

HALLIBURTON

Global Radiation Safety Office
3000 N Sam Houston Pkwy E, Houston, TX 77032

RECEIVED
DEC 20 2019

December 20, 2019

Materials Licensing and Decommissioning Branch
U.S. Nuclear Regulatory Commission, Region IV
1600 E. Lamar Boulevard
Arlington, TX. 76011-4125

DNMS

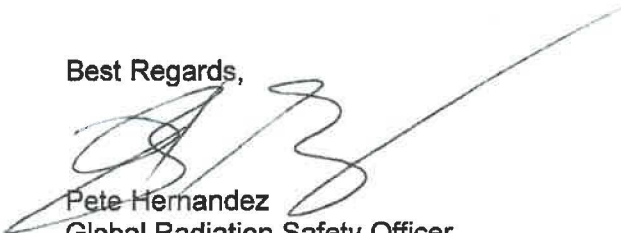
Request for Amendment of U.S. NRC RAM License 42-01068-07

Halliburton Energy Services would like to request an amendment to U.S. Nuclear Regulatory Commission Radioactive Material License 42-01068-07. Specifically, Halliburton is enhancing its well logging training procedure to provide details about the requirements for well logging supervisors and assistants.

The change does not affect the implementation or the current process and is meant to provide visibility to all employees about the requirements to become a well logging supervisor.

Please let me know if any additional information is required for the approval of this request.

Best Regards,


Pete Hernandez
Global Radiation Safety Officer
Halliburton Energy Services Inc.
3000 N Sam Houston Pkwy E
Houston, TX 77032
281-871-5007

PUBLIC

- ☐ Immediate Release
☒ Normal Release

NON-PUBLIC

- ☐ A.3 Sensitive-Security Related
☐ A.7 Sensitive Internal
☐ Other: _____

Reviewer: R/R Date: 1-6-2020

617400

Title: Well Logging Supervisors and Assistant - Radiation and On the Job Training		HMS Document Number: WM-GL-HAL-HSE-1201B		
Owner: Director HSE/SQ	Approver: VP, HSE, SQ & CI	Rev Date: DRAFT	Rev No:	Page: 1 of 6

1.0 Objective

- 1.1. To provide information about the required training criteria for Well Logging Supervisor including radiation specific topics and On-the-Job-Training (OJT)
- 1.2. To provide information about required training criteria for Well Logging Assistants including radiation specific topics and transition to Well Logging Supervisor.

2.0 Application

This Work Method applies to all Halliburton locations and work activities worldwide.

Where local/country regulations or customer requirements are more stringent than the Global HSE Standards, the local/country regulations or customer requirements shall supersede the Halliburton Global HSE Standards. Where local/country regulations or customer requirements provide additional requirements, the local/country regulations or customer requirements shall be supplemented to the Halliburton Global HSE Standards.

3.0 Definitions

See [BSD-GL-HAL-HMS-100](#) - Global HMS and HSE Definitions, for a comprehensive list of terms and definitions.

- 3.1 Logging Assistant - any individual who, under the personal supervision of a logging supervisor, handles sealed sources that are not in logging tools or shipping containers or who performs radiation surveys related to logging activities
- 3.2 Logging Supervisor - an individual who uses licensed material or provides personal supervision in the use of licensed material at a temporary jobsite and who is responsible for assuring compliance with the governing regulations and conditions of the license
- 3.3 Personal Supervision - guidance and instruction by a logging supervisor, who is physically present at a temporary jobsite, who is in personal contact with logging assistants, and who can give immediate assistance
- 3.4 New Hire – an employee new to well logging with no industry experience
- 3.5 Experienced hire – employee with at least 1 year of experience in a similar role
- 3.6 Re-hire – former employee of Halliburton who is hired into the company
- 3.7 Transitional hire – an internal Halliburton employee moving from another PSL or from a different role within the PSL
- 3.8 Practical review – process by which a Well Logging Supervisor candidate demonstrates the proficiency to run a well logging operation. A qualified Well Logging Supervisor makes the determination of proficiency

4.0 Training General Requirements

- 4.1 Two departments (PSLs) in Halliburton, Wireline & Perforating and Sperry Drilling, conduct well logging activities. This work method is meant to be specific enough for each PSL to accomplish the requirements with flexibility to adapt it to each PSL's unique training structure.
- 4.2 Training for Well Logging Assistants shall be accomplished through online or instructor led training, completion of an oral or written exam, equipment training, annual refresher training and an annual safety review.
- 4.3 Training for a Well Logging Supervisor shall be accomplished through instructor led classroom training, equipment training, On-the-Job-Training (OJT), completion of a written examination, completion of a practical field exam, annual refresher training and an annual safety review.

5.0 Well Logging Supervisor Candidate Categories

5.1 New Hires and Transitional Hires

Employees hired or transitioning to be Well Logging Supervisors shall take a minimum of 6 months to complete the instructor led training and OJT. To transition to a Well Logging Supervisor, the candidate, after completing all training requirements and OJT checkouts under the supervision of a qualified logging supervisor, shall demonstrate their proficiency by completing the practical review.

5.2 External Experienced Hires

Employees who, within the last 2 years, have been logging supervisors for other logging companies with at least a year experience shall provide evidence of their training and experience. These employees shall complete the same instruction as Well Logging Assistants. The experienced hire shall successfully complete the practical review at a

6 1 7 4 0 0

Title: Well Logging Supervisors and Assistant - Radiation and On the Job Training		HMS Document Number: WM-GL-HAL-HSE-1201B		
Owner: Director HSE/SQ	Approver: VP, HSE, SQ & CI	Rev Date: DRAFT	Rev No:	Page: 2 of 6

temporary job site once Halliburton training is completed. If the experienced hire is unsuccessful in completing the practical review, the candidate will then have to complete the new hire process.

5.3 Re-hires

- 5.3.1 Well Logging Supervisors separated from the company for less than 2 years shall successfully complete a practical review at a temporary job site, under supervision of a qualified Well Logging Supervisor to demonstrate their proficiency. If the re-hire is unsuccessful in completing the practical review, the candidate will then have to complete the new hire process.
- 5.3.2 Well Logging Supervisors separated from the company for longer than 2 years have to complete the new hire process.
- 5.3.3 Re-hires gone less than 1 year, who were in process to become Well Logging Supervisors, shall continue where the left off.

6.0 Initial Training and Development Requirements for Well Logging Assistants

6.1 Radiation Safety for Source Handlers or Radiation Online Modules

6.1.1 Knowledge of Work Requirements

- A Local, regional, national, international laws and regulations that are applicable to each area
- B Licensing requirements to include types, and understanding license conditions
- C Operating and Emergency procedures as described in the radiation standards, work methods, and forms

6.2 Radiation Safety Operations

6.2.1 Equipment Training

- A Well logging equipment
- B Sealed sources
- C Handling equipment
- D Radiation survey meters
- E Daily inspections

6.3 Written Exam or Oral Exam

The Well Logging Assistant must complete an exam demonstrating understanding of 6.1 and 6.2. The exam may be written or oral. Copies of the written test and dates of oral tests shall be kept as records. The candidate must successfully complete the exam to qualify as a well logging assistant. The written exam shall be administered following the training listed in sections 6.1 – 6.2. A grade of 80 percent or better is required to receive a passing score.

6.4 Annual Refresher Training – Review the Following

- 6.4.1 Annual review of operating and emergency procedures as detailed in the radiation standards, work methods, and forms
- 6.4.2 New procedures, equipment, or techniques
- 6.4.3 New regulations
- 6.4.4 Observations and deficiencies and discussion of any significant incidents or accidents involving well logging
- 6.4.5 Questions raised by employees regarding implementation of the program

6.5 Radiation – Knowledge and Safety Review for Assistants

Once during each calendar year the Well Logging Assistant must complete a knowledge review observed by a Well Logging Supervisor ensuring that regulations, license requirements, and operating and emergency procedures are understood and followed. This also serves as an annual safety review of the job performance of each logging assistant. The review record for each logging assistant shall be retained. Reviews should be conducted during an actual well logging operation. If a logging assistant has not participated in a well logging operation for more than 12 months since the last review, a review should be conducted the first time the individual engages in well logging operations.

Title: Well Logging Supervisors and Assistant - Radiation and On the Job Training		HMS Document Number: WM-GL-HAL-HSE-1201B		
Owner: Director HSE/SQ	Approver: VP, HSE, SQ & CI	Rev Date: DRAFT	Rev No:	Page: 3 of 6

7.0 Initial Training and Development Requirements for Well Logging Supervisors

7.1 Radiation Safety for Source Handlers

7.1.1 Fundamentals of Radiation Safety

- A Characteristics of Gamma Radiation
- B Units of radiation dose and quantity of radioactivity
- C Hazards of exposure to radiation
- D Levels of radiation from radioactive material
- E Methods of controlling radiation dose (time, distance, shielding)
- F Radiation Safety Practices, including prevention of contamination, and methods of decontamination
- G Shipping and Transportation of Radioactive Material

7.1.2 Radiation Detection Instruments

- A Use, operation, calibration and limitations of radiation survey instruments
- B Survey techniques
- C Use of personnel monitoring equipment

7.1.3 Equipment

- A Operation of equipment, including source handling equipment and remote handling tools
- B Storage, control, and disposal of radioactive material
- C Inspection and maintenance of equipment including source end caps, bull plugs, and transport shields

7.1.4 Knowledge of Work Requirements

- A Local, regional, national, international laws and regulations that are applicable to each area
- B Licensing requirements to include types, and understanding license conditions
- C Operating and Emergency procedures as described in the radiation standards, work methods, and forms
- D Incident Reporting

7.1.5 Incident Review

Training on incidents should include a review of the incident types mentioned below and other pertinent incidents based on current issues.

- A Natural Disasters
- B Dropped sources
- C Source stuck in hole
- D Source stuck in hole
- E Source Abandonment
- F Source shipping and transportation issues

6 1 7 4 0 0

Title: Well Logging Supervisors and Assistant - Radiation and On the Job Training		HMS Document Number: WM-GL-HAL-HSE-1201B		
Owner: Director HSE/SQ	Approver: VP, HSE, SQ & CI	Rev Date: DRAFT	Rev No:	Page: 4 of 6

7.2 Radiation Safety Operations

7.2.1 Equipment Training

- A Well logging equipment
- B Sealed sources
- C Handling equipment
- D Radiation survey meters
- E Daily inspections

7.3 Written Exam

The written exam shall be administered following the training listed in section 7.1 and 7.2. A grade of 80 percent or better is required to receive a passing score.

7.4 Annual Refresher Training

- 7.4.1 Annual radiation safety program review
- 7.4.2 Annual review of operating and emergency procedures as detailed in the radiation standards, work methods, and forms
- 7.4.3 New procedures, equipment, or techniques
- 7.4.4 New regulations
- 7.4.5 Observations and deficiencies and discussion of any significant incidents or accidents involving well logging
- 7.4.6 Employee questions

8.0 On-the-Job-Training (OJT) for Well Logging Supervisor Candidates

The success of a Well Logging Supervisor candidate can be demonstrated through proficiency in tasks that a Well Logging Supervisor performs routinely. Only Well Logging Supervisors, with at least one-year experience shall rate a logging supervisor candidate in their proficiency in the completion of selected tasks listed in sections 8.1 - 8.4.

Proficiency in those tasks is gained over the initial 6-month period and demonstrated by the logging supervisor candidate performing iterations of each task, under the supervision of an experienced logging supervisor. Demonstrating proficiency can take place at temporary jobsites (onshore or offshore) or at a plant that has been set up for accomplishing these OJT task requirements. A majority of the activities shall be completed at a temporary job site with the balance being at a plant.

8.1 Job Preparation

- 8.1.1 Calibrating tools
- 8.1.2 Physical verification of sources
- 8.1.3 Completion of shipping documentation
- 8.1.4 Loading sources for shipment or transport to well site
- 8.1.5 Transportation vehicle surveys and placarding
- 8.1.6 Hazardous material requirements
- 8.1.7 Training and certification verification

8.2 Well Site Activities

- 8.2.1 Pre Job Surveys
- 8.2.2 Receipt of radioactive material package
- 8.2.3 Physical verification of sources
- 8.2.4 Storage and security of radioactive material
- 8.2.5 Perimeter set up
- 8.2.6 Install sources

Title: Well Logging Supervisors and Assistant - Radiation and On the Job Training		HMS Document Number: WM-GL-HAL-HSE-1201B		
Owner: Director HSE/SQ	Approver: VP, HSE, SQ & CI	Rev Date: DRAFT	Rev No:	Page: 5 of 6

- 8.2.7 Well Logging
- 8.2.8 Source removal
- 8.2.9 Load sources for shipment or transport
- 8.2.10 Post job surveys
- 8.2.11 Source receipt

8.3 Demobilization

- 8.3.1 Storage and security of radioactive material at Halliburton camp

8.4 Other Tasks to Complete with the Local Radiation Safety Officer at the Plant as applicable

- 8.4.1 Leak Testing
- 8.4.2 Quarterly Compliance Assessment
- 8.4.3 Use of survey instruments for exposure and contamination surveys
- 8.4.4 Inspection of bull plug, source end cap and transport shields

8.5 Radiation – Knowledge Review for Well Logging Supervisor

Once during each calendar year the Well Logging Supervisor must complete a knowledge review ensuring that regulations, license requirements, and the operating and emergency procedures are understood and followed. The review shall include observation of the performance of each logging supervisor, and a list of the topics that were reviewed. This also serves as an annual safety review of the job performance of each logging supervisor. The review record for each logging supervisor shall be retained. Separate reviews for logging supervisors shall be performed based on their tasks. Reviews should be conducted during an actual well logging operation. If a logging supervisor has not participated in a well logging operation for more than 12 months since the last review, an review should be conducted the first time the individual engages in well logging operations.

9.0 Trainers

Instructors with alternate experience shall be approved by the Corporate Radiation Safety Officer before being allowed to provide instruction.

9.1 Instructor Led Courses

Trainers for instructor led courses who provide training to individuals in the principles of radiation and radiation safety shall have knowledge and understanding of these principles beyond those obtainable in a course similar to the one given to prospective logging supervisors.

9.2 Equipment Training

Individuals who provide instruction in the hands-on use of well logging and handling equipment should be qualified logging supervisors with at least 1 year of experience in performing well logging operations.

9.3 On-the-Job-Training

Individuals who provide instruction and personal supervision during all stages of the OJT shall be qualified logging supervisors with at least 1 year of experience in performing well logging operations.

10.0 References

- 10.1 [\(BP\) 4-17044](#) - Records and Information Management (RIM) – Lifecycle Management and Compliance
- 10.2 [BSD-GL-HAL-HMS-100](#) - HMS Definitions

11.0 Record Keeping

- 11.1 All HSE documents shall be retained and maintained in accordance with [\(BP\) 4-17044](#) - Records and Information Management (RIM) – Lifecycle Management and Compliance
- 11.2 On the Job Training checkpoints and completions shall be tracked in the Halliburton learning system that serves as a check to prevent completion prior to the 4 months elapsing.
- 11.3 Halliburton shall retain records of each logging supervisor and logging assistant training and annual safety reviews. The records shall include written tests. The training records shall be retained for 3 years following the termination of employment. Annual safety reviews shall be retained for 3 years.

Title: Well Logging Supervisors and Assistant - Radiation and On the Job Training		HMS Document Number: WM-GL-HAL-HSE-1201B		
Owner: Director HSE/SQ	Approver: VP, HSE, SQ & CI	Rev Date: DRAFT	Rev No:	Page: 6 of 6

Revision History

Revision Date	Rev. No	Revised By	Summary of Key Changes
1-DEC-2019	0	Pete Hernandez	Draft
For previous versions of this document, please contact FHOUHMS@Halliburton.com . HSE related questions and comments may be submitted using the Global HSE Support Request Form			

617400

Hill, Carol

From: Pete Hernandez <Pete.Hernandez@halliburton.com>
Sent: Friday, December 20, 2019 4:08 PM
To: Hill, Carol
Cc: Lee Heft
Subject: [External_Sender] License amendment request for Halliburton License No. 42-01068-07
Attachments: Amd Req NRC 42-01068-07 OJT update.pdf; WM-GL-HAL-HSE-1201B_Well_Log_Train-NRC.docx

Hi Carol,

Halliburton is requesting an amendment to its radioactive material license number 42-01068-07. The attached letter provides more details about the change. The other attachment is the procedure we mention in the letter. Please let me know if any additional information is required.

Merry Christmas,

Pete

Pete Hernandez

Senior Global Radiation Safety Officer

3000 N Sam Houston Pkwy E
Houston, TX 770323219
Email: pete.hernandez@halliburton.com
Office: +1 281-871-5007
Mobile: +1 346-275-7272

Follow Halliburton: [LinkedIn](#) | [Facebook](#) | [Twitter](#) | [YouTube](#) | [Blog](#)

HALLIBURTON

This e-mail, including any attached files, may contain confidential and privileged information for the sole use of the intended recipient. Any review, use, distribution, or disclosure by others is strictly prohibited. If you are not the intended recipient (or authorized to receive information for the intended recipient), please contact the sender by reply e-mail and delete all copies of this message.



ACKNOWLEDGEMENT - RECEIPT OF CORRESPONDENCE

Name and Address of Applicant and/or Licensee

Mr. Lee Heft
Radiation Safety Officer
Halliburton Energy Services, Inc.
3000 N Sam Houston Pkwy E
Plaza 1, Office 5320M
Houston, Texas 77032-3219

Date

01/03/2020

License Number(s)

42-01068-07

Mail Control Number(s)

617400

Licensing and/or Technical Reviewer or Branch

C. Hill

This is to acknowledge receipt of your: ☒ Letter and/or ☐ Application Dated: 12/20/2019

The initial processing, which included an administrative review, has been performed.

☒ Amendment ☐ Termination ☐ New License ☐ Renewal

☐ There were no administrative omissions identified during our initial review.

☐ This is to acknowledge receipt of your application for renewal of the material(s) license identified above. Your application is deemed timely filed, and accordingly, the license will not expire until final action has been taken by this office.

☐ Your application for a new NRC license did not include your taxpayer identification number. Please complete and submit NRC Form 531, Request for Taxpayer Identification Number, located at the following link: <http://www.nrc.gov/reading-rm/doc-collections/forms/nrc531.pdf>
Follow the instructions on the form for submission.

☐ The following administrative omissions have been identified:

Your application has been assigned the above listed MAIL CONTROL NUMBER. When calling to inquire about this action, please refer to this control number. Your application has been forwarded to a technical reviewer. Please note that the technical review, which is normally completed within 180 days for a renewal application (90 days for all other requests), may identify additional omissions or require additional information. If you have any questions concerning the processing of your application, our contact information is listed below:

Region IV
U. S. Nuclear Regulatory Commission
DNMS/NMSB - B
1600 E. Lamar Boulevard
Arlington, TX 76011-4511
(817) 200-1103 or (817) 200-1140

✓ 1/3/20

BETWEEN:

Accounts Receivable/Payable
and
Regional Licensing Branches

[FOR ARPB USE]
INFORMATION FROM WBL

Program Code: 03111
Status Code: Pending Amendment
Fee Category: 3P 5A
Exp. Date: 12/31/2032
Fee Comments:
Decom Fin Assur Reqd: Y

License Fee Worksheet - License Fee Transmittal

A. REGION

1. APPLICATION ATTACHED

Applicant/Licensee: Halliburton Energy Services, Inc.
Received Date: 12/20/2019
Docket Number: 3006392
Mail Control Number: 617400
License Number: 42-01068-07
Action Type: FIN Assurance

2. FEE ATTACHED

Amount: _____

Check No.: _____

3. COMMENTS

Signed: _____

Date: _____

B. LICENSE FEE MANAGEMENT BRANCH (Check when milestone 03 is entered / /)

1. Fee Category and Amount: _____

2. Correct Fee Paid. Application may be processed for:

Amendment: _____

Renewal: _____

License: _____

3. OTHER _____

Signed: _____

Date: _____