



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
2100 RENAISSANCE BLVD.
KING OF PRUSSIA, PA 19406-2713

May 17, 2016

EA-16-054

Fadil M. Abdelfatah, P.E.
President
FMC & Associates, LLC
P.O. Box 70263
Washington, DC 20024

SUBJECT: FMC & ASSOCIATES, LLC, NOTICE OF VIOLATION - NRC INSPECTION
REPORT NO. 03037848/2015001

Dear Mr. Abdelfatah:

This letter provides you the U.S. Nuclear Regulatory Commission's (NRC's) enforcement decision for the apparent violations (AVs) identified during the NRC inspection of FMC & Associates, LLC (FMC). The inspection, conducted on May 6, 2015, and February 25, 2016, at the FMC facility in Washington, DC and at FMC temporary jobsites, included subsequent in-office follow-up that was completed on March 28, 2016. Both the onsite inspections and the in-office review evaluated FMC's licensed activities within NRC jurisdiction as they relate to radiation safety and to compliance with NRC regulations. Chris Cahill, Acting Chief, NRC Region I Nuclear Materials Commercial, Industrial, R&D, and Academic Branch, discussed the AVs during a telephonic exit with you on March 28, 2016. The AVs were also described in the NRC inspection report sent to you with a letter dated April 7, 2016 (ML16099A344).¹

In the April 7, 2016, letter transmitting the inspection report, we provided FMC an opportunity to address the AVs identified in the report by either attending a pre-decisional enforcement conference or by providing a written response before we made our final enforcement decision. In a letter (ML16125A153) dated April 15, 2016, you provided a written response in which you described the corrective steps FMC has taken for most of the AVs.

Based on the information developed during the inspection and the information that you provided in your written response, the NRC has determined that eight violations of NRC requirements occurred. The violations are cited in the enclosed Notice of Violation (Notice) and the circumstances surrounding them are described in detail in Inspection Report No. 03037848/2015001, issued on April 7, 2016.

¹ Designation in parentheses refers to an Agency-wide Documents Access and Management System (ADAMS) accession number. Documents referenced in this letter are publicly-available using the accession number in ADAMS.

The most significant violation involved FMC not using a minimum of two independent physical controls to form a tangible barrier to secure its portable nuclear gauges from unauthorized removal whenever the gauges were not under FMC's control and constant surveillance, as required by 10 CFR 30.34(i). Specifically, the inspector observed an FMC portable nuclear gauge authorized user (AU) preparing a gauge for transport to a temporary jobsite and observed that the AU did not secure the gauge with two independent physical controls. The AU confirmed to the inspector that he had similarly transported portable nuclear gauges to temporary job sites within the Washington, D.C. area on 12 previous occasions, and had stored the gauges in his personal vehicle with only one barrier (the locked vehicle trunk) to prevent unauthorized individuals from gaining access. The AU stated that, on those occasions, he did not maintain constant surveillance of the vehicle at all times when the gauges were stored within. The NRC considered that, although the portable nuclear gauges were not removed or stolen, there was a potential that unauthorized individuals could have removed them from the vehicle by defeating only one security control and misused them. Therefore, this violation has been categorized, in accordance with the NRC Enforcement Policy, at Severity Level III (SL III).

The seven other violations involved FMC: (1) not confining possession of byproduct material to the activity limit authorized on the NRC license; (2) not performing physical inventories of radioactive sources/devices every six months; (3) not performing annual radiation protection program reviews; (4) not providing annual refresher training to AUs; (5) not reviewing and maintaining occupational exposure records; (6) transporting gauges without the proper package labeling; and (7) transporting gauges without including the required information on related shipping papers.

The NRC has concluded that the root cause of all eight violations was FMC's failure to provide adequate oversight of its radiation protection program and that this demonstrated a programmatic weakness. Given the significance of the first violation, as well as the common root cause failure of all the violations, the eight violations have been categorized collectively as a single SL III problem to emphasize the importance of providing suitable resources and focus on radiation safety and radiation protection program implementation.

In accordance with the NRC Enforcement Policy, a base civil penalty in the amount of \$3,500 is considered for a SL III problem. Because FMC has not been the subject of escalated enforcement action within the last two years or two inspections, the NRC considered whether credit was warranted for *Corrective Action* in accordance with the civil penalty assessment process in Section 2.3.4 of the Enforcement Policy. The NRC has concluded that credit is warranted for FMC's corrective actions taken to address the violations. Specifically, regarding management oversight, FMC appointed a new individual to the RSO position and requested that FMC's license be amended to reflect this change. The amended license was issued on September 8, 2015.

Regarding the individual violations, FMC: (1) immediately (before the inspector left the site) secured the gauge with two independent physical controls and provided training to the AU on the FMC policy and NRC requirements for securing portable gauges; (2) conducted nuclear gauge safety training to all FMC AUs; (3) supplied additional security hardware to FMC AUs for securing portable gauges; (4) submitted a request to amend its NRC license to increase the possession limit to an amount sufficient for its portable nuclear gauges; (5) implemented a monthly physical inventory activity; (6) performed the annual radiation protection program review; (7) implemented a quarterly review of employee radiation exposure records; and, (8) updated its Bill of Lading to accurately reflect the radionuclide types and amounts.

Therefore, in recognition of the absence of previous escalated enforcement action, and to encourage prompt and comprehensive correction of violations, I have been authorized, after consultation with the Director, Office of Enforcement, not to propose a civil penalty in this case. However, significant violations in the future could result in a civil penalty. In addition, issuance of this SL III problem constitutes an escalated enforcement action that may subject you to increased inspection effort.

You are required to respond to this letter and should follow the instructions specified in the enclosed Notice when preparing your response. If you have additional information that you believe the NRC should consider, you may provide it in your response to the Notice. The NRC will use your response, in part, to determine whether further enforcement action is necessary to ensure compliance with regulatory requirements.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response will be made available electronically for public inspection in the NRC Public Document Room and in the NRC's Agency-wide Documents Access and Management System (ADAMS), accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>. To the extent possible, your response should not include any personal privacy, proprietary, or safeguards information so that it can be made available to the Public without redaction. If personal privacy or proprietary information is necessary to provide an acceptable response, please provide a bracketed copy of your response that identifies the information that should be protected and a redacted copy of your response that deletes such information. If you request withholding of such information, you must specifically identify the portions of your response that you seek to have withheld and provide in detail the bases for your claim of withholding (e.g., explain why the disclosure of information will create an unwarranted invasion of personal privacy or provide the information required by 10 CFR 2.390(b) to support a request for withholding confidential commercial or financial information). The NRC also includes significant enforcement actions on its Web site at (<http://www.nrc.gov/reading-rm/doc-collections/enforcement/actions/>).

Sincerely,

(/RA/ Original Signed by)

David C. Lew
Acting Regional Administrator

Docket No. 03037848
License No. 08-31338-01

Enclosure: Notice of Violation

cc w/enclosure:
Kaleab Desta, Radiation Safety Officer
District of Columbia

Therefore, in recognition of the absence of previous escalated enforcement action, and to encourage prompt and comprehensive correction of violations, I have been authorized, after consultation with the Director, Office of Enforcement, not to propose a civil penalty in this case. However, significant violations in the future could result in a civil penalty. In addition, issuance of this SL III problem constitutes an escalated enforcement action that may subject you to increased inspection effort.

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Sincerely,

(/RA/ Original Signed by)
David C. Lew
Acting Regional Administrator

Docket No. 03037848
License No. 08-31338-01

Enclosure: Notice of Violation

cc w/enclosure:
Kaleab Desta, Radiation Safety Officer
District of Columbia

Distribution: see next page ADAMS Accession No.: ML16138A012

DOCUMENT NAME: S:\Enf-all\Enforcement\Proposed-Actions\Region1\FMC NOV-III EA-16-054.docx

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* See previous concurrence page ** OE to perform a quick review OFFICIAL RECORD COPY

Letter to Fadil Abdelfatah from David Lew dated

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NOTICE OF VIOLATION

FMC & Associates, LLC
Washington, DC

Docket No. 03037848
License No. 08-31338-01
EA-16-054

During an NRC inspection conducted between May 6, 2015, and March 28, 2016 (which included an on-site inspection as well as an in-office review of information provided by FMC & Associates, LLC), for which an exit meeting was conducted on March 28, 2016, violations of NRC requirements were identified. In accordance with the NRC Enforcement Policy, the violations are listed below:

- A. 10 CFR 30.34 (i) requires, in part, that each portable gauge licensee shall use a minimum of two independent physical controls that form tangible barriers to secure portable gauges from unauthorized removal, whenever portable gauges are not under the control and constant surveillance of the licensee.

Contrary to the above, on approximately 12 occasions between November 1, 2014, and May 6, 2015, FMC & Associates, LLC (FMC), a portable gauge licensee, did not use a minimum of two independent physical controls that form tangible barriers to secure portable gauges from unauthorized removal, and the portable gauges were not under the control and constant surveillance of the licensee. Specifically, an FMC portable gauge authorized user (AU) had conducted licensed activities at temporary job sites and stored a portable gauge in the trunk of a personal vehicle when it was not under the control and constant surveillance of the AU at all times, and the gauge was secured with only one tangible barrier (locked vehicle trunk) to prevent unauthorized removal.

- B. 10 CFR 30.3 requires, in part, that no person shall manufacture, produce, transfer, receive, acquire, own, possess, or use byproduct material except as authorized in a specific or general license issued in accordance with the regulations in this chapter.

Item 8 of NRC License 08-31338-01, Amendment 06, specifies that the maximum cesium-137 (Cs-137) sealed source activity the licensee was authorized to possess at any one time under the license was 81 millicuries.

Contrary to the above, from April 2011, to January 13, 2014, FMC possessed byproduct material that was not authorized by its NRC license. Specifically, FMC took possession of a 9 millicurie sealed source of Cs-137 in a Troxler Electronics Laboratories Model 4640-B portable gauge. The additional activity of the newly possessed source increased FMC's possession of Cs-137 to approximately 90 millicuries, an amount which exceeded the 81 millicurie limit authorized by FMC's license during that time period.

- C. Condition 15 of NRC License 08-31338-01, Amendment No. 06, requires, in part, that the licensee shall conduct a physical inventory every six months, or at other intervals approved by the U.S. Nuclear Regulatory Commission, to account for all sources and/or devices received and possessed under the license.

Contrary to the above, from December 8, 2010, to May 6, 2015, an interval greater than six months, FMC did not perform a physical inventory to account for all sources and/or devices received and possessed under the license.

- D. 10 CFR 20.1101(c) requires that the licensee shall periodically (at least annually) review the radiation protection program content and implementation.

Contrary to the above, between December 8, 2010, and May 6, 2015, an interval greater than one year, FMC did not review the radiation protection program content and implementation.

- E. Condition 19 of NRC License 08-31338-01, Amendment No. 06, requires, in part, that the licensee shall conduct its program in accordance with the statements, representations, and procedures contained in the listed documents, including FMC's Application for an NRC License dated July 21, 2008.

FMC's July 21, 2008, Application for an NRC License included the submittal of FMC's Radiation Safety Plan. The Training section of FMC's Radiation Safety Plan states, in part, that annual refresher training is required for all AUs.

Contrary to the above, between February 28, 2013, and May 20, 2015, FMC did not conduct its program in accordance with the statements, representations, and procedures contained in the documents listed in License Condition 19. Specifically, during this time, a period greater than one year, FMC did not provide annual refresher training to its AUs.

- F. Condition 19 of NRC License 08-31338-01, Amendment No. 06, requires, in part, that the licensee shall conduct its program in accordance with the statements, representations, and procedures contained in the listed documents, including FMC's Application for an NRC License dated July 21, 2008.

FMC's July 21, 2008, Application for an NRC License included the submittal of FMC's Radiation Safety Plan. The Personnel Monitoring Section of FMC's Radiation Safety Plan requires, in part, that individual exposure records are properly reviewed by the Radiation Safety Officer (RSO) and that understandable files are permanently maintained.

Contrary to the above, between August 18, 2014, and May 6, 2015, FMC did not conduct its program in accordance with the statements, representations, and procedures contained in the documents listed in License Condition 19. Specifically, FMC did not ensure that individual exposure records were reviewed by the RSO and that understandable files were permanently maintained.

- G. 10 CFR 71.5 requires, in part, that each licensee who transports licensed material outside the site of usage, as specified in the NRC license, shall comply with the applicable requirements of the Department of Transportation (DOT) regulations in 49 CFR parts 171 through 180, appropriate to the mode of transport.

49 CFR 172.403(a) requires, in part, that unless excepted from labeling by 49 CFR 173.421 through 173.427 of this subchapter, each package of radioactive material must be labeled as provided in this section.

49 CFR 172.403(g) requires, in part, that the following applicable items of information must be entered in the blank spaces on the RADIOACTIVE label by legible printing (manual or mechanical), using a durable weather resistant means of marking: (1) the names of the radionuclides; and (2) the maximum activity of the radioactive contents in the package.

Contrary to the above, on May 6, 2015, FMC transported licensed material outside the site of usage, as specified in the NRC license, and did not comply with the applicable requirements of the DOT regulations in 49 CFR parts 171 through 180, appropriate to the mode of transport. Specifically, the licensee transported a portable moisture-density gauge containing sealed sources of Cs-137 (9 millicuries) and Am-241 (44 millicuries) from its office location listed on the NRC license to temporary job sites in Washington, D.C., and the package was not marked with the names of the radionuclides, and the maximum activity of the radioactive contents in the package.

- H. 49 CFR 172.203(d), regarding additional description requirements for shipping papers, requires, in part, that the description for a shipment of a Class 7 (radioactive) material must include the following additional entries as appropriate: the name of each radionuclide and the maximum activity of the radioactive contents contained in each package during transport.

49 CFR 172.600(c) requires, in part, that no person to whom this subpart applies may offer for transportation, accept for transportation, transfer, store or otherwise handle during transportation a hazardous material unless (1) emergency response information conforming to this subpart is immediately available for use at all times the hazardous material is present; and (2) emergency response information, including the emergency response telephone number, required by this subpart is immediately available to any person who, as a representative of a Federal, State or local government agency, responds to an incident involving a hazardous material, or is conducting an investigation which involves a hazardous material.

Contrary to the above, on May 6, 2015, FMC transported licensed material outside the site of usage, as specified in the NRC license, and did not comply with the applicable requirements of the DOT regulations in 49 CFR parts 171 through 180, appropriate to the mode of transport. Specifically, the licensee transported a portable moisture-density gauge containing sealed sources of Cs-137 (9 millicuries) and Am-241 (44 millicuries) on public highways via passenger vehicles, from its office location listed on the NRC license to temporary job sites in Washington, D.C., and the shipping papers did not contain the required emergency response telephone number, the name of each radionuclide, and the maximum activity of the radioactive contents contained in each package.

This is a Severity level III problem (NRC Enforcement Policy Section 6.3).

Pursuant to the provisions of 10 CFR 2.201, FMC is hereby required to submit a written statement or explanation to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001, with a copy to the Regional Administrator, Region I, 2100 Renaissance Boulevard, Suite 100, King of Prussia, PA 19406, within 30 days of the date of the letter transmitting this Notice of Violation (Notice). This reply should be clearly marked as a "Reply to a Notice of Violation; EA-16-054" and should include for each violation: (1) the reason for the violation, or, if contested, the basis for disputing the violation or severity level; (2) the corrective steps that have been taken and the results achieved; (3) the corrective steps that will be taken; and (4) the date when full compliance will be achieved. Your response may reference or include previous docketed correspondence, if the correspondence adequately addresses the required response. If an adequate reply is not received within the time specified in this Notice, an order or a Demand for Information may be issued requiring information as to why the license should not be modified, suspended, or revoked, or why such other action as may be proper should not be taken. Where good cause is shown, consideration will be given to extending the response time.

If you contest this enforcement action, you should also provide a copy of your response, with the basis for your denial, to the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001.

Your response will be made available electronically for public inspection in the NRC Public Document Room or in the NRC's Agency-wide Documents Access and Management System (ADAMS), accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>. To the extent possible, your response should not include any personal privacy, proprietary, or safeguards information so that it can be made available to the public without redaction. If personal privacy or proprietary information is necessary to provide an acceptable response, then please provide a bracketed copy of your response that identifies the information that should be protected and a redacted copy of your response that deletes such information. If you request withholding of such material, you must specifically identify the portions of your response that you seek to have withheld and provide in detail the bases for your claim of withholding (e.g., explain why the disclosure of information will create an unwarranted invasion of personal privacy or provide the information required by 10 CFR 2.390(b) to support a request for withholding confidential commercial or financial information). If safeguards information is necessary to provide an acceptable response, please provide the level of protection described in 10 CFR 73.21.

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

Dated this 17th day of May, 2016