MATERIALS LICENSE

Amendment No. 47

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974 (Public Law 93-438), and Title 10, Code of Federal Regulations, Chapter I, Parts 30, 31, 32, 33, 34, 35, 36, 39, 40, and 70, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, acquire, possess, and transfer byproduct, source, and special nuclear material designated below; to use such material for the purpose(s) and at the place(s) designated below; to deliver or transfer such material to persons authorized to receive it in accordance with the regulations of the applicable Part(s). This license shall be deemed to contain the conditions specified in Section 183 of the Atomic Energy Act of 1954, as amended, and is subject to all applicable rules, regulations, and orders of the Nuclear Regulatory Commission now or hereafter in effect and to any conditions specified below.

Licensee	
1. Schlumberger Technology Corporation 2. Old Quarry Road P. O. Box 307 Ridgefield, Connecticut 06877-4108	In accordance with the letter dated February 13, 1997, 3. License Number 06-00807-01 is amended in its entirety to read as follows: 4. Expiration Date July 31, 2000 5. Docket or Reference No. 030-03766

6. Byproduct, Source, and/or Special Nuclear Material	7. Chemical and/or Physical Form	8. Maximum Amount that Licensee May Possess at Any One Time Under This License
A. Hydrogen 3	A. Any	A. 1,200 curies
B. Hydrogen 3	B. Sealed Neutron Generator Tubes	B. 10 curies per tube and 100 curies total
C. Manganese 54	C. Sealed sources	C. 2 curies
D. Iron 55	D. Sealed sources	D. Not to exceed 100 millicuries per source and 500 millicuries total
E. Cobalt 60	E. Sealed sources	E. Not to exceed 1 curie per source and 2 curies total
F. Strontium 90	F. Sealed sources	F. 1 millicurie
G. Ruthenium 103	G. Sealed sources	G. Not to exceed 100 millicuries per source and 200 millicuries total
H. Cadmium 109	H. Sealed sources	H. Not to exceed 100 millicuries per source and 500 millicuries total
I. Antimony 124	I. Sealed sources	I. 100 millicuries
J. Barium 133	J. Sealed sources	J. 2 curies
K. Cesium 137	K. Sealed sources	K. Not to exceed 2 curies per source and 20 curies total
L. Cerium 144	L. Sealed sources	L. Not to exceed 5 curies per source and 10 curies total
M. Gadolinium 153	M. Sealed sources	M. Not to exceed 100 millicuries per source and 200 millicuries total
N. Hafnium 181	N. Sealed sources	N. Not to exceed 100 millicuries per source and 500 millicuries total
O. Iridium 192	O. Sealed sources	O. Not to exceed 5 curies per source and 10 curies total

MATERIALS LICENSE
SUPPLEMENTARY SHEET

License Number: 06-00807-01

Docket or Reference Number: 030-03766

Amendment No. 47

6. Byproduct, source, and/or special nuclear material	7. Chemical and/or physical form	8. Maximum amount that licensee may possess at any one time under this license
P. Mercury 203	P. Sealed sources	P. Not to exceed 10 curies per source and 15 curies total
Q. Polonium 210	Q. Sealed neutron sources	Q. Not to exceed 10 curies per source and 20 curies total
R. Actinium 227	R. Sealed sources	R. Not to exceed 6 curies per source and 10 curies total
S. Americium 241	S. Sealed sources	S. Not to exceed 20 curies per source and 50 curies total
T. Americium 241	T. Unsealed alpha sources	T. 2 microcuries
U. Californium 252	U. Sealed sources (Savannah River SR-CF-100 Series)	U. 370 millicuries (not to exceed 430 micrograms per source and 3 sources total)
V. Plutonium	V. Sealed neutron sources	V. 100 grams including not more than 17 grams of Plutonium 238

9. Authorized use

A. Research and development as defined in 10 CFR 30.4; manufacture and distribution of neutron generator tubes to persons authorized to receive the neutron generator tubes pursuant to the terms and conditions of a specific license issued by the U.S. Nuclear Regulatory Commission or an Agreement State.

B. through V. Research and development as defined in 10 CFR 30.4 and 10 CFR 70.4.

CONDITIONS

10. Licensed material may be used only at the licensee's facilities located at the Schlumberger-Doll Research Center, Old Quarry Road, Ridgefield, Connecticut.

11. A. Licensed material shall be used by, or under the supervision of, individuals designated by the Schlumberger-Doll Research Radiation Safety Committee, Dr. Peter D. Wraight, Chairman.

B. The Radiation Safety Officer for this license is Carl A. Peterson.

12. The licensee shall not use licensed material in or on human beings or in field applications where activity is released except as provided otherwise by specific condition of this license.

MATERIALS LICENSE
SUPPLEMENTARY SHEET

License Number
06-00807-01

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030-03766

Amendment No. 47

CONDITIONS

13. A. Sealed sources and detector cells shall be tested for leakage and/or contamination at intervals not to exceed 6 months or at such other intervals as are specified by the certificate of registration referred to in 10 CFR 32.210, not to exceed 3 years.

B. Notwithstanding Paragraph A of this Condition, sealed sources designed to emit alpha particles shall be tested for leakage and/or contamination at intervals not to exceed 3 months.

C. In the absence of a certificate from a transferor indicating that a test has been made within six months prior to the transfer, a sealed source or detector cell received from another person shall not be put into use until tested.

D. Each sealed source fabricated by the licensee shall be inspected and tested for construction defects, leakage, and contamination prior to any use or transfer as a sealed source.

E. Sealed sources and detector cells need not be leak tested if:

(i) they contain only hydrogen 3; or

(ii) they contain only a gas; or

(iii) the half-life of the isotope is 30 days or less; or

(iv) they contain not more than 100 microcuries of beta and/or gamma emitting material or not more than 10 microcuries of alpha emitting material; or

(v) they are not designed to emit alpha particles, are in storage, and are not being used. However, when they are removed from storage for use or transfer to another person, and have not been tested within the required leak test interval, they shall be tested before use or transfer. No sealed source or detector cell shall be stored for a period of more than 10 years without being tested for leakage and/or contamination.

F. The test shall be capable of detecting the presence of 0.005 microcurie of radioactive material on the test sample. Records of leak test results shall be kept in units of microcuries and shall be maintained for inspection by the Commission. If the test reveals the presence of 0.005 microcurie or more of removable contamination, a report shall be filed with the U.S. Nuclear Regulatory Commission and the source shall be removed from service and decontaminated, repaired, or disposed of in accordance with Commission regulations. The report shall be filed within 5 days of the date the leak test result is known with the U.S. Nuclear Regulatory Commission, Region I, ATTN: Chief, Nuclear Materials Safety Branch, 475 Allendale Road, King of Prussia, Pennsylvania 19406. The report shall specify the source involved, the test results, and corrective action taken.

MATERIALS LICENSE
SUPPLEMENTARY SHEET

License Number
06-00807-01

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030-03766

Amendment No. 47

CONDITIONS

G. The licensee is authorized to collect leak test samples for analysis by the licensee. Alternatively, tests for leakage and/or contamination may be performed by persons specifically licensed by the Commission or an Agreement State to perform such services.

14. The licensee shall conduct a physical inventory every 6 months to account for all sources and/or devices received and possessed under the license. Records of inventories shall be maintained for 5 years from the date of each inventory.

15. The licensee may transport licensed material in accordance with the provisions of 10 CFR 71, "Packaging and Transportation of Radioactive Material."

16. The licensee is authorized to hold radioactive material with a physical half-life of less than 65 days for decay-in-storage before disposal in ordinary trash provided:

A. Radioactive waste to be disposed of in this manner shall be held for decay a minimum of 10 half-lives.

B. Before disposal as normal waste, radioactive waste shall be surveyed to determine that its radioactivity cannot be distinguished from background. All radiation labels shall be removed or obliterated.

17. Each source holder or logging tool containing radioactive material shall bear a legible and visible marking. The marking shall bear the conventional radiation symbol and the following wording: IF FOUND - DANGER - RADIOACTIVE - DO NOT HANDLE - NOTIFY CIVIL AUTHORITIES. The label must be on the smallest component that contains the licensed material transported as a separate piece of equipment.

18. A. The licensee is authorized to transfer neutron generator tubes for testing and evaluation only to: EMR Photoelectric, A Division of Schlumberger Technology Corporation, P.O. Box 44, Princeton, New Jersey 08542, NRC License No. 29-08636-02 and Schlumberger Well Services, A Division of Schlumberger Technology Corporation, P.O. Box 2175, Houston, Texas 77252-2175, Texas License No. L00109.

B. The licensee is only authorized to commercially distribute neutron generator tubes which are registered with the Nuclear Regulatory Commission pursuant to 10 CFR 32.210 or similar regulations of an Agreement State.

MATERIALS LICENSE
SUPPLEMENTARY SHEET

License Number
06-00807-01

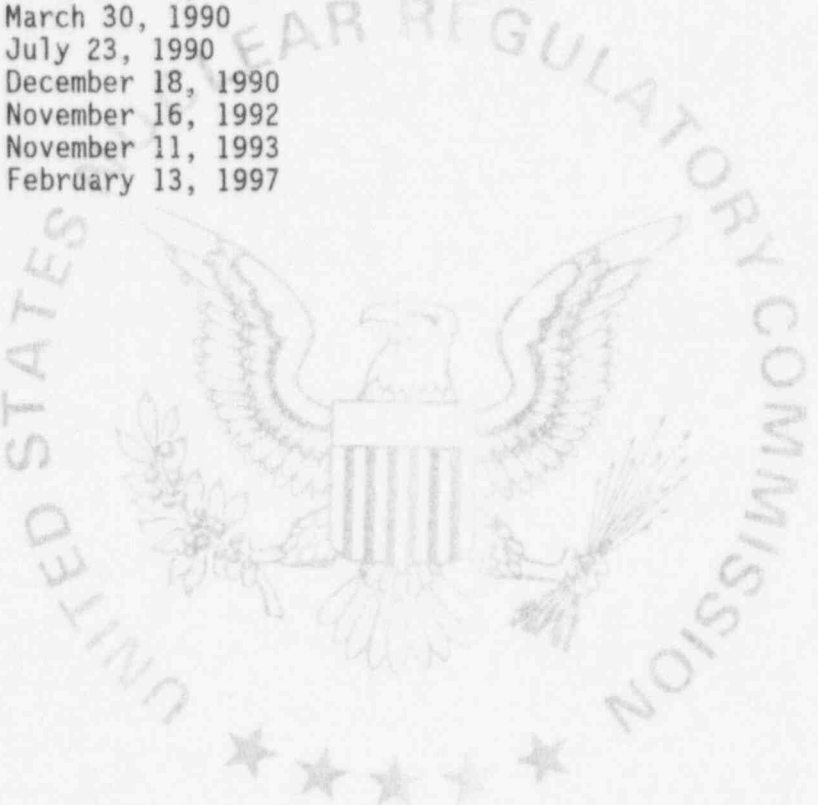
Docket or Reference Number
030-03766

Amendment No. 47

CONDITIONS

19. Except as specifically provided otherwise in this license, the licensee shall conduct its program in accordance with the statements, representations, and procedures contained in the documents including any enclosures, listed below. The Nuclear Regulatory Commission's regulations shall govern unless the statements, representations and procedures in the licensee's application and correspondence are more restrictive than the regulations.

A. Letter dated June 19, 1989 with attachments
B. Letter dated November 10, 1989 with attachments
C. Letter dated March 30, 1990
D. Letter dated July 23, 1990
E. Letter dated December 18, 1990
F. Letter dated November 16, 1992
G. Letter dated November 11, 1993
H. Letter dated February 13, 1997



For the U.S. Nuclear Regulatory Commission

Date APR 25 1997

By ORIGINAL SIGNED BY: RICHARD CONTE, JR.

Nuclear Materials Safety Branch
Region I
King of Prussia, Pennsylvania 19406

APR 25 1997

Peter D. Wraight, Ph.D.
Director, Nuclear Science Department
Schlumberger Technology Corporation
Old Quarry Road
P.O. Box 307
Ridgefield, CT 06877-4108

Dear Dr. Wraight:

This refers to your license amendment request. Enclosed with this letter is the amended license.

Please review the enclosed document carefully and be sure that you understand and fully implement all the conditions incorporated into the amended license. If there are any errors or questions, please notify the U.S. Nuclear Regulatory Commission, Region I Office, Licensing Assistance Team, (610) 337-5093 or 5239, so that we can provide appropriate corrections and answers.

Thank you for your cooperation.

Sincerely,

ORIGINAL SIGNED BY
RICHARD GIBSON, JR.

Richard Gibson, Jr.
Division of Nuclear Materials Safety

License No. 06-00807-01
Docket No. 030-03766
Control No. 124277

Enclosure:
Amendment No. 47

DOCUMENT NAME: R:\WPS\MLTR\L0600807.01
To receive a copy of this document, indicate in the box: "C" = Copy w/o attach/encl "E" = Copy w/ attach/encl "N" = No copy

OFFICE	DNMS/RI	N	DNMS/RI					
NAME	RGibson/rxg							
DATE	02/28/97		02/ /97		02/ /97		02/ /97	

OFFICIAL RECORD COPY

ML 10

030-03766

Schlumberger

SCHLUMBERGER-DOLL RESEARCH OLD QUARRY ROAD RIDGEFIELD, CONNECTICUT 06877-4108 203-431-5000

February 13,1997

U.S. Nuclear Regulatory Commission
Region 1
Material Licensing Section
475 Allendale Road
King of Prussia, PA 19406

Re: License 06-00807-01

Subject: Membership of SDR Radiation Safety Committee

Dear Sirs:

This letter is to inform you of personnel changes in the membership of the SDR Radiation Safety Committee. The membership as of January 1, 1997 is:

Name	Title
Peter D. Wraight, Chairman	Director, Nuclear Science Department
Arthur D. Liberman	Physicist and Scientific Consultant
Carl A. Peterson	Radiation Safety Officer
Keith Smith	SDR Legal Officer
Dan J. Rossini	Manager, HS&E and Facilities

Arthur D. Liberman replaces Jeffrey S. Schweitzer as Physicist and Scientific Consultant. His radiation experience resume is enclosed. The radiation resumes of the other technical members of the Radiation Safety Committee are attached to the last renewal application.

Keith Smith replaces Len Pojunas as one of the non-technical representatives of the management.

Also, please find enclosed a check for the amendment fee of $610.00.

Sincerely,

Carl A Peterson

Carl A. Peterson, Radiation Safety Officer
Nuclear Science Department

encl. 1

124277

SCHLUMBERGER TECHNOLOGY CORPORATION

OFFICIAL RECORD COPY ML 10

FEB 18 1997

Schlumberger

SCHLUMBERGER-DOLL RESEARCH OLD QUARRY ROAD RIDGEFIELD, CONNECTICUT 06877-4108 203-431-5000

Radiation Experience Resume

Arthur D. Liberman

Dr. Liberman is currently a Senior Research Scientist in the Nuclear Science Department at Schlumberger-Doll research. Prior to joining SDR in 1979, he was a Senior Research Physicist at the High Energy Physics Laboratory of Stanford University where he was certified as a user of radiation sources by Stanford University's Radiation Protection Officer. Dr. Liberman became Radiation Safety Officer at SDR in 1982, reporting quarterly to the Radiation Safety Committee. From April 1984 through February 1987, he was assigned to the EMR-Photoelectric division in Princeton, New Jersey as Research Department Director. He assumed responsibilities for Radiation Safety there in mid-1986, which included overseeing usage of gamma ray sources, tritium handling and exposure monitoring, validating facility standards for neutron radiation exposure from neutron generator testing, routine radiation worker training and exposure monitoring, establishing a records documentation system, and for submitting NRC and State of NJ DEP license renewals and amendments. At both SDR and EMR he has participated with NRC inspectors during their visits to audit the laboratory facilities, examine radiation safety procedures and check documentation reporting methods. Dr. Liberman has been a certified Tritium Experimenter at SDR for many years. He developed his own course material for the SDR bi-annual Tritium Handling re-training seminars, which he has delivered to members of the technical staff in 1983, 1987, 1989, 1991,1993, and 1995. The material is updated for each course, including the changes and improvements to the tritium handling and monitoring equipment, and current radiation exposure limitations and documentation reporting requirements. At SDR he also instituted a system of tritium emission monitoring equipment that has demonstrated compliance with NRC and EPA standards.

TAX ID 221692661

06-00807-01
03003766

DIVISION OF ACCOUNTING AND FINANCE
REQUEST FOR REFUND TO EMPLOYEE/VENDOR

MAR 5 1997

THE EMPLOYEE/VENDOR IDENTIFIED BELOW HAS OVERPAID THE NUCLEAR REGULATORY COMMISSION FOR GOODS AND/OR SERVICES PROVIDED AND IS DUE A REFUND

EMPLOYEE/VENDOR/PAYEE CODE: 06 00807 01 L

NAME: SCHLUMBERGER TECHNOLOGY CORPORATION

ADDRESS: ATTN: CARL A. PETERSON, RADIATION SAFETY OFFICER

ADDRESS: OLD QUARRY ROAD

CITY: RIDGEFIELD STATE: CT ZIP: 06877-4108

TRANS CODE: PX

TRANS TYPE: FE	FUND: X5280	JOB CODE:	AMOUNT: $30.00
TRANS TYPE: IR	FUND: B1435	JOB CODE: INTR	AMOUNT:
TRANS TYPE: IR	FUND: B1099	JOB CODE: ADCH	AMOUNT:
TRANS TYPE: IR	FUND: B1099	JOB CODE: FINE	AMOUNT:

TOTAL REFUND AMOUNT: $30.00

COMMENTS: LIC 06-00807-01/CK 70822/3B AND OVRPYT

(Limit comments to 40 characters, including spaces)

PREPARED BY: Brenda Lynn DATE: 2/28/97

AUTHORIZED BY: Cheryl L. Phillips DATE: 3/5/97

ORIGINAL INV. NO: DATE PAID: AMOUNT:

REFUND ENTERED INTO COLLECT BY:

REFUND DETERMINED BY: DATE:

PLEASE ATTACH APPROPRIATE SUPPORTING DOCUMENTATION I (97)

Jul-16
LETTER DATED 2/13/97
3B AMD FEE IS $530
124277

BETWEEN:

LICENSE FEE MANAGEMENT BRANCH, ARM
AND
REGIONAL LICENSING SECTIONS

(FOR LFMS USE)
INFORMATION FROM LTS

PROGRAM CODE: 03620
STATUS CODE: 0
FEE CATEGORY: 3B 1D
EXP. DATE: 20000731
FEE COMMENTS: SEE 10/7/87 TELECON
DECOM FIN ASSUR REQD: Y

LICENSE FEE TRANSMITTAL

A. REGION I

1. APPLICATION ATTACHED
APPLICANT/LICENSEE: SCHLUMBERGER TECHNOLOGY CORP.
RECEIVED DATE: 970218
DOCKET NO: 3003766
CONTROL NO.: 124277
LICENSE NO.: 06-00807-01
ACTION TYPE: AMENDMENT

2. FEE ATTACHED
AMOUNT: $610.00
CHECK NO.: 70822

3. COMMENTS

SIGNED M. A. Barbian
DATE 2/18/97

B. LICENSE FEE MANAGEMENT BRANCH (CHECK WHEN MILESTONE 03 IS ENTERED / /)

1. FEE CATEGORY AND AMOUNT: (3B) 1D $580

2. CORRECT FEE PAID. APPLICATION MAY BE PROCESSED FOR:
AMENDMENT
RENEWAL
LICENSE

3. OTHER

SIGNED
DATE

I (97)

Log Feb 16
Reviewer
Check No. 70822
Amount ($610) $580 — Refunded $30
Fee Category (3B) 1D
Type AMND
Date Check 2/18/97
Date Completed
By: BB

97 FEB 25 AM 8:33