bracket. Initial ambient count-rate surveys of the bracket indicated low radiation count rates at a joint where it was obvious two pieces of metal piping had been welded together. The count rate surveys indicated that the only area of the metal bracket which was radioactive was at the site of the weld. Removable contamination smear samples of the weld and bracket identified only fixed radioactivity in the weld with no removable radioactive material or contamination on the bracket. A field analysis of the weld using an Exploranium Model Gr-130 Isotopic Analyzer was performed, but the initial test did not identify the radioactive isotope.

3.3 Conclusions

The inspector determined that the metal bracket which had been rejected by the scrap metal recycler contained a weld with non-removable low-level radioactivity. No removable contamination was identified and surveys of the bracket indicated no concerns for radiation dose to the owner or members of the public. Although the radioactive material in the weld was low, the metal bracket contained enough radioactivity to be detected by the scrap metal recycler's sensitive radiation monitors causing it to be rejected by the scrap metal recycler. Additional radiological analysis of the weld will be necessary to identify the radioactive material in the weld.

4 Exit Meeting Summary

An exit meeting was conducted at the owners' facility on March 16, 2010. The owner did not identify any information reviewed during the inspection and proposed for inclusion in the inspection report as proprietary in nature.

List of Persons Contacted

Alan De Backer, President