



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**
REGION IV
1600 E. LAMAR BLVD.
ARLINGTON, TX 76011-4511

April 17, 2017

EA-16-208

Mr. Will C. Williams, Radiation Safety Officer
ProTechnics Division of Core Laboratories
6510 West Sam Houston Parkway North
Houston, TX 77041

SUBJECT: NRC INSPECTION REPORT 030-30429/2014-002, INVESTIGATION
REPORT 4-2015-021, AND NOTICE OF VIOLATION

Dear Mr. Williams:

This letter refers to the special inspections conducted on November 15-21, 2014, February 11 and May 18-21, 2015, at temporary jobsite locations in West Virginia and at the ProTechnics Division of Core Laboratories (ProTechnics) field office in Parkersburg, West Virginia, and the inspection conducted on June 9, 2015, at your Houston, Texas Corporate Office. Subsequently, the U.S. Nuclear Regulatory Commission's (NRC's) Office of Investigations conducted an investigation into your licensed activities related to these inspections. After the investigation was completed, we conducted in-office reviews of all the available information and consulted with the NRC Offices of Nuclear Materials Safety and Safeguards, Enforcement, and General Counsel. A final exit briefing was conducted telephonically with you and other licensee personnel on March 23, 2017. This letter and the attached Notice of Violation (Notice) provide you with the NRC's conclusions based on our inspections and the investigation into your licensed activities.

The inspections and investigation were conducted after the NRC was informed by representatives from the State of West Virginia that a waste shipment sent to a Bridgeport, West Virginia landfill on November 5, 2014, was rejected due to the presence of iridium-192 which was later determined to have come from ProTechnics tracer studies (licensed radioactive material). Several weeks after ProTechnics had conducted tracer studies for an oil or gas well client, the client began production of the well. Some of the tagged sands with trace quantities of licensed radioactive materials came out of the well with the product and were processed into vacuum boxes.

The NRC determined that the client did not understand when it needed to contact ProTechnics so that ProTechnics could determine whether the vacuum boxes had any licensed radioactive materials or whether only naturally-occurring radioactive material was present. Instead, the client contracted with another company who disposed of two vacuum boxes and one trash box at landfills that were not authorized to receive the licensed material. Although the exact concentration of licensed materials is unknown, based on hand-held gamma spectrum instrumentation, licensed tracers were determined to be present.

After the NRC informed ProTechnics that a waste shipment had been rejected, ProTechnics personnel sampled the remaining vacuum boxes and identified that 48 of 53 boxes contained trace quantities of licensed materials measuring greater than 10 picocurie per gram (pCi/g) of tracer isotopes with the highest activity of 842 pCi/g. ProTechnics requested a license amendment from the NRC to allow disposal of the material at a landfill in West Virginia. After an extensive evaluation, the NRC granted the license amendment. The remaining vacuum boxes were then disposed of properly in a designated landfill.

By letter dated June 15, 2015, (NRC's Agencywide Documents Access and Management System (ADAMS) Accession ML15188A441) you provided the results of your review of the incident. You indicated that the underlying root cause of the incident seems to be a lack of communication (between ProTechnics and the client) regarding proper (disposal) procedures for traced well returns. In this instance, ProTechnics was not informed by the client that well returns were present, so the proper disposal procedure was not initiated. You also stated that ProTechnics should have assumed that there were potential well returns and, at some point, requested information from the client.

Your June 15, 2015, letter also described several corrective actions ProTechnics was implementing to ensure this situation does not recur. The actions included a (new) well site acknowledgement form that outlines the possible disposal options in a particular region for the client. In addition, ProTechnics stated it would establish individual files for every well that was traced and it would include clear direction and accountability for ProTechnics personnel related to disposition of tagged sands that returned to the surface. Your letter also stated that this incident would be discussed and analyzed at ProTechnics managers' meeting for additional actions that ProTechnics could take.

Based on the results of the inspection and investigation, the NRC determined that one Severity Level IV violation of NRC requirements occurred. In addition, no willfulness was identified. The violation was evaluated in accordance with the NRC Enforcement Policy. The current Enforcement Policy is included on the NRC's Web site at <http://www.nrc.gov/about-nrc/regulatory/enforcement/enforce-pol.html>). The violation is cited in the enclosed Notice and the circumstances surrounding the violation are described in this letter and the Notice. The violation is being cited because it was identified by the NRC. In this case, ProTechnics did not take the actions necessary to ensure it was notified by the client or that ProTechnics contacted the client periodically to ensure that it was aware of activities that could result in tagged sands returning to the surface. As a result, on November 7, November 13, and December 16, 2014, ProTechnics failed to comply with Title 10 of the *Code of Federal Regulations* (CFR) 20.1501(a) in that ProTechnics failed to make or cause to be made surveys that were necessary to determine the concentrations of licensed material in the two vacuum boxes and one trash box so that the licensee could ensure that it disposed of licensed materials in accordance with the NRC's regulations contained in 10 CFR 20.2001(a).

The violation has been categorized at Severity Level IV because the trace quantities of licensed radioactive material in the tagged sands posed a very low radiation safety hazard to workers and members of the public.

The NRC has concluded that information regarding the reason for the violation, the corrective actions taken and planned to correct the violation and prevent recurrence, and the date when full compliance was achieved, is already adequately addressed on the docket in your letter dated June 15, 2015. Therefore, you are not required to respond to this letter unless the description does not accurately reflect your corrective actions or your position. In that case, or if

you choose to provide additional information, you should follow the instructions specified in the enclosed Notice.

In accordance with 10 CFR 2.390 of the "Agency Rules of Practice and Procedure," a copy of this letter, the enclosed Notice, and your response should you choose to provide one, will be made available for public inspection in the NRC's ADAMS. ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>.

If you have any questions concerning this matter, please contact Ms. Vivian H. Campbell of my staff at 817-200-1455.

Sincerely,

/RA/

Mark R. Shaffer, Director
Division of Nuclear Materials Safety

Docket No. 030-30429
License No. 42-26928-01

Enclosure:
Notice of Violation

cc w/Enclosure:
T. Turner, Office of Environmental Health Services
C. Sullivan, Texas Dept. of State Health Services

NRC INSPECTION REPORT 030-30429/2014-002, INVESTIGATION REPORT 4-2015-021,
AND NOTICE OF VIOLATION – DATED APRIL 17, 2017

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ADAMS ACCESSION NUMBER: ML17101A577

Cover Letter (w/Encl) RLS X SUNSI Review by: GMV		ADAMS X Yes <input type="checkbox"/> No		X Publicly Available <input type="checkbox"/> Non-Publicly Available		X Non-Sensitive <input type="checkbox"/> Sensitive		Keyword: EA-16-208
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NAME	GMVasquez	RRagland	BWelling	VHCampbell	MCHay	SWoods	MRShaffer	
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DATE	4/11/17	4/11/17	4/11/17	4/11/17	4/12/17	04/14/17	04/17/17	

OFFICIAL RECORD COPY

NOTICE OF VIOLATION

ProTechnics Division of Core Laboratories
Houston, Texas

Docket No. 030-30429
License No. 42-26928-01
EA-16-208

During an NRC inspection conducted November 14, 2014, through March 23, 2017, a violation of NRC requirements was identified. In accordance with the NRC Enforcement Policy, the violation is listed below:

10 CFR 20.1501(a) requires, in part, that each licensee make or cause to be made, surveys of areas, including the subsurface, that may be necessary for the licensee to comply with the regulations in 10 CFR Part 20 and are reasonable under the circumstances to evaluate the magnitude and extent of radiation levels, concentrations or quantities of residual radioactivity, and the potential radiological hazards of the radiation levels and residual radioactivity detected.

Pursuant to 10 CFR 20.1003, *Survey* means an evaluation of the radiological conditions and potential hazards incident to the production, use, transfer, release, disposal, or presence of radioactive material or other sources of radiation.

10 CFR 20.2001(a) requires, in part, that a licensee shall dispose of licensed material only: (1) By transfer to an authorized recipient; (2) By decay in storage; (3) By release in effluents within the limits of 10 CFR 20.1301; or (4) As authorized under 10 CFR 20.2002, 10 CFR 20.2003, 10 CFR 20.2005, or 10 CFR 20.2008.

Contrary to the above, on or about November 7, 13, and December 16, 2014, the licensee did not make or cause to be made surveys that were reasonable under the circumstances to evaluate the magnitude and extent of radiation levels, concentrations or quantities of residual radioactivity, and the potential radiological hazards of the radiation levels and residual radioactivity detected to assure compliance with 10 CFR 20.2001(a) requirements for the disposal of licensed material. The specific examples are listed below.

On or about November 7 and 13, 2014, following injection of licensed Iridium-192 tracers into the Hornet 1-H well, located on the Edwin Pad, in Ritchie County, West Virginia, the licensee did not make or cause to be made, surveys of tagged sand that returned to the surface following tracer studies at the Edwin Pad, to evaluate the extent of radiation levels, concentrations or quantities of residual radioactivity present in well returns to ensure compliance with acceptable disposal options listed in 10 CFR 20.2001(a).

On or about December 16, 2014, following injection of licensed Scandium-46 tracers into the Belle 3H well, located on the Annie Pad, in Tyler County, West Virginia, the licensee did not make or cause to be made surveys of a trash box containing sand that returned to the surface with licensed radioactive material from tracer studies at the Annie Pad to evaluate the extent of radiation levels, concentrations or quantities of residual radioactivity present to ensure compliance with the acceptable disposal options listed in 10 CFR 20.2001(a).

This is a Severity Level IV violation (NRC Enforcement Policy Section 6.7.d)

Enclosure

The NRC has concluded that information regarding the reason for the violation, the corrective actions taken and planned to correct the violation and prevent recurrence, and the date when full compliance was achieved, is already adequately addressed on the docket in your letter dated June 15, 2015. However, you are required to submit a written statement or explanation pursuant to 10 CFR 2.201 if the description therein does not accurately reflect your corrective actions or your position. In that case, or if you choose to respond, clearly mark your response as a "Reply to a Notice of Violation, EA-16-208," and send it to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001 with a copy to the Regional Administrator, Region IV, 1600 East Lamar Blvd., Arlington, Texas 76011-4511 within 30 days of the date of the letter transmitting this Notice of Violation (Notice).

If you choose to respond, your response will be made available electronically for public inspection in the NRC Public Document Room or in 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>. Therefore, to the extent possible, the response should not include any personal privacy or proprietary information so that it can be made available to the Public without redaction.

In accordance with 10 CFR 19.11, you may be required to post this Notice within 2 working days of receipt.

Dated this 17th of APRIL 2017