

March 6, 2003

MEMORANDUM TO: Kenneth E. Brockman, Director  
Division of Nuclear Materials Safety (DNMS)  
Region IV

FROM: Lawrence E. Kokajko, Acting Chief */RA/*  
Environmental and Performance Assessment Branch  
Division of Waste Management, NMSS

SUBJECT: RESPONSE TO TECHNICAL ASSISTANCE REQUEST -  
APPLICABILITY OF 10 CFR 51.22(c)(14)(xi) TO THE  
ENVIRONMENTAL REVIEW FOR CORE LABORATORIES'  
REQUEST TO INJECT WELL-LOGGING WASTE IN CLASS II  
DISPOSAL WELLS

ISSUE:

Region IV submitted a Technical Assistance Request (TAR) dated November 22, 2002, requesting a determination on the applicability of a categorical exclusion under 10 CFR 51.22(c)(14)(xi) to a license amendment request (LAR) by Core Laboratories, Incorporated (d.b.a.: ProTechnics) for utilizing an alternate disposal method.

BACKGROUND:

By a letter dated August 23, 2000, Core Laboratories submitted to the U.S. Nuclear Regulatory Commission (NRC) a LAR for an "Additional Disposal Alternative." Core Laboratories stated that they are currently allowed to dispose of any well-logging waste containing radioactive tracer material in an earthen pit onsite. The licensee is seeking an approval to allow the well-logging waste to be injected in Class II disposal wells, which have been approved to accept non-hazardous oil and gas waste by authorized State agencies. These Class II disposal wells may be located onsite, as well as offsite.

Based on initial review of NRC documents and discussion with NRC staff, Region IV determined that a categorical exclusion under 10 CFR 51.22(c)(14)(xi) applies because:

- (1) This LAR for an "Additional Disposal Alternative" for well-logging waste to be injected into a Class II disposal well is within the safety envelope of previous generic safety analyses. Specifically, the safety analysis referenced in the March 1984 Statement of Considerations (SOC) for 10 CFR 51.22(c)(14)(xi) well-logging categorical exclusion is cited as a generic analysis that could be applied for this action. In addition, the Division of Waste Management (DWM) approved on December 18, 1995, an earlier TAR submitted by Region IV, on a similar disposal method that allows a generic onsite disposal of well-logging waste in an earthen pit.

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- (2) 10 CFR 51.22(c)(14)(xi) states “the use of sealed sources and/or radioactive tracers in well-logging procedures” as specific activities covered by the categorical exclusion.

Based on the above rationale, Region IV staff believes that a categorical exclusion applies to this LAR and that no further environmental review, assessment, or documentation are required. However, based on further review of NRC guidance, discussion with NRC staff, and consideration of the current Core Laboratories’ license, Region IV was not completely certain if a categorical exclusion under 10 CFR 51.22(c)(14)(xi) could be applied to Core Laboratories’ request.

#### DISCUSSION:

We have reviewed your TAR pertaining to Core Laboratories’ LAR for a generic authorization to utilize an alternate disposal method that allows licensed material in the form of well-logging waste containing radioactive tracer material to be injected in Class II disposal wells. In coordination with the Office of General Counsel, it was determined that a categorical exclusion under 10 CFR 51.22(c)(14)(xi) does not apply for this alternate disposal activity, and that an environmental assessment (EA) should be prepared in support of this licensing action. The reasons for such determination are listed as follows:

- (1) 10 CFR 51.22(c)(14)(xi) provides for categorical exclusions for the “use of sealed sources and/or radioactive tracers in well-logging procedures.” The requested action would involve transporting and disposing of the well-logging waste in Class II disposal wells. Since transportation and disposal are not actions that fall into the category of “use,” we believe an EA should be developed.

In addition, the SOC for the final rule amending 10 CFR Part 51 stated that one commenter (State of California, Department of Health Services) objected to the categorical exclusion for well-logging (49 FR 9352). The commenter principally argued that if a source is lost in the underground operation and consequently abandoned, the possibility exists for the radioactive material to compromise a drinking water source. Citing the loss of a 1-Curie americium-beryllium source down a well with subsequent partially successful decommissioning efforts, the commenter highlighted the need to protect the groundwater sources from the use of radioactive materials in well-logging.

While the Commission did conclude that the environmental impact of licensing actions authorizing the use of sealed sources and radioactive tracer materials in well-logging procedures was negligible, it is unclear based on the SOC that the Commission had evaluated the environmental impact of transporting and disposing of the waste associated with decontamination procedures and well-logging waste at another location. Rather, the SOC indicated that the focus of evaluation was on the occasional abandonment of a sealed source and the conclusion that the loss of source does not result in any significant impact to the environment.

While the Class II disposal wells that the licensee proposes to use are already approved by other State and Federal agencies for disposal of non-hazardous oil and gas waste, in the absence of any evidence that this categorical exclusion applies to activities such as transporting and disposing of well-logging wastes, we support the need to prepare an EA for this licensing action.

- (2) NUREG-1748, "Environmental Review Guidance for Licensing Actions Associated with NMSS Programs," dated September 2001, supercedes previous environmental review guidance including Policy and Guidance Directive FC 84-20, Revision 1. Region IV staff noted that Section III of the Policy and Guidance Directive FC 84-20, Revision 1, covers license actions that have been found to be within the safety envelope of previous license actions that qualified under categorical exclusion per 10 CFR 51.22(c)(14)(i) - (xvi). Specifically it states, in part, that if a previous technical and/or license-based analysis had been performed, which bounded the environmental radiological hazards to the public for the specific generic issue, and the Region believes that a specific license action is within the safety envelope of the previous analysis, then the Region can cite the previous generic analysis, document its rationale for making such assessment, and file copies of the previous analysis and its rationale in the license file. When impacts of a proposed action are well-bounded by an environmental analysis in another document, this guidance allows the staff to make a similar determination for the proposed activity. In a similar TAR, DWM approved on December 18, 1995, for Core Laboratories' 1993 request on a generic authorization for onsite disposal of radioactive materials from well-logging sandouts, flowbacks, or any other form in an earthen pit. However, no existing environmental analyses (i.e., EA or Environmental Impact Statement) has been performed on transporting and disposal of the well-logging waste in another well. For additional background information on utilizing existing environmental analyses, please refer to Section 1.3 of the NUREG-1748.

Therefore, for reasons stated above, and pursuant to 10 CFR Part 51, the Environmental and Performance Assessment Branch (EPAB) staff has concluded that the proposed activities do not fall under the categorical exclusion in 10 CFR 51.22(c)(14)(xi).

Per NUREG-1748, if a categorical exclusion applies, the Regional licensing project manager would document the determination and findings for inclusion in the license file. If a categorical exclusion does not apply, the Regional licensing project manager is responsible for the preparation of an EA. Please note that all EAs prepared for NMSS actions are subject to review by EPAB. Region IV staff may want to consult with technical staff and EPAB staff for clarification on the use of the categorical exclusions and for guidance on EAs. NUREG-1748 discusses the use of a categorical exclusion checklist to document a categorical exclusion. The original purpose of the checklist is to ensure that there were no special circumstances warranting preparation of an EA or Environmental Impact Statement. We are planning to update the checklist by adding a question related to the categorical exclusion applicability in the upcoming revision to the NUREG-1748. Hopefully, this addition will clarify the process for you in the future.

March 7, 2003

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**Licensee(s):** Core Laboratories, Inc. (D.B.A.: ProTechnics Division of Core Laboratories)

**License Number(s)** 42-26928-01

**Docket Number(s):** 30-30429

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