

**WELL LOGGING APPLICATION
REVIEW CHECK LIST**

ITEM 8.1 TYPE OF APPLICANT/LICENSEE

Type of Action	License No.
<input type="checkbox"/> A. New License	
<input type="checkbox"/> B. Amendment	
<input checked="" type="checkbox"/> C. Renewal	05-02678-05

ITEM 8.2 NAME OF APPLICANT/LICENSEE

LEGAL NAME: U.S. Department of the Interior
Bureau of Reclamation
Seismotectonics and Geophysics Group 86-68330

MAILING ADDRESS: P.O.Box 25007, Bldg. 67 DFC, Denver, CO 80225

ITEM 8.3 LOCATION OF USE

☐ Address listed above

☐ Field Stations (Street Address, City, State, and Zip Code):

(✓) Building 10, Denver Federal Center_____

() _____

() _____

☒ Temporary Job Sites

☐ See attached list

ITEM 8.4 CONTACT PERSON

NAME: Jerry Wright_____

TELEPHONE NUMBER: 303-445-3161_____

DATE OF APPLICATION: May 17, 2007 _____

ITEMS 8.5 - 8.6 RADIOACTIVE MATERIAL TO BE POSSESSED/*REQUESTED USE OF MATERIALS

- ☐ Energy Compensation Sources (ECS)
- ☐ Tracer Materials
- ✓ Well Logging Sealed Sources (MWD/LWD/DTS)
- ☐ Radioactive Collar/Subsidence/Depth Markers
- ☐ Depleted Uranium
- ☐ Neutron Accelerator Targets
- ☐ Sealed Sources for use above ground for other than well logging applications

SEALED MATERIALS

- ✓ Identify each radionuclide (element name and mass number) that will be used in each sealed source.
- ✓ Provide the manufacturer's (distributor's) name and model number for each sealed source and, if applicable, device requested.
- ✓ Confirm that the activity per source and maximum activity in each device will not exceed the maximum activity listed on the approved certificate of registration issued by NRC or by an Agreement State.
- ✓ Confirm that each sealed source, device, and source/device combination is registered as an approved sealed source or device by NRC or an Agreement State.
- ☐ Sealed sources that were manufactured before July 14, 1989 may use either the design and performance criteria from the United States of America Standards Institute (USASI) N5 10-1968 (10 CFR 39.41(b)) or the criteria specified in 10 CFR 39.41 or the requirements in 10 CFR 39.41(a) (1) and (2), and ANSI/HPS N43.6-1997, "Sealed Radioactive Sources - Classification." The use of the USASI standard is based on an NRC Notice of Generic Exemption issued on July 25, 1989 (54 FR 30883). See Appendix J.
- ✓ Sealed sources manufactured after July 14, 1989, are required to satisfy the requirements of 10 CFR 39.41 or the requirements in 10 CFR 39.41(a) (1) and (2) and ANSI/HPS N43.6-1997.

UNSEALED TRACER MATERIAL (Volatile & Nonvolatile) N/A

- ☐ Provide element name with mass number, chemical and/or physical form, and maximum requested possession limit.
- ☐ Provide information for **volatile materials**, if known, on the anticipated rate of volatility or dispersion. This information may be obtained from the tracer material vendor, supplier, or manufacturer.

SEALED SOURCES			
Radioisotope	Mfg./Model No. SSD Certificate No.	Quantity (Curies/MBq/GBq)	*Use
Am-241	Amersham AMN.CY4; Gamma Industries NB(HP)	5 curies per source	O,G,M
Cs-137	Gamma Industries VD(HP); Amersham CDC.CY8	150 millicuries per source	O,G,M

UNSEALED TRACER MATERIALS				
Radioisotope	-Chemical/Physical Form -Max. Amount Used Per Injection	Quantity (Curies/MBq/GBq)	*Use	Volatility/Dispersion
None				

*MATERIAL USE LEGEND			
O=Oil Well Logging	G=Gas Well Logging	M=Mineral Well Logging	T=Tracer Studies in single wells
FF=Field Flood or Enhanced Recovery Operations	N=Neutron Generators	C=Calibration Sources in above ground applications	

FINANCIAL ASSURANCE

✓ Financial Assurance not required

[] Financial Assurance required and Financial Assurance Documents submitted for review

- ✓ Decommissioning Records File established

ITEM 8.7 RESPONSIBLE INDIVIDUALS

Corporate Organization Chart Submitted for Review:

Radiation Safety Organizational Chart Submitted for Review:

Name(s) of responsible individual(s): Jerry Wright, Jim Jones

- ✓ Title(s) of individual(s)
- ✓ Training of individual(s)
- ✓ Experience (1-year minimum)

Radiation Safety Officer Information:

<input checked="" type="checkbox"/> Name	<input checked="" type="checkbox"/> Experience	<input checked="" type="checkbox"/> Training	<input type="checkbox"/> Independent Authority to stop unsafe operations
<input type="checkbox"/> Organizational Chart (Day-to-Day Radiation Safety Positions) provided			
<input type="checkbox"/> Alternative Training and Experience, if applicable			
<input type="checkbox"/> See Appendix for the minimum RSO duties and responsibilities			

ITEM 8.8 TRAINING FOR WELL LOGGING SUPERVISORS AND WELL LOGGING ASSISTANTS

LOGGING ASSISTANT TRAINING [§39.61(b)] and (d)

☐ In-house Training: **Note: licensee has only 2 well logging operators who have been employed by the Dept. Of Interior/Bureau of Reclamation for over 10 years. They do not hire or train well logging assistants.**

☒ Training of individual(s)

- (✓) Received copies of Parts 19, 20, & OE Procedures
- (✓) Classroom instruction in Parts 19 & 20 (2-4 hours)
- (✓) Instruction in the use of licensed materials, remote handling tools, survey equipment, etc. (1-2 hours)
- (✓) Successfully completed a verbal or written examination
- (✓) Exam with key
Minimum passing grade _____ 80%
- (✓) Records maintained for 3 years (copies of quizzes and dates of oral examinations)

LOGGING SUPERVISOR TRAINING [§39.61(a) and (d)]

[✓] §39.61(e) Topics, by vendor

Vendor(s) Name: Radiation Safety & Control Services, Inc.

[✓] Instructor's Name: F.P. Straccia_____

[✓] Instructor's Qualifications:

[✓] Classroom Training Conducted by Licensee (~24 hours):

(✓) §39.61(e) Topics:

< > Fundamentals of radiation safety

< > Characteristics of radiation

< > Units of radiation dose and quantity of radiation

< > Hazard of exposure

< > Levels of radiation for licensed material

< > Methods of controlling radiation dose (time, distance, shielding)

< > Radiation safety practices, including prevention of contamination, and methods of decontamination

(✓) Radiation detection instruments:

< > Use

< > Operation

< > Calibration

< > Instrument limitations

< > Survey techniques

< > Use of personnel monitoring

(✓) Equipment to be used:

< > Operation of equipment, including:

☐ source handling equipment

☐ remote handling tools

< > Storage, control, and disposal of licensed material

< > Maintenance of equipment

(✓) Federal regulations

() Case histories

[] In-house Classroom Training (~8 hours):

- ☐ 10 CFR 19, 20, & 39
- ☐ OE Procedures (§39.63)
- ☐ License
- ☐ ~8 hours of classroom instruction in the above
- ☐ Successfully completed a written examination
Minimum passing grade _____ %
Exam Key
- ☐ In-house instructor qualifications
- ☐ Maintain for 3 years copies of written quizzes
- ☐ Field training
- ☐ Field/practical exam
- ☐ On-the-job Training:
 - ☐ 3 months (520 hours)
 - ☐ 1 month (160 hours) mineral well logging
 - ☐ 50 tracer operations or 3 months OJT
- ☐ Logging supervisors with previous training

ALTERNATIVE TO DESCRIBING A TRAINING PROGRAM

- ☐ Identify each individual to be specified on the license as logging supervisor or logging assistant
- ☐ For each individual identified, provide the following:
 - ☐ Copies of graded tests
 - ☐ Certificate of course completion
 - ☐ Details of previous well logging work experience

ANNUAL SAFETY REVIEW (REFRESHER TRAINING) [§39.61(c) and (d)]

- ☒ Description of topics covered
- ☒ Instructor name

ANNUAL JOB PERFORMANCE AUDIT OF WELL LOGGING SUPERVISORS [§39.13(d)]

- ☒ Description of the program
- ☒ Discussion of management action

☒] Commitment to inspect each logging supervisor at intervals not to exceed 1 year

☒] Inspections made on-the-job & unannounced

☐] Commitment that an individual who has not performed logging for more than 1 year will be inspected the first time that person engages in logging operations

☐] Name, training, & experience of each person who will conduct inspection

ITEM 8.9 FACILITIES AND EQUIPMENT

Facility: For Each Field Station

☒] Sketch/drawing *to scale* of the facility and all work areas where materials (tracer or sealed source) will be used or stored

☒] Identify the following, where applicable:

() Areas where explosive, flammable or other hazardous materials stored

(☒) Buildings

(☒) Boundary lines

(☒) Security fences

(☒) Local storage areas

(☒) Drawn to specified scale

(☒) Sketch/drawing of:

< > locked storage container

< > underground storage bunker

< > security of licensed materials

Facility: For Tracer Authorization, Provide N/A

☐] Ready-to-use form

☐] Bench top preparation

() Describe laboratory areas for sample preparation

< > Hoods

< > Trays with absorbent materials

< > Hood filters

< > Remote handling tools

< > Sinks

< > Rubber gloves

☐] Storage provisions

() Describe & provide a drawing of storage facilities

() Storage of waste materials included

- ☐ Security provisions
- ☐ Adequate shielding
- ☐ General safety equipment available at temporary job sites: [§39.45(a)]
 - ☐ rubber gloves
 - ☐ face shield
 - ☐ respirator
 - ☐ coveralls
 - ☐ auxiliary shielding
 - ☐ absorbent material
 - ☐ secondary container
 - ☐ plastic bag
- ☐ Laundry Facility for contaminated clothing, etc.
- ☐ Decontamination Facilities for trucks, tracer injection tools, or other equipment contaminated by tracer materials.

ITEM 8.10.1 AGREEMENT WITH WELL OWNER/OPERATOR [§39.15] N/A

- ☐ Elements of the Agreement: Licensed material only used in wells on U.S. Government Property.
 - ☐ A reasonable effort be made to recover the source
 - ☐ A person not attempt to recover a lodged sealed source in a manner which, in the licensee's opinion, could result in its rupture
 - ☐ Radiation monitoring be conducted during recovery operations
 - ☐ Contaminated equipment, personnel, or environment be decontaminated
 - ☐ Irretrievable classified sources:
 - < > Means to prevent inadvertent intrusion on the source
 - < > Plaque
 - ☐ Agreement refers to §39.15(a)
 - ☐ Blanket agreement
 - ☐ Emergency Abandonment of DTS or MWD/LWD sealed sources.
 - ☐ Abandonment of Neutron Generator with activity *greater than* 110 GBq (30 curies)
 - ☐ ECSs with activity *greater than* 3.7 MBq (100 microcuries)

ITEM 8.10.2 RADIATION SAFETY PROGRAM AUDIT

☒ Reviewed on an annual basis

☒ ALARA

☒ NRC/DOT regulations & License

☒ Occupational/Public Doses

☐ Audit program *not submitted*, but available for inspection by NRC

☐ Appendix G reviewed

ITEM 8.10.3 RADIATION MONITORING INSTRUMENTS [§39.33(a)]

☒ 0.1 - 50 mR/h

☒ Type of instruments (GM, Ion chamber, scintillation)

☒ Type of radiation detected

☒ Availability of survey instrument pursuant to 10 CFR 39.33(b)

Survey Instrument	Instrument Probes	Range	Radiation Detected
<ul style="list-style-type: none">● Manufacturer Ludlum● Model No. 3● # Available 5● Type<ul style="list-style-type: none">- GMI on-chamber- Scintillation	<ul style="list-style-type: none">● Model No.	<ul style="list-style-type: none">● CPM● DPM● mR/hr● mr/hr	<ul style="list-style-type: none">●●● beta/gamma●
Counting Equipment For: <ul style="list-style-type: none">● Analysis of Contamination Swipes● Analysis of Bioassay Samples	N/A	Calibration Standards	Minimum Detectable Activity
Special Equipment <ul style="list-style-type: none">● Air Samplers● Direct Reading Dosimeters● Condenser R meter	N/A	# Available	Description

CALIBRATION OF RADIATION DETECTION INSTRUMENTS [§39.33(c)]

☒ 6-month calibration frequency

☐ In-house

☐ By manufacturer

☒ By outside firm

Name Microtec Services

License No. L04656 (Texas)

☐ Calibration procedures in Appendix N adopted

☐ Alternative calibration procedures for radiation detection instruments provided for NRC review

ITEM 8.10.4 MATERIAL RECEIPT AND ACCOUNTABILITY/PHYSICAL INVENTORY [§39.37]

☒ Semiannual frequency

☒ Maintain records of receipt, transfer, and disposal

☒ Required Information

(☒) Quantity and kind of licensed material (Sealed Source/Tracer)

(☒) Location of licensed material

(☒) Date of inventory

(☒) Name of individual conducting inventory

(☒) Inventory records for sealed sources may be combined with leak test records

ITEM 8.10.5 PERSONNEL MONITORING [§39.65(a)]

(☒) TLD

() Film

() OSL - Note: Exemption should be requested

(☒) Neutron capability

(☒) NVLAP-Approved

(☒) Exchange frequency

< > Monthly

X < > Quarterly

() Agreement refers to §39.15(a)

BIOASSAYS [§39.65(b)]

N/A

☐ Procedures in RG 8.20 adopted for conducting bioassays

☐ Commitment not to expose any individual to 50 mCi of I-131 at a time or in any 5 days

☐ Commercial Service:

() Name _____

() License No. _____

ITEM 8.10.6 PUBLIC DOSE

☒ No response required

☐ Appendix P reviewed

ITEM 8.10.7 OPERATING AND EMERGENCY PROCEDURES [§39.63]

☒ Instructions for handling and using licensed materials, including sealed sources in wells, without surface casing for protecting fresh water aquifers

☒ Instructions for maintaining security during storage and transportation

☒ Instructions to keep licensed material under control and immediate surveillance during use

☒ Steps to take to keep radiation exposures ALARA

☒ Steps to maintain accountability during use

☒ Steps to control access to work sites

☒ Steps to take and whom to contact when an emergency occurs

☒ Instructions for using remote handling tools when installing into well logging tools or handling sealed sources when returning them to their transport containers. Although good information, instructions are not necessary when handling low-activity calibration sources and radioactive tracer materials.

☒ Methods and occasions for conducting radiation surveys, including surveys for detecting Contamination, as required by 10 CFR 39.67(c) - (e)

☒ Procedures to minimize personnel exposure during routine use and in the event of an incident, including exposures from inhalation and ingestion of licensed tracer materials

☒ Methods and occasions for locking and securing stored licensed materials

☒ Personnel monitoring, including bioassays, and the use of personnel monitoring equipment

☒ Transportation of licensed materials to field stations or temporary job sites, packaging of licensed materials for transport in vehicles, placarding of vehicles when needed, and physically securing licensed materials in transport vehicles during transportation to prevent accidental loss, tampering, or unauthorized removal

☒ Procedures for picking up, receiving, and opening packages containing licensed materials, in accordance with 10 CFR 20.1906

N/A ☐ Instructions for the use of tracer materials, how to decontaminate the environment, equipment, and personnel

☒ Instructions for maintaining records in accordance with the regulations and the license conditions

☒] Steps for the use, inspection, and maintenance of sealed sources, source holders, logging tools, injection tools, source handling tools, storage containers, transport containers, and uranium sinker bars, as required by 10 CFR 39.43

☒] Procedures for identifying and reporting to NRC defects and noncompliance, as required by 10 CFR 21.21(a)

☒] Actions to be taken if a sealed source is lodged in a well

☒] Procedures and actions to be taken if a sealed source is ruptured, including actions to prevent the spread of contamination and minimize inhalation and ingestion of licensed materials and actions to obtain suitable radiation survey instruments, as required by 10 CFR 39.33(b)

N/A ☐] Instructions for the proper storage and disposal of radioactive waste

N/A ☐] Procedures for laundering contaminated clothing and for decontaminating equipment and vehicles

N/A ☐] Procedures to be followed in the event of uncontrolled release of radioactive tracer material to the environment, including notification of the RSO, NRC, and other Federal and State Agencies

ITEM 8.10.8 LEAK TESTING [§39.35]

☒] Vendor(s) Name: Microbe Services _____

Address: 110 Charles St., Pasadena,
Texas _____

Agreement State/NRC License No.: LO4656 _____

☒] Leak test kit

☐] Leak testing conducted in-house using Appendix R procedures

☐] Alternative leak testing procedures submitted for NRC review

ITEM 8.10.9 MAINTENANCE

☒] Daily visual inspection and *6-month routine maintenance* [§39.43(a)-(b)]

☒) Source holders

☒) logging tools

☐) injection tools

☒) source handling tools

☒) storage containers

☒) transport containers

☐) uranium sinker bars

☒] Daily [§39.43(a)]

☒ Defects (§39.43(a))

☒ Repairs made and recorded, or equipment taken out of service

☒ Operation performed by logging supervisor

SEMIANNUAL MAINTENANCE [§39.43(b)]

☒ 6-month

☒ Defects (§39.43(b))

☒ Repairs made and recorded, or equipment taken out of service

☒ Operation performed by logging supervisor

REMOVAL OR MAINTENANCE ON A SEALED SOURCE OR HOLDER [§39.43(c)]

☐ Services performed by manufacturer

☐ Performed by individual licensed by Agreement State/NRC

☒ Performed by licensee

☒ Detailed procedures for each task provided for NRC review

☐ Radiation safety precautions outlined in O&E procedures

SEALED SOURCES STUCK IN A SOURCE HOLDER [§39.43(d)]

☐ Performed by licensed equipment manufacturer

☐ Performed by individual licensed by Agreement State/NRC

☒ Performed by licensee

☒ Detailed procedures for each task provided for NRC review

☒ Radiation safety precautions outlined in O&E procedures

OPENING, REPAIR, OR MODIFICATION OF SEALED SOURCES [§39.43(e)]

☒ Performed by Agreement State/NRC-licensed firm

☐ Performed by licensee

☐ Detailed procedures for each task provided for NRC review

☐ Radiation safety precautions outlined in O&E procedures

ITEM 8.10.10 TRANSPORTATION

☒ No response required; DOT regulations will be followed

☐ Appendix S reviewed

ITEM 8.10.11 MINIMIZATION OF CONTAMINATION [\$39.69]

☒ Implementation of and adherence to good health physics practices while performing operations

☒ Minimization of distance to areas, to the extent practicable, where licensed materials are used and stored

☒ Maximization of survey frequency, within reason, to enhance detection of contamination

☒ Segregation of radioactive material in waste storage areas

☐ Segregation of sealed sources and tracer materials to prevent cross-contamination

☐ Separation of radioactive material from explosives

☐ Separation of potentially contaminated areas from clean areas by barriers or other controls

[] Request to Perform Major Decontamination Activities N/A

- ☐ Instructions to personnel on how to determine presence through survey
- ☐ Levels of contamination
- ☐ Decontamination procedures
- ☐ Decontamination equipment
- ☐ Prevention of contamination of personnel during decontamination
- ☐ How to handle contaminated waste materials
- ☐ Re-survey of contaminated area to determine effectiveness
- ☐ Records of survey
- ☐ Before
- ☐ After
- ☐ Contact person

[✓] Decontamination activities will be conducted by outside sources licensed by NRC or an Agreement State to conduct these activities.

ITEM 8.10.12 SEALED SOURCES

DRILL-TO-STOP WELL LOGGING OPERATIONS

- ☒ Step-by-step O&E procedures provided for NRC review
- ☒ Summary or outline addressing important aspects of O&E procedures provided for review
- ☒ For use of sealed sources in well without surface casing
 - ☒ Knowledge of borehole conditions
 - ☒ Caliper log
 - ☒ Running dummy tool log
 - ☒ Temporary casing

MWD/LWD WELL LOGGING OPERATIONS

N/A

- ☐ Step-by-step O&E procedures provided for NRC review
- ☐ Summary or outline addressing important aspects of O&E procedures provided for review

ENERGY COMPENSATION SOURCES

N/A

- ☐ Step-by-step O&E procedures provided for NRC review
- ☐ Summary or outline addressing important aspects of O&E procedures provided for review
 - ☐ Instructions for testing ECSs requiring leak tests at intervals not to exceed 3 years
 - ☐ Instructions for conducting physical inventories of ECSs at least every 6 months
 - ☐ A system for maintaining inventory records required by 10 CFR 39.37
 - ☐ A system for maintaining records of use for ECSs
- ☐ For use of ECSs in well without surface casing
 - ☐ Knowledge of borehole conditions
 - ☐ Caliper log
 - ☐ Running dummy tool log
 - ☐ Temporary casing

ITEM 8.10.13 TRACER STUDIES

N/A

Tracer Studies in Single Well Applications [§39.45]

- ☐ Methods and occasions for conducting radiation surveys
- ☐ Methods and occasions for locking and securing tracer materials
- ☐ Personnel monitoring and the use of personnel monitoring equipment
- ☐ Transportation to temporary job sites and field stations, including the packaging and placing of tracer materials in vehicles, placarding of vehicles, and securing tracer materials during transportation
- ☐ Procedures for minimizing exposure to members of the public and occupationally exposed individuals in the event of an accident
- ☐ Maintenance of records at field stations and temporary job sites
- ☐ Use, inspection, and maintenance of equipment (injector tools, remote handling tools, transportation containers, etc.)
- ☐ Procedures to be used for picking up, receiving, and opening packages containing radioactive material
- ☐ Decontamination of the environment, equipment, and personnel
- ☐ Notifications of proper personnel in the event of an accident.

Field flood and Secondary Recovery Applications N/A

- ☐ Field flood or Secondary Recovery Applications will not be conducted
- ☐ Agreement with well operator or owner, although not required by NRC regulations, is a good practice
- ☐ Field flood study project design
- ☐ Pre-injection phase of the field flood project
- ☐ Injection phase
- ☐ Post-injection phase
- ☐ Emergency procedures
- ☐ Reporting and record keeping requirements
- ☐ Waste management
- ☐ Methods and occasions for conducting radiation surveys
- ☐ Methods and occasions for locking and securing tracer materials
- ☐ Personnel monitoring and the use of personnel monitoring equipment
- ☐ Transportation to temporary job sites and field stations, including the packaging and placing of tracer materials in vehicles, placarding of vehicles, and securing tracer materials during transportation
- ☐ Procedures for minimizing exposure to members of the public and occupationally exposed individuals in the event of an accident
- ☐ Maintenance of records at field stations and temporary job sites
- ☐ Use, inspection and maintenance of equipment (injector tools, remote handling tools, transportation containers, etc.)
- ☐ Procedures to be used for picking up, receiving, and opening packages containing radioactive material
- ☐ Decontamination of the environment, equipment, and personnel
- ☐ Notifications of proper personnel in the event of an accident
- ☐ Information requested in Appendix F provided

Tracer Studies in Single Well Applications in Fresh Water Aquifers [§39.45] N/A

- ☐ Tracer Studies in Single Well Application will not be conducted in Fresh Water Aquifers
- ☐ Tracer Studies in Single Well Application will be conducted in Fresh Water Aquifers, and an environmental report is provided for NRC's review

ITEM 8.10.14 RADIOACTIVE COLLAR AND SUBSIDENCE OR DEPTH CONTROL MARKERS [§39.47] N/A

- ☐ Operating and emergency procedures must include a commitment that radioactive markers can be used only where each individual marker contains quantities of licensed material not exceeding the quantities identified in 10 CFR 30.71, Schedule B
- ☐ Licensees are not restricted to using only one marker, and may use multiple markers in each pipe joint, provided each individual marker (wires, tape, nails, etc.) is not greater than the quantities identified in 10 CFR 30.71
- ☐ Provisions included in O&E procedures to ensure that radioactive markers be physically inventoried at intervals not to exceed 6 months, as specified in 10 CFR 39.37

ITEM 8.10.15 NEUTRON ACCELERATORS USING LICENSED MATERIAL N/A

- ☐ Neutron generator tubes are not considered well logging sealed sources and are not required to satisfy the requirement for well logging sealed sources
- ☐ Neutron generator tubes containing less than 110 GBq (30 curies) of tritium are:
 - ☐ Exempt from leak testing requirements if they contain less than 3.7 MBq (100 microcuries)
 - ☐ Exempt from abandonment requirements
 - ☐ Exempt from the performance requirements of sealed sources used in well logging operations
 - ☐ Neutron generators containing target sources greater than 100 GBq (30 curies) cannot be used in wells without surface casing to protect fresh water aquifers, unless approved by NRC
 - ☐ O&E procedures address handling of contamination resulting from the routine use, initial installation, replacement, or accidental damage of the targets or glass tubes

ITEM 8.10.16 DEPLETED URANIUM [§40.51] N/A

- ☐ Depleted uranium sinker bars will be obtained under the provisions of a general license per 10 CFR 40.51, and registration form NRC Form 244 will be filed, as required
- ☐ Depleted uranium sinker bars will not be obtained under the provision of general license 10 CFR 40.51
- ☐ Uranium sinker bars will be possessed and inspected as specified
- ☐ Number of kilograms of specifically licensed DU specified

ITEM 8.11 WASTE MANAGEMENT [10 CFR Part 20, Subpart K] N/A

- ☐ Decay-in-storage disposal for radioactive materials with half-lives less than or equal to 120 days

☐ When a container is transferred to the waste storage area, mark the container with an identification label that includes the date sealed, the isotope in the container, and the initials of the person sealing the container

☐ <120 day $T_{1/2}$ material

☐ Held for decay a minimum of 10 $T_{1/2}$

☐ Confirm that prior to disposal as in-house waste, you will monitor each container, as follows:

< > Check radiation detection survey meter for proper operation

< > Monitor container in a low-level area (less than 0.05 mrem/hr)

< > Remove any shielding from container

< > Monitor all surfaces

< > Discard only those containers that cannot be distinguished from background

< > Container that can be distinguished from background must be returned to storage area for further decay or transferred to person licensed to receive such waste

☐ Return to manufacturer

☐ Extended Interim Storage of materials pending disposal or transfer to authorized recipient

☐ Licensed company

☐ Sand-out, flowback, screenout, etc.

☐ Disposal by release into sanitary sewerage (§20.2003)

☐ Appendix T reviewed

ITEM 8.12 FEES

☐ Fee, if any required, attached N/A

ITEM 8.13 CERTIFICATION

☒ Individual signing an application authorized to make binding commitments and to sign official documents on behalf of the legal entity or applicant

License Reviewer : _____ \RA\ July 25, 2007
James L. Montgomery