

From: Judith Walker
To: Ron Linton
Date: 4/11/05 4:56PM
Subject: Core Labs EA

Ron,

At your earliest convenience, would you please review this EA for Core Laboratories. At the time I forwarded the draft EA to HQ, I wasn't aware that OGC should have reviewed it (I placed Regional Counsel on concurrence), so I will also forward it to the OGC materials reviewer before publishing. Thanks for your time.

judith

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Subject: Core Labs EA
Creation Date: 4/11/05 4:56PM
From: Judith Walker

Created By: JLW3@nrc.gov

Recipients

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Files	Size	Date & Time
MESSAGE	811	04/11/05 04:56PM
Core Labs FRN EA FONSI.wpd		185426 04/11/05 03:53PM

Options

Expiration Date: None
Priority: Standard
Reply Requested: No
Return Notification: None

Concealed Subject: No
Security: Standard



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
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ARLINGTON, TEXAS 76011-4005

April 5, 2005

MEMORANDUM TO: Michael T. Lesar, Chief
Rules and Directives Branch
Division of Administrative Services
Office of Administration

FROM: Jack E. Whitten, Chief
Nuclear Materials Licensing Branch
Division of Nuclear Materials Safety
Region IV

SUBJECT: PUBLICATION OF ENVIRONMENTAL ASSESSMENT AND
FINDING OF NO SIGNIFICANT IMPACT IN THE FEDERAL
REGISTER

Attached please find one signed original of the subject Federal Register notice for your transmittal to the Office of the Federal Register for publication. Also attached are five copies of the signed notice and a 3.5" diskette with the notice in WordPerfect 10.0 format.

Contact: Judith Walker, Region IV, DNMS
817-860-8299

Mail Control No.: 469935
Docket No.: 030-30429
License No.: 42-26928-01

Predecisional

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Mr. Michael T. Lesar

-2-

bcc (via ADAMS e-mail distribution)

KDSmith
PKHolahan
CLCain
JEWhitten
JLWalker
RIV Materials Docket Files (5th Floor)

SISP Review Completed: ☒Yes ☐No Initials: JLW3

ADAMS: ☒Yes ☐No Initials: JLW3

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DOCUMENT NAME: s:\dnms\!nmlb\jlw3\Core Labs EA revisions2.wpd

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U.S. NUCLEAR REGULATORY COMMISSION

[DOCKET NO. 030-30429]

Notice of Environmental Assessment and Finding of No Significant Impact of License Amendment for Core Laboratories

AGENCY: Nuclear Regulatory Commission.

ACTION: Environmental Assessment and Finding of No Significant Impact for Impact license amendment.

FOR FURTHER INFORMATION CONTACT: Jack E. Whitten, Nuclear Materials Licensing Branch, Division of Nuclear Materials Safety, Region RIV, U.S. Nuclear Regulatory Commission, 611 Ryan Plaza Drive, Suite 400, Arlington, TX 76011. Telephone: 817-860-8197; email jew1@nrc.gov.

SUPPLEMENTARY INFORMATION:

I. Introduction

The U.S. Nuclear Regulatory Commission (NRC) is considering the issuance of an amendment to NRC Materials License 42-26928-01 to increase the activity of radioactive collar markers containing cesium-137 from 50 microcuries (μCi) to 100 μCi . This licensing action would authorize Core Laboratories, Inc. (dba ProTechnics) to utilize Cesium-137 in quantities in excess of limits listed in 10 CFR 30.71 for well logging activities. If approved, Core Laboratories will continue to possess radioactive materials in accordance with the conditions of its license but will be exempt from 10 CFR 30.71 for Cesium-137. The NRC has prepared an Environmental Assessment (EA) in support of this action in accordance with the requirements of 10 CFR Part 51. Based on the EA, the NRC has determined that a Finding of No Significant Impact (FONSI) is appropriate.

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II. Environmental Assessment

Background

Core Laboratories, Inc., is a well logging licensee based in Houston, Texas and conducts tracer operations using radioactive materials in oil and natural gas fields worldwide. Core Laboratories is licensed by both the NRC and Agreement States (Louisiana, New Mexico, and Texas) to conduct well logging operations.

By letter dated July 14, 1997, Core Laboratories requested that NRC grant an amendment to allow the use of radioactive collar markers containing activities of byproduct material exceeding the limits listed in 10 CFR 30.71. An EA was written and based on the EA, the NRC concluded that a finding of no significant impact (FONSI) was appropriate. On March 9, 2002, Core Laboratories was granted an amendment authorizing an exemption to 10 CFR 30.71. This amendment authorized Core Laboratories to use pipe collar markers containing iridium-192, scandium-46, antimony-124, cobalt-60, and cesium-137 with activities up to 50 (μ Ci). The EA and the FONSI were published in the *67 Federal Register (FR) 5320*, February 5, 2002.

On February 23, 2004, Core Laboratories requested an amendment to increase the activity of radioactive markers containing cesium-137 from the 50 μ Ci, previously approved, with activities up to 100 μ Ci. This 100 μ Ci activity exceeds the quantities of byproduct material listed for use as pipe collar markers in oil and gas wells in 10 CFR 39.47, 10 CFR 30.71, and the activities authorized in the March 9, 2002, license amendment to Core Laboratories' byproduct material license. The NRC has reviewed the licensee's amendment request and has developed this EA to assess the environmental consequences of this licensing action using the guidance provided in NUREG-1748.

Proposed Action

The proposed action would approve the licensee's request to use of radioactive markers containing 100 μ Ci cesium-137 for use as pipe collar markers in oil and gas wells. This proposed activity exceeds the limits of radioactive markers authorized in 10 CFR 39.47 and 10 CFR 30.71.

The radioactive markers Core Laboratories requested authorization to use in well logging activities are either installed directly in the pipe collars or are placed on the pipe collar threads and secured between the pipe casing joints and are therefore not easily removed. Once installed in a well bore, the pipe casing and collars are cemented into place.

The Supplementary Information section of the proposed rulemaking specifies that the reason it is necessary to limit the activity of the pipe collar markers to the activity specified in 10 CFR 30.71 was, in part, because it is impracticable for the licensee who installs the radioactive marker to recover the marker when the well owner or operator elects to remove the casings from the well at a later date.

By letter dated July 14, 1997, Core Laboratories in its correspondence to NRC, describes the procedures it will have in place involving the customer or well owner/operator. These procedures state, in part, that in the event the collar markers whose activity is in excess of those authorized in 10 CFR 30.71 must be removed, Core Laboratories must be notified and be available on site to secure and take possession of the collar markers upon their return to the surface. Additionally, Core Laboratories will provide the customer or well owner/operator a copy of Attachment XII-1 (Radioactive Collar Marker Utilization Log) as a written record of the requirement to notify Core Laboratories if markers returned to the surface before a specified date.

The Need for the Proposed Action

The proposed action is necessary so that Core Laboratories can efficiently carry out its business of well logging in the oil and gas industry. The need for an increase in activity for cesium-137 is due to the heavier density of the materials being used in the well logging application. The higher activity radioactive markers will allow, when logging certain oil and gas wells, for more accurate pipe collar location measurements and for use of these markers longer periods of time. Radioactive markers with lower activities may result in Core Laboratories having to depend on less accurate pipe collar location measurements when logging oil and gas wells, thereby providing less accurate information to the well owner/operator.

Environmental Impacts of the Alternatives to the Proposed Action

The only alternative to the proposed action of increasing the activity of radioactive markers containing cesium-137 from 50 μCi to 100 μCi is to take no action. The no-action alternative would be to allow the licensee to maintain radioactive marker activities currently authorized in Core Laboratories' NRC license. This option would not produce a gain in protecting the human environment, even at the smaller 50 μCi activities, due to the less accurate pipe collar locations that would result. The use of the smaller 50 μCi activities would result in the well owner/operator having targeted less accurate locations of formations where fluids are injected or pumped.

On March 9, 2002, Core laboratories was granted an amendment authorizing an exemption to 10 CFR 30.71 to use pipe collar markers containing iridium-192, scandium-46, antimony-124, cobalt-60, and cesium-137 with activities up to 50 μCi . An EA was published in the 67 FR 55320, February 5, 2002, and based on the EA the NRC concluded that environmental impacts that would be created by the proposed action would not have a significant effect on the quality of the human environment and did not warrant the preparation of

an Environmental Impact Statement. Accordingly, it was determined that a FONSI was appropriate.

Environmental Impacts of the Proposed Action

When comparing the proposed action of increasing the activity of radioactive collar markers containing cesium-137 from 50 μCi to 100 μCi , to the no-action alternative, would yield the same results. Core laboratories provided calculations in its November 14, 1997, and February 27, 2004, letters that demonstrated that the 100 millirem in a year or 2 millirem in any one hour limits to a member of the public would not be exceeded at any time while using the pipe collar markers with increased 50 to 100 μCi activities.

There will be no significant environmental impact realized from the proposed action, due to no material being released into the environment and all of the material being wholly contained within the pipe collars. Additionally, the pipe collar markers will be recovered by Core Laboratories should the casing containing the collars be removed from the well bores.

If the collar markers are returned to the surface prior to having decayed to exempt quantity levels specified on Core Laboratories customer agreement, the customer is required to contact Core Laboratories to take possession of the markers. These markers are then removed from the equipment, placed into a lead shield, and then placed into a Department of Transportation 7A transport container for shipment back to Core laboratories. Upon return to the storage facility, the markers are placed into waste storage to await decay or shipment to an authorized recipient for disposal when quantities of waste justifies shipment.

Conclusion

Based in its review, the NRC staff has concluded that there are no significant environmental impacts associated with the proposed action and the preparation of an environmental impact statement is not warranted. The staff has determined that the proposed action, approval of the license amendment request to increase the activity of radioactive markers containing cesium-137 from the 50 μCi , to 100 μCi , is the appropriate alternative for selection.

Agencies and Persons Consulted

Since the proposed action occurs downhole and results in a permanent installation, the NRC has concluded that there is no potential to affect threatened or endangered species or historic resources. Therefore, no further consultation is required under Section 7 of the Endangered Species Act. Likewise, NRC staff has determined that the proposed action is not the type of activity that has potential to cause effects on historic properties. Therefore, no further consultation is required under Section 106 of the National Historic Preservation Act.

The NRC staff provided letters to the Environmental Protection Agency (EPA) and Agreement States of Louisiana, Texas, and New Mexico for their review and comments, in accordance with NUREG-1748, Section 3.3. The states consulted had no comments. By letter dated March 3, 2005, the EPA responded and recommended that the NRC, as a condition of approving the license amendment, have Core Laboratories provide notice to the Federal or State natural resource agency of which wells have the radioactive collar installed. The NRC staff took this comment into consideration and determined that Core Laboratories already provides notification to agreement states via reciprocity before performing well logging activities in the respective agreement states.

III. Finding of No Significant Impact

The NRC staff has concluded that the proposed action complies with 10 CFR Part 20. Exposure to a member of the public would be less than the limits specified in 10 CFR 20.1302. The licensee provided calculations that demonstrated that the 100 millirem in a year or 2 millirem in any one hour could not be exceeded when normal restricted boundaries were established. The NRC staff prepared this EA in support of the proposed action to amend the license. On the basis of this EA, the NRC has concluded that there are no significant environmental impacts and the license amendment does not warrant the preparation of an Environmental Impact Statement. Accordingly, it has been determined that a FONSI is appropriate.

IV. Further Information

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this document will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system. From this site, you can access the NRC's Agencywide Document Access and Management System (ADAMS), which provides text and image files of NRC's public documents. This document, along with most others referenced in the EA are available for inspection at NRC's Public Electronic Reading Room at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

1. NRC, "Environmental Review Guidance for Licensing Actions Associated with NMSS Programs," NUREG-1748, August 2003. (ML032540811).
2. NRC, "Consolidated NMSS Decommissioning Guidance," NUREG-1757, Volume 1, September 2003 (ML032530410).

3. ProTechnics Division of Core Laboratories Texas Bureau of Radiation Control License No. L03835, Amendment No. 37, expiration date August 31, 2005.
4. ProTechnics Division of Core Laboratories Louisiana Department of Environmental Quality License No. LA-6678-L01, Amendment No. 17, expiration date October 31, 2004.
5. ProTechnics Division of Core Laboratories New Mexico Radiation Control Bureau License No. WL264-26, Expiration date February 28, 2007.
6. ProTechnics Division of Core Laboratories Letter to NRC, July 14, 1997 (ML 003724357).
7. ProTechnics Division of Core Laboratories Letter to NRC, November 14, 1997 (ML003724675).
8. ProTechnics Division of Core Laboratories Letter to NRC, February 4, 1998 (ML 003724694).
9. ProTechnics Division of Core Laboratories Letter to NRC, January 20, 1998 (ML003724684).
10. ProTechnics Division of Core Laboratories Letter to NRC, February 27, 2004 (ML040580735).
11. Federal Register Volume 67, Number 24, pages 5320-5321.

Please note that on October 25, 2004, the NRC suspended public access to ADAMS, and initiated an additional security review of publicly available documents to ensure that potentially sensitive information is removed from the ADAMS database accessible through the NRC's web site. Interested members of the public may obtain copies of the referenced documents for review and/or copying by contacting the Public Document Room pending resumption of public access to ADAMS. The NRC Public Document Room is located at NRC Headquarters in Rockville, MD, and can be contacted at 800-397-4209 or 301-415-4737 or pdr@nrc.gov.

Dated at Arlington, Texas this day of April 2005

FOR THE NUCLEAR REGULATORY COMMISSION

Jack E. Whitten, Chief
Nuclear Materials Licensing Branch
Division of Nuclear Materials Safety
Region IV