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REGULATORY GUIDE

OFFICE OF STANDARDS DEVELOPMENT

REGULATORY GUIDE 6.8
IDENTIFICATION PLAQUE FOR IRRETRIEVABLE WELL-LOGGING SOURCES*

A. INTRODUCTION

The Commission has published proposed amendments to 10 CFR Part 30, "Rules of General Applicability to Domestic Licensing of Byproduct Material," and to 10 CFR Part 70, "Domestic Licensing of Special Nuclear Material," concerning the implementation of certain requirements in cases of irretrievable well-logging sources. One of these requirements would call for the mounting of a permanent identification plaque at the surface of a well that contains an irretrievable well-logging source. This regulatory guide describes methods that would be acceptable to the NRC staff for the characteristics and the mounting of this permanent identification plaque assuming the proposed regulation is promulgated as an effective rule by the Commission after consideration of public comments.

B. DISCUSSION

Sealed source logging techniques use gamma sources and neutron sources in quantity levels up to several curies per source for substrata analysis in oil, gas, and mineral exploration. When there is an irretrievable well-logging source, a permanent identification plaque must be mounted at the surface of the well. The mounting of this plaque is one aspect of continuing control of the byproduct material, and the identification plaque is intended to be a permanent indication of a sealed source downwell.

C. REGULATORY POSITION

Acceptable plaque information, plaque material, and methods of plaque mounting for active and inactive wells that contain an irretrievable well-logging source are as follows:

1. *Plaque Information.* All of the following information should be engraved on the face of the identification plaque. The engraving procedure should remove sufficient material to ensure that the depth of engraving will be sufficient to produce characters that have long-lasting visual discernibility.

a. The words, "CAUTION RADIOACTIVE MATERIAL."

b. The radiation symbol (color not required) as described in 10 CFR § 20.203, "Caution signs, labels, signals and controls."

c. The words, "Irretrievable well-logging source(s)," and the date of occurrence.

d. The name of the well-owner and the city and state where his main office is located.

e. The well name and the well number (if applicable).

f. The sealed source(s) (radionuclide and quantity of activity).

g. The source depth and the plug-back depth.

h. An appropriate warning, depending on the specific circumstances of each incident, such as:

(1) Do not drill below plug-back depth,

(2) Do not enlarge casing, or

(3) Notify the appropriate State agency before reentry (if required by regulation in the State where the well is located).

2. *Plaque Material.* The plaque should be constructed of long-lasting material such as stainless steel, brass, bronze, or monel. The size of the plaque should be convenient for use on active or inactive wells; e.g., a seven-inch (177.8 mm) square would be usable in both cases. The thickness of the metal plaque should be at least ⅛ inch (3.2 mm). Letter size of the words, "CAUTION RADIOACTIVE MATERIAL," should be approximately double the letter size of the rest of the information; e.g., ¼ inch

*An "irretrievable well-logging source" means any sealed source containing licensed material that is pulled off or not connected to the wireline downwell and for which all reasonable effort at recovery, as determined by the Commission, has been expended.

(6.4 mm) and ⅛ inch (3.2 mm) letter sizes would be acceptable.

3. *Plaque Mounting.*

a. For active wells, the plaque should be mounted in a readily observable location by welding or bolting it to the well-head structure. The plaque information should be readable by personnel in the immediate area.

b. For inactive wells, the plaque should be mounted by welding or bolting it to the top of the casing cap so that the plaque information would be readily observable if the well were reentered at a future date.

D. IMPLEMENTATION

The guidance contained herein may be used by licensees or by applicants for a license as a reference for information normally supplied in support of a license application.

Other equally effective methods for providing for and mounting of an identification plaque for irretrievable well-logging sources may also be used.