



United States Department of the Interior

GEOLOGICAL SURVEY

Water Resources Division
5 Aerial Way
Syosset, NY 11791
(516) 938-8830

November 13, 1984

84 NOV 19 A10:51

United States Nuclear Regulatory Commission
Materials Licensing Branch
Division of Fuel Cycle and Material Safety
Washington, D.C. 10555

Attention: Ms. Isabelle Myers

Dear Ms. Myers:

Ref: Control # 17992, Your letter of 3 October 1984

RE: NRC Lic #31-13026-1

Below please find listed the data you require keyed to the points of your letter of 3 October 1984:

1. The mailing address is U.S. Dept. of Interior, Geological Survey, Water Resources Division, New York District, 5 Aerial Way, Syosset, N.Y. 11791.
2. Patrick F. Panetta, M.Sc. has replaced M. B. Heller, Ph.D. as RSO. His resume is enclosed.
3. Survey meters are calibrated by the physicist at 2 points per scale utilizing Cs-137 at variety distances encompassing the dynamic range of the instruments. The U.S.G.S. possesses a CDV-700 (0-50mR/hr), Ebeline PIC-6A Ion Chamber Instrument and an Ebeline Neutron (NEMO) System. The Neutron system is calibrated utilizing an Am-Be Source. Mr. Panetta's calibration protocol is on file with the USNRC, King of Prussia, Pa. office.
4. See enclosed Waste Resource Div. Memorandum #84.49. U.S.G.S. personnel utilize R.S. Landauer Jr. and Company monthly, Alpha, Beta, Gamma, Neutron body badges as personnel monitoring systems.
5. See enclosures.
6. Transport vehicles are placarded in accordance with 10CFR71 and the required DOT regulations. A survey documenting the transport index at 3' from the container center is less than 10mR/hr is performed and that the cab of the transport vehicle exhibits exposure rates less than 2mR/hr is insured. The transport containers are in place and never left unattended during transportation. At no time is the exposure 18" from any surface of the transport vehicle greater than 2mR/hr.

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ML10

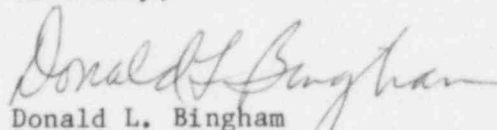
8507180062 850705
REG1 LIC30
31-13026-01 PDR

7. Detailed site surveys as well as surveys denoted in Item #6 are performed to insure that sources after transport and during use display radiation levels consistent with acceptable norms.
8. The Cs-137 previously at Bay Park Sewage Treatment Plant is now in storage at 235B Robbins Lane, Syosset, N.Y. Enclosed please find a sketch of this area and the security provisions noted.
9. P. F. Panetta, M.Sc. Radiological Physicist both performs the wipes and analyzes these smear samples.
10. Enclosed please find the survey format sheets and utilization log data sheet.
11. U.S.G.S. will not perform maintenance or service operations on sources or source holders.

Please be advised that all sources are in storage at this time in or denoted storage facility and that it is anticipated that future use by this office will be minimal.

If you require any additional information, please do not hesitate to contact me.

Sincerely,


Donald L. Bingham
Subdistrict Chief

PFP:jb
encs.

PATRICK F. PANETTA, M. S.
RADIOLOGICAL PHYSICS

CURRICULUM VITAE
(condensed)

EDUCATION

State University of New York (Oyster Bay, N.Y.)
1962----B.Sc., Chemical Engineering
 B.Sc., Physics
 Member --Sigma Chi
 Vanderbilt University, Nashville, Tenn.
 Massachusetts Institute of Technology, Lincoln Laboratory
 Boston, Massachusetts
1967----M.Sc.---Nuclear Physics/Nuclear Engineering
 Under NASA SHARE Program

EMPLOYMENT

1962--1964---Brookhaven National Laboratory
 Health Physics Division, Health Physicist
1964--1965---Baird-Atomic Inc., Cambridge, Mass.
 Engineer
1965--1970---Grumman Aircraft Engineering Corp.
 Bethpage, New York
 Engineer, Asst. Radiation Safety Officer
1970--1977---Nuclear Associates Inc., Westbury & Carle Place, N.Y.
 Technical Director, Radiation Safety Officer
1972--Present Assistant and Partner, Physics Practice
 Mortimer B. Heller, P.Hd. (Training and work experience
 Radiotherapy calibration)
1974--1979---Assistant to Physics Practice
 Gerald Shapiro, M.Sc. (Performed majority of x-ray,
 Nuclear and radiotherapy calibrations)
1977--Present Self employed Consulting Radiation Physicist

PATRICK F. PANETTA, M. S.
RADIOLOGICAL PHYSICS

- 2 -

CREDITS

Designer of light pipe system Baird Atomic Auto Fluoroscope (Original)

Creator of I-125 Radiochromatogram Scanner (1965)
as used by R. Yalu, Ph.D. in RIA Research

Design of all Lunar Module Docking Target
(22.5 curies Pm - 147/ with P-7 Phosphor)

Design of all Lunar Module - LPD (Landing Point Designator)
in LM Command Pilot View Window (Pm-147 inlay)

Design of OV-1D Nuclear Radiation level detector

Design Assist on 47,000 curie Co-60 Hi-field Irradiator
(1,100,000 Rads/hr-Flat Field)

Design of "Nuclear Conformation" Switch of the Ascent Engine
All Lunar Modules.

Custodian of 2 - SNAP-27A Generators (47,500 Ci 239 PuO₂/ea)

Design of the Majority of Nuclear Associates Accessory items
including but not limited to.

Botstein Zacharopolus Cs-137 Uterine/Cervical Applicator

"NONEX" Xenon Gas Trap (patented)

Tungsten and depleted Uranium Syringe shields (Patented)
Sulphur colloid shield (patented)

Imaging Tables

Flood Phantom

Bar Phantoms

Head Holders

Instrumentation

PATRICK F. PANETTA, M. S.
RADIOLOGICAL PHYSICS

- 3 -

PATENTS

Radiation Eye Shields	U.S. Letters Patent #4,021,862
Nonex Xenon Gas Trap	#3,976,050
Nuclear Medicine Head Holder	#3,806,110
Tc-99m sulphur Colloid Shield	#3,673,411

EXPERIENCE

Shielding Design 1964--Present

Conglomerate X-ray and gamma ray shield designs
facilities and offices --750 plus

X-ray Calibrations 1967-present
under GAEC. G. Shapiro, M.B. Heller and self
over 3000 rooms evaluations, R, R & F, R & T and specials

Grentz, Superficial, Otho, Megavoltage Cs-137
Co-60 and LINAC Calibrations

Under G. Shapiro, and M.B. Heller --275-300 (at Nassau County
Medical Center and other sites)

Personally - 60 (2 major cal/yr Co-60, Cs-137)

SOCIETIES

Health Physics Society
AAPM
RAMPS
American Nuclear Society

PATRICK F. PANETTA, M. S.
RADIOLOGICAL PHYSICS

- 4 -

PERSONNEL INSTRUMENTATION

Keithley 10030 Digital Dosimeter with 0.6cc Farmer Chamber and
F04-03 T1000 Chamber (Memorial Cal)

Keithley 35060 Exposure Meter

Keithley 35070 kVp Meter

Keithley 35080 kVp Divider

Keithley Digital X-ray Timer

Victoreen 740F Cutie Pie

CDV-700 G-M Survey Meter

Nuclear Associates - Minimonitor II Survey Meter

DCA 0-5R and 0-200mR LED Dosimeters and Charger

Assorted X-ray test patterns and phantoms (X-ray, Ultrasound and CT)

Packard Dual Channel Scaler/Spectrometer with 3 x 21
NaI (Tl) shielded well counter

Tektronix 434 50MHz Storage Scope and full set of DVM, change
Integrator, TV Monitor alignment system and tools to service
nuclear medicine, X-ray, CT and ultrasound equipment

PUBLICATIONS

NASA/STAR P-N Activation using the Emperor (Tandem)
Van DeGraff for fluorinated hydrocarbons (Masters Thesis)

DOD- Assorted Technical articles OV-1D, F-111B, EA-6B
Process Irradiation and device hardening with high energy ion beams.

JNM--letters to editor, technical notes -- 1972-1978

Training Publications - Nuclear Associates in Nuclear Medicine and
CT QC

EXISTING FILES

State of New York Department of Health, Albany, New York, B. Heald
State of New York Department of Labor, New York, New York, Francis Bradley
USMRC (DOE) King of Prussia, Penn. and Washington, D.C.
State of New Jersey, Department of Environmental Conservation, Trenton, N.J.

PATRICK F. PANETTA, M. S.
RADIOLOGICAL PHYSICS

June 18, 1984

U.S. Department of the Interior
Geological Survey
Water Resources Division
5 Aerial Way
Syosset, New York 11791

Attention: Mr. A. Giamo

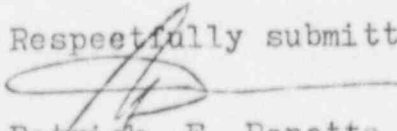
Re: Contamination level wipe test of U.S. Department of the Interior
Am-241-Be Neutron Well Logging Source System, total activity
250mCi and 100mCi Am-241BC Sources (2), Well Logging Systems
(Plambe - 116 & N-2)

Dear Mr. Giamo:

On June 18, 1984 detailed wipe tests of the above mentioned sources were taken with smears treated to remove and retain surface contamination. These wipes were counted in a thin wall sodium iodide (TI) activated scintillation system calibrated for the 61 keV x-ray emitted by Am-241. This system has a conversion efficiency of 30% for this x-ray and is capable of detecting less than 0.005uCi of this radionuclide. All wipes were equivalent to background.

This report must be maintained on file for DOE Inspection.

Respectfully submitted,


Patrick F. Panetta, M.Sc.
Radiological Physicist

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ML18



United States Department of the Interior

GEOLOGICAL SURVEY
RESTON, VA. 22092

In Reply Refer To:
WGS-Mail Stop 405

January 20, 1984

JB
BN
BK
EIO
AAG
JH
SB -

WATER RESOURCES DIVISION MEMORANDUM NO. 84.49

Subject: GROUND WATER--Nuclear Regulatory Commission Rules on Lost Well Logging Sources

The Nuclear Regulatory Commission has amended its regulations to establish requirements to be accomplished in the event that a nuclear well logging source cannot be retrieved from a well. An irretrievable well logging source is defined as any sealed source containing licensed material that is pulled off or not connected to the wireline that suspends the source in the well and for which all reasonable efforts for recovery have been expended.

A copy of the regulation as published in the Federal Register is attached for your reference. One change which requires attention from Water Resources Division personnel is that a written agreement must be executed with the well owner before logging with a nuclear probe is undertaken. The agreement must state that the well will be plugged and marked if the well logging source is irretrievable. A sample letter is attached. Project chiefs who request nuclear logging should have a copy of the signed letter from the well owner in hand before the nuclear source is placed in the hole.

If further clarification is required, please contact Arnold Boettcher, Borehole Geophysical Services Unit, FTS 234-2615.

Thomas J. Buchanan
Assistant Chief Hydrologist
for Operations

Attachments

Distribution: A, B, S, FO, PO

This memorandum supersedes no previous WRD Memorandum.

Date

Chief, Borehole Geophysical Services Unit
U.S. Geological Survey, Water Resources Division
Mail Stop 405, Box 25046
Denver Federal Center
Denver, Colorado 80225

Dear Sir:

The purpose of this letter is to comply with the Nuclear Regulatory Commission requirement that a written agreement with the well owner or operator be executed before a well can be logged with a nuclear well logging source. I understand that, if during a geophysical well logging operation a nuclear source is irretrievably lost down my well, the well will be cemented and monumented as outlined in U.S. Nuclear Regulatory Commission Regulations 10 CFR 30.56(a) and 70.60(a).

Well Owner's Signature

Well Location

State

County

NUCLEAR REGULATORY
COMMISSION

10 CFR Parts 30, 70 and 150

Irretrievable Well-Logging Sources

AGENCY: Nuclear Regulatory
Commission.

ACTION: Final rule.

SUMMARY: The Nuclear Regulatory Commission is amending its regulations to establish requirements to be accomplished in the event of an irretrievable well-logging source (any sealed source containing licensed material that is pulled off or not connected to the wireline that suspends the source in the well for which all reasonable effort at recovery has been expended). The final rule establishes requirements for sealing and protecting the well-logging source, identifying the well site, and reporting the occurrence. The Commission believes that uniform and adequate safety requirements contained in this rule are necessary to ensure that no subsequent damage to the source occurs that might result in the dispersal of radioactive material.

EFFECTIVE DATE: September 28, 1983.

ADDRESSES: Copies of the Regulatory Analysis and analysis of comments may be examined at the Commission's Public Document Room at 1717 H Street NW., Washington, DC 20555.

FOR FURTHER INFORMATION CONTACT: Dr. Anthony N. Tse, Office of Nuclear Regulatory Research, Washington, DC 20555, telephone (301) 443-7902.

SUPPLEMENTARY INFORMATION: A well-logging operation consists of lowering into and raising from wells on a wireline a well-logging tool, a measuring device, which may contain sealed radioactive sources. The purpose of the well-logging operation is to obtain information about the underground strata. Currently, the Commission has approximately 160-170 licensees authorized to conduct well-logging activities and over 50,000 wells are logged each year. Sealed radioactive sources used in well-logging operations typically contain americium-241 or cesium-137 sources.

Occasionally a well-logging tool containing a radioactive source becomes disconnected from the wireline. In some instances, the well-logging tool is unrecoverable and is left in the well. An irretrievable well-logging source is any sealed source containing licensed material that is pulled off or not connected to the wireline that suspends the source in the well and for which all reasonable effort at recovery has been expended. A review of records indicates that an average of five irretrievable well-logging sources has occurred yearly.

A well containing an irretrievable well-logging source could continue in production. Operation such as redrilling could be performed in that well. If an irretrievable well-logging source was damaged by subsequent operation and

radioactive material was brought to the surface, contamination of the well-site, drilling equipment, vehicles, and personnel could occur.

Currently, the Commission treats the abandonment of an irretrievable well-logging source as a condition of the well-logger's license. The licensee is required to specify the procedures that will be used in the abandonment and identification of an irretrievable well-logging source. Because some logging companies operate on an interstate basis and because these activities are licensed by the Commission and the Agreement States, uniformity in the content and application of abandonment procedures is important. In addition, legally binding requirements are required to assure that the well owner or operator performs the required actions when neither the owner or operator is the licensee. This regulation is intended to provide the uniformity and assurance necessary to assure radiological safety in the event of an irretrievable well-logging source.

On September 28, 1978 the NRC published in the Federal Register (43 FR 44547) a notice of proposed rulemaking setting out amendments to 10 CFR Parts 30 and 70 that would require certain procedures be followed if a well-logging tool containing radioactive material was abandoned in a well. These procedures include sealing the source in place with a cement plug, mounting a permanent identification plaque at the surface of the well and reporting the circumstances concerning the irretrievable source to the Commission and to pertinent State agencies within 30 days after the source had been abandoned. The notice provided for a 60-day public comment period.

Ten letters of comment were received in response to the notice. All 10 commenters expressed general agreement with the purpose of the proposed regulations. However, most commenters did express concern about some aspect of the proposed amendments.

Six commenters observed that the definition of an irretrievable well-logging source required the Commission to determine when all reasonable effort at recovery had been expended. These commenters complained that the Commission had neither the expertise nor the resources to make this determination. Although it was never intended that the Commission unilaterally decide whether a source was irretrievable, the definition has been amended to delete the reference to unilateral Commission determination of the status of the source. Accordingly, the

phrase "as determined by the Commission" has been deleted from the definition. However, under §§ 30.56(b) and 70.60(b) as revised, the Commission retains the authority to determine if "all reasonable effort at recovery has been expended" and may deny approval of the abandonment procedures if it feels that this condition has not been met.

Six commenters noted a discrepancy between the language of the proposed amendment and the intent of the amendment regarding a written agreement between the licensee and the well owner or operator. This agreement would require execution of the abandonment procedures when required and within a specific time period. These commenters correctly noted that the language did not reflect the intent of the regulations. Accordingly, the regulations in 10 CFR 30.56(a) and 70.60(a) have been revised to clarify that a written agreement between the licensee and the well owner or operator is required prior to commencement of well-logging activities and that agreement must assure implementation of proper abandonment procedures within thirty days after a well-logging source is declared irretrievable.

One commenter further stated that an executed agreement may be difficult to enforce since neither the well owner nor the well operator is a Commission licensee. The Commission considers the well-logger, as a licensee, responsible for ensuring compliance with the regulations or for pursuing every legal avenue to achieve that compliance. In view of this licensee responsibility, the changes in the regulations proposed by this commenter are not adopted.

Five commenters noted that too much wording was required on the identification plaque. In particular, these commenters stated that much of the information would be available in the report filed with the State and Commission or that some information, such as the name and address of the well owner or operator may be incorrect by the time a well is reentered. These comments were accepted in part. The amendment as revised requires that the plaque contain only information that the Commission considers essential to warn persons of the potential hazard that may be encountered when the well is reentered.

Three commenters suggested that the licensee have the option of reporting the incident to either the Commission or to the appropriate State regulatory authority. The Commission disagrees. All Commission licensees are required to notify the Commission of incidents involving radioactive materials. The Commission also believes that

notification of the appropriate State regulatory agency is an important safety requirement since a warning notation is needed in the well records. In addition, the amendments in 10 CFR 30.56 and 70.60 specifically state the information that the report must contain. In view of these considerations, notifications are required for both the Commission and the State regulatory agency.

After careful consideration of the comments on the notice of proposed rulemaking, the Commission has adopted the amendments in final form. The requirements of §§ 30.56(a) and 70.60(a) relating to agreements between the well-logger (licensee) and the well owner or operator will not apply to job sites where operations have begun prior to the effective date of these amendments. The requirements of §§ 30.56(b), 30.56(c), 30.56(d), 70.60(b), 70.60(c), and 70.60(d) will apply to all well-logging sources abandoned after the effective date of these amendments.

In addition to the amendments to 10 CFR Parts 30 and 70, the Commission is also amending 10 CFR Part 150 without public comment. Section 150.20 currently references § 30.56, but not § 70.60. The amendment will correct this difference. Because the amendment to § 150.20 is nonsubstantive and conforming in nature, the Commission has found that good cause exists for omitting notice of proposed rulemaking, and public procedure thereon, as unnecessary and for making the effective date of this amendment coincide with the effective date of the amendments to §§ 30.56 and 70.60.

Paperwork Reduction Act Statement

This final rule amends information collection requirements that are subject to the Paperwork Reduction Act of 1980 (44 U.S.C. 3510, et seq.). These requirements were approved by the Office of Management and Budget under approval numbers: Part 30—3150-0017; and Part 70—3150-0009.

Regulatory Analysis

The Commission has prepared a regulatory analysis for this regulation. The regulatory analysis examines the costs and benefits of the alternatives considered by the Commission. Interested persons may examine a copy of the regulatory analysis at the Public Document Room, 1717 H Street NW, Washington, DC. Single copies of the analysis may be obtained from Dr. Anthony N. Tse, Office of Nuclear Regulatory Research, U.S. Nuclear Regulatory Commission, Washington, DC 20555; telephone: (301)443-7902.

List of Subjects

10 CFR Part 30

Byproduct material, Government contracts, Intergovernmental relations, Isotopes, Nuclear materials, Penalty, Radiation protection, Reporting and recordkeeping requirements.

10 CFR Part 70

Hazardous materials-transportation, Nuclear materials, Packaging and containers, Penalty, Radiation protection, Reporting and recordkeeping requirements, Scientific equipment, Security measures, Special nuclear material.

10 CFR Part 150

Hazardous materials-transportation, Intergovernmental relations, Nuclear materials, Penalty, Reporting and recordkeeping requirements, Security measures, Source material, Special nuclear material.

Under the authority of the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974, as amended, and 5 U.S.C. 553, the following amendments to 10 CFR Parts 30 and 70, and 150 are published as a document subject to codification.

PART 30—RULES OF GENERAL APPLICABILITY TO DOMESTIC LICENSING OF BYPRODUCT MATERIAL

1. The authority citation for Part 30 is revised to read as follows:

Authority: Sections 81, 82, 161, 182, 183, 186, 68 Stat. 935, 948, 953, 954, 955, as amended, sec. 234, 83 Stat. 444, as amended (42 U.S.C. 2111, 2112, 2201, 2232, 2236, 2282); secs. 201, as amended, 202, 206, 88 Stat. 1242, as amended, 1244, 1246 (42 U.S.C. 5841, 5842, 5846).

Section 30.7 also issued under Pub. L. 95-601, sec. 10, 92 Stat. 2951 (42 U.S.C. 5851). Section 30.34(b) also issued under sec. 184, 68 Stat. 954, as amended (42 U.S.C. 2234). Section 30.61 also issued under sec. 187, 68 Stat. 955 (42 U.S.C. 2237).

For purposes of sec. 223, 68 Stat. 958, as amended (42 U.S.C. 2273): §§ 30.3, 30.34(b) and (c), 30.41 (a) and (c) and 30.53 are issued under sec. 161b, 68 Stat. 948, as amended (42 U.S.C. 2201(b)); and §§ 30.36, 30.51, 30.52, 30.55 and 30.56(b) and (c) are issued under sec. 161o, 68 Stat. 950, as amended (42 U.S.C. 2201(o)).

2. A new paragraph (x) is added to § 30.4 to read as follows:

§ 30.4 Definitions.

(x) "Irretrievable well-logging source" means any sealed source containing licensed material that is pulled off or not connected to the wireline that suspends

the source in the well and for which all reasonable effort at recovery has been expended.

3. A new § 30.56 is added to read as follows:

§ 30.56 Well-logging operations using sealed sources.

(a) A licensee may perform well-logging operations with a sealed source only after the licensee executes a written agreement with the well owner or operator that, within thirty (30) days after a well-logging source has been classified as irretrievable, the following requirements will be implemented:

(1) Each irretrievable well-logging source must be immobilized and sealed in place with a cement plug.

(2) A whipstock or other deflection device must be set at some point in the well above the cement plug, unless the cement plug and source are not accessible to any subsequent drilling operations.

(3) A permanent identification plaque, constructed of long lasting material such as stainless steel, brass, bronze, or monel, must be mounted at the surface of the well, unless the mounting of the plaque is not practical. The plaque must contain:

- (i) The word "CAUTION";
- (ii) A radiation symbol (the color requirement need not be met);
- (iii) The date the source was abandoned;
- (iv) The name of the well owner or well operator;
- (v) The well name and well identification number(s) or other designation;

(vi) An identification of the sealed source(s) by radionuclide and quantity of activity;

(vii) The depth of the source and depth to the top of the plug; and

(viii) An appropriate warning.

(b) When a well-logging source becomes irretrievable, the licensee shall:

(1) Notify the Regional Administrator of the appropriate NRC Regional Office listed in Appendix D of Part 20 of this chapter of the circumstances of the loss by telephone; and

(2) Obtain approval to implement abandonment procedures.

(c) The licensee shall, within 30 days after a well-logging source has been classified as irretrievable, make a report in writing to the appropriate NRC Regional Office listed in Appendix D of Part 20 of this chapter. The licensee shall send a copy of the report to each appropriate State agency that has authority over the particular well-drilling operation. The report must contain the following information:

(1) Date of occurrence.

(2) A description of the irretrievable well-logging source involved, including radionuclide, quantity, and chemical and physical form.

(3) Surface location and identification of well.

(4) Results of efforts to immobilize and seal the source in place.

(5) Depth of source.

(6) Depth of the top of the cement plug.

(7) Depth of the well.

(8) Any other information (e.g., warning statement) contained on the permanent identification plaque.

(9) Notifications made to State agencies.

(10) A brief description of the attempted recovery efforts.

(d) Any licensee or applicant for a license may apply to the Commission for approval of proposed procedures to abandon an irretrievable well-logging source in a manner not otherwise authorized in paragraph (a) of this section.

PART 70—DOMESTIC LICENSING OF SPECIAL NUCLEAR MATERIAL

4. The authority citation for Part 70 is revised to read as follows:

Authority: Sections 51, 53, 161, 182, 183, 68 Stat. 929, 930, 948, 953, 954, as amended (42 U.S.C. 2071, 2073, 2201, 2232, 2233); secs. 201, as amended, 202, 204, 206, 88 Stat. 1242, as amended, 1244, 1245, 1248 (42 U.S.C. 5841, 5842, 5845, 5846).

Section 70.7 also issued under Pub. L. 95-601, sec. 10, 92 Stat. 2951 (42 U.S.C. 5851). Section 70.21(g) also issued under sec. 122, 68 Stat. 939 (42 U.S.C. 2152). Section 70.31 also issued under sec. 57d, Pub. L. 93-377, 88 Stat. 475 (42 U.S.C. 2077). Sections 70.36 and 70.44 also issued under sec. 184, 68 Stat. 954, as amended (42 U.S.C. 2234). Section 70.81 also issued under secs. 186, 187, 68 Stat. 955 (42 U.S.C. 2236, 2237). Section 70.82 also issued under sec. 108, 68 Stat. 939, as amended (42 U.S.C. 2138).

For the purposes of sec. 233, 68 Stat. 958, as amended (42 U.S.C. 2273): §§ 70.3, 70.19(c), 70.24 (a) and (b), 70.32(a) (3), (5), (6), and (d), 70.36, 70.39 (b) and (c), 70.41(a), 70.42 (a) and (c), 70.56, 70.57 (b), (c), and (d), 70.58(a)-(g)(3), and (h)-(j) are issued under sec. 161b, 68 Stat. 948, as amended (42 U.S.C. 2201(b)); §§ 70.20a(d), 70.20b (c) and (e), 70.21(c), 70.24(b), 70.32 (e) and (g), 70.56, 70.57 (b) and (d) and 70.58(a)-(g)(3) and (h)-(j) are issued under sec. 161, 68 Stat. 949, as amended (42 U.S.C. 2201(i)); and §§ 70.20b (d) and (e), 70.38, 70.51-70.55, 70.58 (g)(4), (k), and (l), 70.59, and 70.60 (b) and (c) are issued under sec. 161c, 68 Stat. 950, as amended (42 U.S.C. 2201(o)).

5. A new paragraph (w) is added to § 70.4 to read as follows:

§ 70.4 Definitions.

* * * * *

(w) "Irretrievable well-logging source" means any sealed source containing licensed material that is pulled off or not connected to the wireline that suspends the source in the well and for which all reasonable effort at recovery has been expended.

6. A new § 70.60 is added under the center heading "Special Nuclear Material Control, Records, Reports and Inspections," to read as follows:

§ 70.60 Well-logging operations using sealed sources.

(a) A licensee may perform well-logging operations with a sealed source only after the licensee executes a written agreement with the well owner or operator that, within thirty (30) days after a well-logging source has been classified as irretrievable, the following requirements will be implemented:

(1) Each irretrievable well-logging source must be immobilized and sealed in place with a cement plug.

(2) A whipstock or other deflection device must be set at some point in the well above the cement plug, unless the cement plug and source are not accessible to any subsequent drilling operations.

(3) A permanent identification plaque, constructed of long lasting material such as stainless steel, brass, bronze, or monel, must be mounted at the surface of the well, unless the mounting of the plaque is not practical. The plaque must contain:

- (i) The word "CAUTION";
- (ii) A radiation symbol (the color requirement need not be met);
- (iii) The date the source was abandoned;

(iv) The name of the well owner or well operator;

(v) The well name and well identification number(s) or other designation;

(vi) An identification of the sealed source(s) by radionuclide and quantity of activity;

(vii) The depth of the source and depth to the top of the plug; and

(viii) An appropriate warning.

(b) When a well-logging source becomes irretrievable, the licensee shall:

(1) Notify the Regional Administrator of the appropriate NRC Regional Office listed in Appendix D of Part 20 of this chapter of the circumstances of the loss by telephone; and

(2) Obtain approval to implement abandonment procedures.

(c) The licensee shall, within 30 days after a well-logging source has been classified as irretrievable, make a report in writing to the appropriate NRC Regional Office listed in Appendix D of

Part 20 of this chapter. The licensee shall send a copy of the report to each appropriate State agency that has authority over the particular well-drilling operation. The report must contain the following information:

- (1) Date of occurrence.
 - (2) A description of the irretrievable well-logging source involved, including radionuclide, quantity, and chemical and physical form.
 - (3) Surface location and identification of well.
 - (4) Results of efforts to immobilize and seal the source in place.
 - (5) Depth of source.
 - (6) Depth of the top of the cement plug.
 - (7) Depth of the well.
 - (8) Any other information (e.g., warning statement) contained on the permanent identification plaque.
 - (9) Notifications made to State agencies.
 - (10) A brief description of the attempted recovery efforts.
- (d) Any licensee or applicant for a license may apply to the Commission for approval of proposed procedures to abandon an irretrievable well-logging source in a manner not otherwise authorized in paragraph (a) of this section.

PART 150—EXEMPTIONS AND CONTINUED REGULATORY AUTHORITY IN AGREEMENT STATES AND IN OFFSHORE WATERS UNDER SECTION 274

7. The authority citation for Part 150 is revised to read as follows:

Authority: Section 161, 68 Stat. 948, as amended, sec. 274, 73 Stat. 638 (42 U.S.C. 2201, 2021); sec. 201, 88 Stat. 1242, as amended (42 U.S.C. 5841).

Sections 150.3, 150.15, 150.15a, 150.31, 150.32 also issued under secs. 11e(2) 61, 68 Stat. 923, 935, as amended, secs. 83, 84, 92 Stat. 3033, 3039 (42 U.S.C. 2014e(2), 2111, 2113, 2114). Section 150.14 also issued under sec. 53, 68 Stat. 930, as amended (42 U.S.C. 2073). Section 150.17a also issued under sec. 122, 68 Stat. 939 (42 U.S.C. 2152). Section 150.30 also issued under sec. 234, 83 Stat. 444 (42 U.S.C. 2282).

For the purposes of sec. 223, 68 Stat. 958, as amended (42 U.S.C. 2273): §§ 150.20(b)(2)-(4) and 150.21 are issued under sec. 161b, 68 Stat. 948, as amended (42 U.S.C. 2201(b)); § 150.14 is issued under sec. 161i, 68 Stat. 945, as amended (42 U.S.C. 2201(i)); and §§ 150.16-150.19 and 150.20(b)(1) are issued under sec. 161o, 68 Stat. 950, as amended (42 U.S.C. 2201(o)).

§§ 150.3, 150.14, 150.15, 150.15a, 150.30, 150.31, 150.32 [Amended]

9. In § 150.20, the introductory text of paragraph (b) is revised to read as follows:

§ 150.20 Recognition of Agreement State licenses.

(b) Notwithstanding any provision to the contrary in any specific license issued by an Agreement State to a person engaging in activities in a non-Agreement State or in offshore waters under the general licenses provided in this section, the general licenses provided in this section are subject to the provisions of §§ 30.7 (a) through (e), 30.14(d) and §§ 30.34, 30.41, and 30.51 to 30.63, inclusive, of Part 30 of this chapter; §§ 40.7 (a) through (e) and §§ 40.41, 40.51, 40.61, 40.63, inclusive, 40.71 and 40.81 of Part 40 of this chapter; and § 70.7 (a) through (e) and §§ 70.32, 70.42, 70.51 to 70.58, inclusive, 70.60, 70.62, inclusive, and 70.71 of Part 70 of this chapter; and to the provisions of Parts 19, 20, and 71 and Subpart B of Part 34 of this chapter. In addition, any person engaging in activities in non-Agreement States or in offshore waters under the general licenses provided in this section:

Dated at Bethesda, Maryland, this 12th day of August, 1983.

For the Nuclear Regulatory Commission.

Jack W. Roe,

Acting Executive Director for Operations.

[FR Doc. 83-23603 Filed 8-28-83; 8:45 am]

BILLING CODE 7590-01-M

Enclosure for Item #5

Procedure for recovery sources "Lost down hole."

The soil moisture logging tool is used exclusively in cased wells with screens as a well tip or bottom. Recovery is relatively easy because our study of the unsaturated zone makes the bottom very nearby, less than 100 feet in our area. Recovery will be by non-destructive "fishing devices" which are improvised to suit the situation. If these are not feasible, the entire well casing and point can be loosened and lifted from the ground. If for any reason we suspect possible source damage, we have a suitable survey instrument (see item 3 in letter) and an extra logging tool (minus the source) to alert us of damage so that contamination can be controlled.

In the event of an irretrievable well-logging source, regulations as outlined in U.S. Nuclear Regulatory Commission Regulation 10CFR30, 70 and 150 will be followed.

Enclosed is a copy of the U.S. Geological Survey, Water Resources Division written agreement which must be executed with the well owner before logging with a nuclear probe is undertaken. This conforms with regulations in 10CFR30.56(a) and 70.60(a).

Date

Chief, Borehole Geophysical Services Unit
U.S. Geological Survey, Water Resources Division
Mail Stop 405, Box 25046
Denver Federal Center
Denver, Colorado 80225

Dear Sir:

The purpose of this letter is to comply with the Nuclear Regulatory Commission requirement that a written agreement with the well owner or operator be executed before a well can be logged with a nuclear well logging source. I understand that, if during a geophysical well logging operation a nuclear source is irretrievably lost down my well, the well will be cemented and monumented as outlined in U.S. Nuclear Regulatory Commission Regulations 10 CFR 30.56(a) and 70.60(a).

Well Owner's Signature

Well Location

State

County

ENTRANCE TO
235B ROBINS LANE
SYOSSET, N.Y.

OVER HEAD
DOOR

SKETCH FOR
ITEM # 8
U.S.G.S. LICENSE

ENTRANCE
TO WAREHOUSE

HALLWAY

INSTRUMENTS

LOCKED
STORAGE

CESIUM 137
100
MILLICURIES

AMERICIUM
241
2 - 100
MILLICURIES
EACH

AMERICIUM 241
250 MILLICURIES
(LOCKED)

SIGN
"CAUTION RADIOACTIVE
MATERIAL"

STORAGE ROOM

LOCKED
DOOR

SIGN ON DOOR
"CAUTION RADIOACTIVE"
MATERIALS

1. RADIATION PROTECTION SURVEY

Test No. _____

Date _____

Institution _____

Address _____

Room No. _____

Equipment Type _____

Room Layout

A full-page view of a blank sheet of graph paper. The grid consists of small squares formed by thin black lines. There are four thicker vertical lines and three thicker horizontal lines that divide the page into larger rectangular sections. The rest of the page is filled with the standard grid pattern.

PATRICK F. PANETTA, M.Sc.
RADIOLOGICAL PHYSICIST

3. RADIOGRAPHIC EQUIPMENT MEASUREMENTS

Test No. _____

Date _____

Room No. _____

Beam Direction _____

Field Size

Workload _____ week

[illegible]

Measurements (if necessary)

Specific Recommendation:

s = Reading smaller than _____

* Allowable limit is 10 mR/week for uncontrolled and 100 mR/week for controlled areas.