

MATERIALS LICENSE

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.

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Licensee

1. Birmingham Engineering & Construction
Consultants, Inc.

3. License Number 19-30373-01

2. 2625 Garfield Avenue
Silver Spring, Maryland 20910

4. Expiration Date June 30, 2007

5. Docket or
Reference No. 030-343526. Byproduct, Source, and/or
Special Nuclear Material7. Chemical and/or Physical
Form8. Maximum Amount that Licensee
May Possess at Any One Time
Under This License

A. Cesium 137

A. Sealed sources

A. 100 millicuries

B. Americium 241

B. Sealed neutron sources

B. 500 millicuries

9. Authorized use

A. and B. For possession and use in Troxler Electronic Laboratories, Inc., Campbell Pacific Nuclear Corp., Humboldt Scientific, Inc., Seaman Nuclear Corporation, or Soiltest, Incorporated devices which have been evaluated and approved for licensing purposes under a license issued by the U.S. Nuclear Regulatory Commission or any Agreement State.

CONDITIONS

10. Licensed material may be used only at temporary job sites of the licensee anywhere in the United States where the U.S. Nuclear Regulatory Commission maintains jurisdiction for regulating the use of licensed material.
11. Licensed material shall only be used by, or under the supervision and in the physical presence of, individuals who have received the training described in application dated January 18, 1997, and have been designated in writing by the Radiation Safety Officer.
12. The Radiation Safety Officer for this license is Richard D. Brown.
13. A. Sealed sources and detector cells containing licensed material shall be tested for leakage and/or contamination at intervals not to exceed six months or at such other intervals as are specified by the certificate of registration referred to in 10 CFR 32.210, not to exceed three 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 three months.
- C. In the absence of a certificate from a transferor indicating that a leak test has been made within six months prior to the transfer, a sealed source or

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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 radioactive 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. 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 or detector cell shall be removed immediately from service and decontaminated, repaired, or disposed of in accordance with Commission regulations. The report shall be filed within five days of the date the leak test result is known with the U.S. Nuclear Regulatory Commission, Region I, ATTN: Director, Division of Nuclear Materials Safety, 475 Allendale Road, King of Prussia, Pennsylvania 19406. The report shall specify the source or detector cell involved, the test results, and corrective action taken.
- G. The licensee is authorized to collect leak test samples for analysis by Troxler Electronic Laboratories, Inc.. 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. Sealed sources or detector cells containing licensed material shall not be opened or sources removed from source holders by the licensee.
15. The licensee shall conduct a physical inventory every six months to account for all sealed sources and devices containing licensed material received and possessed under the license.
16. The licensee shall not acquire licensed material in a sealed source or device unless the source or device has been registered with the U.S. Nuclear Regulatory Commission pursuant to 10 CFR 32.210 or equivalent regulations of an Agreement State.

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17. Each portable nuclear gauge shall have a lock or inter locked container designed to prevent unauthorized or accidental removal of the sealed source from its shielded position. The gauge or its container must be locked when in transport, storage or when not under the direct surveillance of an authorized user.
18. Any cleaning, maintenance, or repair of the gauge(s) that requires removal of the source rod shall be performed only by the manufacturer or by other persons specifically licensed by the Commission or an Agreement State to perform such services.
19. The licensee is authorized to transport licensed material in accordance with the provisions of 10 CFR Part 71, "Packaging and Transportation of Radioactive Material."
20. 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. Application dated January 18, 1997
 - B. Letter dated May 13, 1997

Date MAY 19 1997

For the U.S. Nuclear Regulatory Commission

ORIGINAL SIGNED BY:

By **JUDITH A. JOUSTRA**

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

MAY 19 1997

License No. 19-30373-01
Docket No. 030-34352
Control No. 124171

Mr. Richard D. Brown, RSO
Associate
Birmingham Engineering & Construction Consultants, Inc.
2625 Garfield Avenue
Silver Spring, Maryland 20910

Dear Mr. Brown:

This refers to your request for an NRC license. Enclosed with this letter is the license.

Please review the enclosed document carefully and be sure that you understand all conditions. 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.

The NRC is required to have your Taxpayer Identification Number in order to make payments (refunds). The self-addressed, stamped NRC Form 531, "Request for Taxpayer Identification Number," is enclosed.

Please be advised that your license expires at the end of the day, in the month, and year stated in the license. Until your license is terminated, you must conduct your program involving byproduct materials in accordance with the conditions of your NRC license, representations made in your license application, and NRC regulations. In particular, note that you must:

1. Operate in accordance with NRC regulations 10 CFR Part 19, "Notices, Instructions and Reports to Workers; Inspections," 10 CFR Part 20, "Standards for Protection Against Radiation," and other applicable regulations.
2. Not possess and use materials authorized in Items 6, 7, and 8, on the license until:
 - a. you have constructed the facilities and obtained the equipment described in the license application and supporting documentation; and
 - b. you have notified the U.S. Nuclear Regulatory Commission, Region I, ATTN: Director, Division of Nuclear Materials Safety, 475 Allendale

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Road, King of Prussia, Pennsylvania 19406 in writing, that activities authorized by the license will be initiated.

3. Notify NRC, in writing, within 30 days:
 - a. when an authorized user or Radiation Safety Officer, permanently discontinues performance of duties under the license or has a name change; or
 - b. when the mailing address on the license changes (no fee is required if the location of byproduct material remains the same).
4. In accordance with 10 CFR 30.36(b) and/or license condition, notify NRC, promptly, in writing, and request termination of the license:
 - a. when you decide to terminate all activities involving materials authorized under the license; or
 - b. if you decide not to complete the facility, acquire equipment, or possess and use authorized material.
5. Request and obtain a license amendment before you:
 - a. permit anyone to work as an authorized user under the license;
 - b. change Radiation Safety Officer;
 - c. order byproduct material in excess of the amount, or radionuclide, or form different than authorized on the license;
 - d. add or change the areas of use, or address or addresses of use identified in the license application or on the license; or
 - e. change ownership of your organization.
6. Submit a complete renewal application with proper fee or termination request at least 30 days before the expiration date of your license. You will receive a reminder notice approximately 90 days before the expiration date. Possession of byproduct material after your license expires is a violation of NRC regulations. A license will not normally be renewed, except on a case-by-case basis, in instances where licensed material has never been possessed or used.

In addition, please note that NRC Form 313 requires the applicant, by his/her signature, to verify that the applicant understands that all statements contained in the application are true and correct to the best of the applicant's knowledge. The

R. D. Brown
Birmingham Eng. & Const. Consultants. Inc.

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signatory for the application should be the licensee or a certifying official of the licensee rather than the Radiation Safety Officer or a consultant.

You will be periodically inspected by the NRC. Failure to conduct your program in accordance with NRC regulations, license conditions, and representations made in your license application and supplemental correspondence with NRC will result in enforcement action against you. This could include issuance of a notice of violation, or imposition of a civil penalty, or an order suspending, modifying or revoking your license as specified in the "General Statement of Policy and Procedure for NRC Enforcement Actions," (Enforcement Policy), NUREG 1600.

Since serious consequences to employees and the public can result from failure to comply with NRC requirements, prompt and vigorous enforcement action will be taken when dealing with licensees who do not achieve the necessary meticulous attention to detail and the high standard of compliance which NRC expects of its licensees.

Thank you for your cooperation.

Sincerely,

ORIGINAL SIGNED BY:
JUDITH A. JOUSTRA

Judith A. Joustra
Division of Nuclear Materials Safety

License No. 19-30373-01
Docket No. 030-34352
Control No. 124171

Enclosures:

1. License No. 19-30373-01
2. 10 CFR Parts 2, 19, 20, 21, 30, 71 and 170
3. NRC Forms 3, 313 and 531
4. Section 206 of the Energy Reorganization Act of 1974

DOCUMENT NAME: R:\WPS\MLTR\L1930373.01

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	JJoustra						
DATE	05/19/97		05/ /97		05/ /97		05/ /97

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Birmingham Engineering & Construction Consultants, Inc.

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030-34352

MEMORANDUM

May 13, 1997

TO: Judith Joustra
Division of Nuclear Materials Safety, NRC

FROM: Mr. Richard D. Brown

SUBJECT: Response to NRC Concerns Regarding Application
for Materials License, dated 1/18/97, Control No. 124171

1. Regarding signatory authorization for myself, Richard D. Brown, see Attachment 1.
2. We will be utilizing TLD monitoring devices manufactured by Siemens and processed and evaluated by ICN Dosimetry Service, a NVLAP-accredited processor. They will be changed on a quarterly basis.
3. Our leak test samples will be analyzed by Troxler Electronic Laboratories, Inc. Their Agreement State license number is NC 032-0182-1.
4. We have three radiation detection devices available. They are Troxler Troxalerts, serial numbers 1190, 1509 and 1971. They are capable of detecting Alpha, Beta, Gamma and X-ray radiation on three scaled ranges; 0 - 0.5 mR/hr, 0 - 5 mR/hr, and 0 - 50 mR/hr. They are sent to the manufacturer, Troxler Electronic Laboratories, Inc., on an annual basis for calibration. At least one device will be on hand at all times at our permanent storage facility for timely response to and evaluation of source integrity in the event of an incident.
5. We express management's commitment to insuring that licensed materials will be transported in accordance with 10 CFR Part 71 and Department of Transportation regulations.
6. We now possess and, in the future, intend to possess Troxler Model 3400 series gauges with Troxler sealed source numbers A-102112 and A-102451.
7. We express management's commitment that the RSO has independent authority to stop unsafe operations and will be given sufficient time to fulfill his radiation safety duties and responsibilities.

Geotechnical, Materials & Environmental Engineers
2625 Garfield Avenue • Silver Spring, Maryland 20910
(301) 587-5208 • FAX (301) 587-4924

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8. We will perform an annual review of our radiation safety program in order to assure compliance with applicable requirements in 10 CFR Part 20. We will maintain records of the reviews for 3 years after the record is made.
9. We confirm that refresher training will include the following: (1) participation in "dry runs" of our emergency procedures; and (2) a review of operating and emergency procedures, DOT requirements, changes in applicable regulations or license conditions, and deficiencies identified during the performance of annual reviews or audits of the radiation safety program.
10. We perform and will continue to perform physical inventories at intervals not to exceed 6 months.
11. All gauge users will be trained through gauge manufacturer's courses or NRC approved alternative courses. At this time, I withdraw George Hays, David Subraj, and Martin Burford from the application as authorized users until such time as they are trained through a gauge manufacturer's course or NRC approved alternative course, documentation is provided for the training which they have received, or another license (such as an Agreement State License) is provided showing the course is recognized as meeting gauge manufacturer's criteria.

If you have any other questions please do not hesitate to contact me. Thank you.

Respectfully,
BECC, Inc.



Richard D. Brown, RSO
Associate





BECC

Birmingham Engineering & Construction Consultants, Inc.

March 13, 1997

Licensing Assistant Section
Nuclear Materials Safety Branch
U.S. Nuclear Regulatory Commission, Region I
475 Allendale Road
King of Prussia, PA 19406-1415

Subject: Letter of Authorization

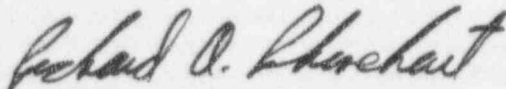
To Whom It May Concern:

This correspondence provides authorization to Mr. Richard Brown to sign correspondence relating to the administration of the radiological needs of BECC, 2625 Garfield Avenue, Silver Spring, MD 20910. Mr. Brown is the RSO for that office as well as the Associate In Charge. Questions and correspondence relating to the administration of the Radiological Safety Program may be forwarded directly to Mr. Brown.

If you require additional information or have any questions, please do not hesitate to contact me at our Birmingham corporate office listed below.

Respectfully Submitted,

BIRMINGHAM ENGINEERING & CONSTRUCTION CONSULTANTS



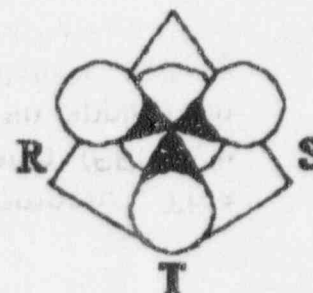
Richard A. Rhinehart, P.E.
Vice President

Geotechnical, Materials & Environmental Engineers

2704 20th Street South • Suite 200 • Birmingham, Alabama 35209
(205) 879-7899 • FAX (205) 879-7902

**RADIATION TECHNICAL SERVICES
AND TRAINING**

**210 Lorna Square, Suite 222
Birmingham, Alabama 35216
(205)822-5773**



April 14, 1997

Judith A. Jouftra
Division of Nuclear Materials Safety from the NRC Region I
475 Allendale Road
King of Prussia, Pennsylvania 19406-1415

Dear Ms. Jouftra:

This letter follows the conversation we had this afternoon. This involves Birmingham Engineering Construction Consultants (BECC), a firm located in Silverspring, Maryland. They have filed an application with your office and has listed someone as the Radiation Safety Officer who has received a certificate of radiation safety training in our "Radiation Safety For Nuclear Gauge Users". Response from your office is requiring some additional information, a portion of which concerns training received from me. I am the only instructor which gives this course by RTST and I have taught it for over fifteen years. It was first approved by Aubrey V. Godwin, Director of the Division of Radiological Health, State Health Department, State of Alabama, at that time, back in 1981. I, myself, was the State's Radioactive Materials Compliance Section Chief at the time I left the State the last day of April, 1980. I was with that organization for nine years. I have been the Radiation Safety Officer at the University of Alabama in Birmingham now for seventeen years. In addition, I am president of ISOMED, INC, a nuclear pharmacy here in Alabama- now for six years, MEDRAD, INC., a new startup manufacturer firm in Alabama, and President of RTST, Inc.

As far as the course that was taught, I hope the following information will answer the questions that you have as I believe it was information read to me from a NRC Regulation's guide from which you also quoted several sections:

The following additional information is given:

- 1) A description of the "alternative course" including its duration, topics covered, the amount of time devoted to each topic.

Response: I believe my course is considered "an alternative course" in that it is not presented by a manufacturer of the gauge itself. See outline of course, enclosed. There is a discussion and question and answer period at the end of the course which is not shown in the outline. All attendees have been very receptive to the course material, as I interject past experiences with my previous work as an Agency inspector and as a consultant for the last seventeen years. I review at least several of the accidents that have occurred with these gauges (i.e., with post accident pictures of the gauges). I also review other very hazardous situations that might occur around these personnel (i.e., radiographers that may work in their vicinity and use large quantities - up to 120 Curies - of Iridium-192 in exposure devices for nondestructive testing). Also I cover the possible loss of unsecured gauges and their subsequent and possible mishandling and disposal of the sealed source which may be extracted at or before they reach salvage dealers - I fairly recently as a year ago investigated, identified, assayed and took final possession of a sealed source that was of the similar dimensions and activity and as a Troxler Cs-137 sealed source that was thrown atop and railroad car in route from the Florida Everglades to a Birmingham pipe plant.

- 2) The name and qualifications of each instructor.

Response: William B. Bass, Jr., 26 years of experience in almost every area or phase of medical and industrial use of ionizing radiation (from x-rays, cyclotrons, particle accelerators and radioisotopes, gamma and alpha radioisotope generators, etc.). BS Degree in Physics, Master's Degree and certification in radiological physics, MBA in Informations Systems. Instructor at UAB for the Radioactive Materials Licensure and Management Course, the UAB Radiation Safety Training Course and a number of other Courses for housekeeping, maintenance, nurses, police and security, biomedical. I am also on faculty in UAB's Regional Technical Institute, am approved by State to teach Radiopharmacy Training Program for ISOMED, INC., RTST's Radiographer's Training Program and its Radiation Safety Officer's training program, as well as its training program for Smoke Detector GL Distribution Licensure and the Manufacturing License. Also see above information

- 3) A description of how the trainee's competency is insured.

Through summary discussions given at end of course. The course is tailored for four hours of instruction and lasts 4.5 hours with some breaks and final summary. No tests were given, as they were not required by the State of Alabama; however, students were put on notice that they might be tested and because of this, were very receptive to instruction. Now that the question of testing has been brought out, this will be given in the future with a 70 percent minimum score required for passing as all my other courses. Only one retake of examination will be allowed and can occur no earlier than one week and no later than six weeks. In the event a student fails both tests, the complete course would have to be retaken.

I am aware that the radiation safety instruction part of the Troxler course is given within a period slightly less five hours when the one hour lunch break is discounted (Agency inspectors have attended and described the Troxler course given in Alabama). I have been informed that five areas of the thirteen subjects of instruction involve only the actual use and operation of the equipment, gauge calibration, etc. My course covers the same basic areas of radiological protection that the Troxler course covers - Radiological Safety, Basic Principles, Leak testing of Gauges, Basic calculations, Biological Effects, Monitoring Techniques, Manifests, Labeling, Marking for Highway Transport of Gauge, and Accident Situations. In addition, I cover radioactive decay, types of radiation, biological concepts that have been learned over the past fifty years.

- 4) Including a description of tests to be administered and copies of sample tests with correct answers shown and a notation of the minimum passing grade.

A sample test for future students has not been made up as yet, but you can rest assure that it will be a reasonable test, taking into consideration that less than five hours of instruction will actually be given. Having taught a number of 40-hour courses over the years, sophisticated mathematics has to be drilled over and over for a period of three or four days for the personnel who are normally employed to use these devices. So I would not expect these students to perform these, but would require them to know what radiation levels would be in the immediate vicinity of these gauges, and naturally the requirements of DOT regulations regarding labeling, Tis, etc. Correct response to dangerous situations would also be expected. In addition, I go over the written Radiation Safety Procedures Manual, which I originally wrote for Bhate and BECC some years ago and which has been revised in some respects since.

I hope that the information I have provided herein suffices. If more information is needed, please don't hesitate to contact me.

Sincerely,

A handwritten signature in dark ink, appearing to read 'Will B. Bass', written over the typed name.

William B. Bass, Jr., MS, MBA
Radiation & Medical Physicist

cc David Waiter, Licensing
Bureau of Environmental Health
Care Standards, State of Alabama

Fax To: MIS day 00451014

NRC

37-978

September 16, 1986

Mr. William B. Bass
3478 Ridgcrest Drive
Birmingham, Alabama 35216

Dear Mr. Bass:

This letter will serve to document recognition of your radiation safety training course for users of moisture-density gauges. Individuals who successfully complete your training course will be considered properly trained for use of moisture-density gauges.

We request that you maintain a file of the names of all participants of your course and the dates they successfully completed the course.

It is also suggested that each individual who completes the course be given a document (certificate, card, or whatever) to certify that he has completed the course. This will be beneficial for future employment opportunities and is rather standard practice for all such training courses.

Sincerely,

SEP 17 1986

Kirksey E. Whatley, Chief
Radioactive Materials Licensing Section
Radiological Health Branch
Division of Environmental Health

KEW:mpw

Note: This approval is valid for
current use.

FEB 20 1997

Docket No. 030-34252
Control No. 124171

Richard D. Brown, Radiation Safety Officer
Birmingham Engineering & Construction Consultants, Inc.
2625 Garfield Avenue
Silver Spring, Maryland 20910

Dear Mr. Brown:

This is in reference to your application dated January 8, 1997, requesting a Nuclear Regulatory Commission License. In order to continue our review, we need the following additional information:

1. Your application should have been signed by a management representative rather than the Radiation Safety Officer. Please submit a letter signed by a management representative indicating that management has reviewed the application and concurs in the statements and representations contained therein. Note also that a management representative should sign all future correspondence that requests a change in your license.
2. Please specify the type of personnel dosimetry you will provide, and the frequency for changing the dosimeters, and confirm that dosimetry will be processed and evaluated by a NVLAP-accredited processor as required by 10 CFR 20.1501(c).
3. Regarding the leak testing of your sealed sources please submit the name of the person and the applicable NRC or Agreement State license number of the person who will be analyzing your leak test samples. If this person is not licensed, please submit a description of the procedure to be used, instrumentation, and lower limit of detectability for the instrumentation.
4. Specify the radiation detection instruments that you have available. Include the manufacturer's name and model number, the number of instruments available, the types of radiation detected, the range (milliroentgens per hour). Please describe your instrument calibration procedure and state the frequency of calibration. If you intend to contract out the calibration of your instruments, you only need to specify the name of the firm and the license number that authorizes the firm to perform calibration services. If you elect to calibrate your survey meters yourself, please submit the information described in "Guide for Preparation of Licenses for the Use of Radioactive Materials in

Calibrating Radiation Survey and Monitoring Instruments" (Task FC 413-4) (enclosed). In addition, please confirm that you will either have at least one appropriate, calibrated survey meter at each jobsite for timely evaluation of source integrity following an incident or that you will have access to an appropriate survey meter.

5. Please confirm that the transportation of licensed materials will be in accordance with 10 CFR Part 71 (enclosed) and Department of Transportation regulations.
6. Please identify the manufacturer's name and the model number for each sealed source you wish to possess.
7. Please provide a commitment from management that the RSO has independent authority to stop unsafe operations and will be given sufficient time to fulfill his radiation safety duties and responsibilities.
8. Please confirm that you will perform an annual review of your radiation safety program in order to assure compliance with applicable requirements in 10 CFR Part 20, and that you will maintain records of the reviews for 3 years after the record is made.
9. Please confirm that refresher training will include the following: (1) participation in "dry runs" of your emergency procedures; and (2) a review of operating and emergency procedures, DOT requirements, changes in applicable regulations or license conditions, deficiencies identified during the performance of annual reviews/audits of the radiation safety program.
10. Your application states that you will perform physical inventories periodically. Please confirm that inventories will be performed at intervals not to exceed 6 months.
11. Your application included copies of training certificates obtained from someone other than a gauge manufacturer. In order for the NRC to review the adequacy of the training the following additional information is needed: (1) a description of the alternative course, including its duration, the topics covered, and the amount of time devoted to each topic; (2) the name and qualifications of each instructor; and (3) a description of how the trainees' competency is ensured, including a description of tests to be administered and copies of sample tests with correct answers shown and a notation of the minimum "passing" grade. Please confirm that records of training will be maintained until 3 years after the individual terminates employment. We will continue our review upon receipt of this information.

R. D. Brown
Birmingham Engineering & Construction Consultants, Inc.

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Please reply in duplicate to my attention at the Region I Office and refer to Mail Control No. 124171. If you have any technical questions regarding this deficiency letter, please call me at (610) 337-5355.

If we do not receive a reply from you within 30 calendar days from the date of this letter, we shall assume that you do not wish to pursue your application.

Sincerely,

Original Signed By:

Judith A. Joustra
Division of Nuclear Materials Safety

Docket No. 030-34252
Control No. 124171

Enclosures:

1. 10 CFR Parts 19, 20, 30, and 71
2. Regulatory Guide(s) FC 413-4
3. Draft Regulatory Guide(s) FC 407-4

DOCUMENT NAME: R:\WPS\DLTR\L1930373.01

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OFFICE	DNMS/RI	N	DNMS/RI				
NAME	JJoustra						
DATE	02/19/97		02/ /97		02/ /97		02/ /97

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BECC, INC
2625 Garfield Avenue
Silver Spring, MD 20910

LL 30373
030-34352
03121

LETTER OF TRANSMITTAL

January 20, 1997

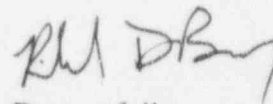
TO: U.S. Nuclear Regulatory Commission

FROM: Richard Brown

SUBJECT: Application for Material License

The following is enclosed for your approval:

Completed Application, dated 1/18/97.



Respectfully,
BECC, INC.

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JAN 29 1997

APPLICATION FOR MATERIAL LICENSE

Estimate burden per response to comply with this information collection request in hours. Submittal of the application is necessary to determine that the applicant is qualified and that adequate procedures exist to protect the public health and safety. Forward comments regarding burden estimate to the Information and Records Management Branch (T-6 F33), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, and to the Paperwork Reduction Project (3150-0120), Office of Management and Budget, Washington, DC 20503. NRC may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number.

INSTRUCTIONS: SEE THE APPROPRIATE LICENSE APPLICATION GUIDE FOR DETAILED INSTRUCTIONS FOR COMPLETING APPLICATION. SEND TWO COPIES OF THE ENTIRE COMPLETED APPLICATION TO THE NRC OFFICE SPECIFIED BELOW.

APPLICATION FOR DISTRIBUTION OF EXEMPT PRODUCTS FILE APPLICATIONS WITH:

DIVISION OF INDUSTRIAL AND MEDICAL NUCLEAR SAFETY
OFFICE OF NUCLEAR MATERIALS SAFETY AND SAFEGUARDS
U.S. NUCLEAR REGULATORY COMMISSION
WASHINGTON, DC 20555-0001

ALL OTHER PERSONS FILE APPLICATIONS AS FOLLOWS:

IF YOU ARE LOCATED IN:

CONNECTICUT, DELAWARE, DISTRICT OF COLUMBIA, MAINE, MARYLAND,
MASSACHUSETTS, NEW HAMPSHIRE, NEW JERSEY, NEW YORK, PENNSYLVANIA,
RHODE ISLAND, OR VERMONT, SEND APPLICATIONS TO:

LICENSING ASSISTANT SECTION
NUCLEAR MATERIALS SAFETY BRANCH
U.S. NUCLEAR REGULATORY COMMISSION, REGION I
475 ALLENDALE ROAD
KING OF PRUSSIA, PA 19406-1415

ALABAMA, FLORIDA, GEORGIA, KENTUCKY, MISSISSIPPI, NORTH CAROLINA, PUERTO
RICO, SOUTH CAROLINA, TENNESSEE, VIRGINIA, VIRGIN ISLANDS, OR WEST VIRGINIA,
SEND APPLICATIONS TO:

NUCLEAR MATERIALS LICENSING SECTION
U.S. NUCLEAR REGULATORY COMMISSION, REGION II
101 MARIETTA STREET, NW, SUITE 2900
ATLANTA, GA 30323-0199

IF YOU ARE LOCATED IN:

ILLINOIS, INDIANA, IOWA, MICHIGAN, MINNESOTA, MISSOURI, OHIO, OR WISCONSIN,
SEND APPLICATIONS TO:

MATERIALS LICENSING SECTION
U.S. NUCLEAR REGULATORY COMMISSION, REGION III
801 WARRENVILLE RD.
LISLE, IL 60532-4351

ALASKA, ARIZONA, ARKANSAS, CALIFORNIA, COLORADO, HAWAII, IDAHO, KANSAS,
LOUISIANA, MONTANA, NEBRASKA, NEVADA, NEW MEXICO, NORTH DAKOTA,
OKLAHOMA, OREGON, PACIFIC TRUST TERRITORIES, SOUTH DAKOTA, TEXAS, UTAH,
WASHINGTON, OR WYOMING, SEND APPLICATIONS TO:

NUCLEAR MATERIALS LICENSING SECTION
U.S. NUCLEAR REGULATORY COMMISSION, REGION IV
811 RYAN PLAZA DRIVE, SUITE 400
ARLINGTON, TX 76011-8064

LL 30373
030-34352
03121

PERSONS LOCATED IN AGREEMENT STATES SEND APPLICATIONS TO THE U.S. NUCLEAR REGULATORY COMMISSION ONLY IF THEY WISH TO POSSESS AND USE LICENSED MATERIAL IN STATES SUBJECT TO U.S. NUCLEAR REGULATORY COMMISSION JURISDICTIONS.

1. THIS IS AN APPLICATION FOR (Check appropriate item)

☒ A
☐ B
☐ C

A. NEW LICENSE

B. AMENDMENT TO LICENSE NUMBER _____

C. RENEWAL OF LICENSE NUMBER _____

2. NAME AND MAILING ADDRESS OF APPLICANT (include Zip code)

Birmingham Engineering & Construction Consultants, Inc.
2625 Garfield Avenue
Silver Spring, Maryland 20910

3. ADDRESS(ES) WHERE LICENSED MATERIAL WILL BE USED OR POSSESSED

Temporary jobsites in states subject to NRC's regulatory authority.

4. NAME OF PERSON TO BE CONTACTED ABOUT THIS APPLICATION

Richard D. Brown

TELEPHONE NUMBER
(301) 587-5208

SUBMIT ITEMS 5 THROUGH 11 ON 8-1/2 X 11" PAPER. THE TYPE AND SCOPE OF INFORMATION TO BE PROVIDED IS DESCRIBED IN THE LICENSE APPLICATION GUIDE.

5. RADIOACTIVE MATERIAL.

a. Element and mass number; b. chemical and/or physical form; and c. maximum amount which will be possessed at any one time

6. PURPOSE(S) FOR WHICH LICENSED MATERIAL WILL BE USED.

7. INDIVIDUAL(S) RESPONSIBLE FOR RADIATION SAFETY PROGRAM AND THEIR TRAINING EXPERIENCE.

8. TRAINING FOR INDIVIDUALS WORKING IN OR FREQUENTING RESTRICTED AREAS.

9. FACILITIES AND EQUIPMENT.

10. RADIATION SAFETY PROGRAM.

11. WASTE MANAGEMENT.

12. LICENSEE FEES (See 10 CFR 170 and Section 170.31)

FEE CATEGORY

AMOUNT
ENCLOSED \$

13. CERTIFICATION. (Must be completed by applicant) THE APPLICANT UNDERSTANDS THAT ALL STATEMENTS AND REPRESENTATIONS MADE IN THIS APPLICATION ARE BINDING UPON THE APPLICANT.

THE APPLICANT AND ANY OFFICIAL EXECUTING THIS CERTIFICATION ON BEHALF OF THE APPLICANT, NAMED IN ITEM 2, CERTIFY THAT THIS APPLICATION IS PREPARED IN CONFORMITY WITH TITLE 10, CODE OF FEDERAL REGULATIONS, PARTS 30, 32, 33, 34, 35, 36, 39 AND 40, AND THAT ALL INFORMATION CONTAINED HEREIN IS TRUE AND CORRECT TO THE BEST OF THEIR KNOWLEDGE AND BELIEF.

WARNING: 18 U.S.C. SECTION 1001 ACT OF JUNE 25, 1948 62 STAT. 749 MAKES IT A CRIMINAL OFFENSE TO MAKE A WILLFULLY FALSE STATEMENT OR REPRESENTATION TO ANY DEPARTMENT OR AGENCY OF THE UNITED STATES AS TO ANY MATTER WITHIN ITS JURISDICTION.

CERTIFYING OFFICER - TYPED/PRINTED NAME AND TITLE

Richard D. Brown, RSO

SIGNATURE

Richard D. Brown

DATE

1/18/97

FOR NRC USE ONLY

TYPE OF FEE	FEE LOG	FEE CATEGORY	AMOUNT RECEIVED	CHECK NUMBER	COMMENTS
			\$		
APPROVED BY				DATE	

124171

JAN 29 1997

RESPONSE TO ITEM 5 OF NRC FORM 313

RADIONUCLIDE	SEALED SOURCE	MAX. ACTIVITY/SOURCE (MILLICURIES)
A. Cs-137	Troxler Elec. Lab. Series 3400	8
B. Am-241:Be	Troxler Elec. Lab. Series 3400	44

AUTHORIZED USE

- A. For use in Troxler Electronic Laboratories 3400 Series gauges to measure moisture/density of construction materials.
- B. For use in Troxler Electronic Laboratories 3400 Series gauges to measure moisture/density of construction materials.
-

POSSESSION LIMIT COMMITMENT

We will confine our possession of licensed material to quantities such that we will not exceed the applicable limits in 10 CFR 30.35(d).

DATA ON REGISTRATION CERTIFICATES

MANUFACTURER/DISTRIBUTOR	REGISTRY NO.	MODEL NO.
Troxler Electronic Laboratories	NC-646-D-130-S	3400 Series

RESPONSE TO ITEM 6 OF NRC FORM 313

Licensed material to be used for measurement of moisture/density of construction materials at depths not to exceed three (3) feet at temporary jobsites anywhere in the United States where the U.S. Nuclear Regulatory Commission maintains jurisdiction for regulating the use of licensed material.

RESPONSE TO ITEM 7 OF NRC FORM 313

The RSO will be Richard D. Brown, E.I.T. Mr. Brown is the Branch Manager of BECC's Maryland branch, has a Bachelor's Degree in Civil Engineering, has completed the course entitled **Radiation Safety for Nuclear Gauge Users** taught by Radiation Technical Services in Birmingham, Alabama (please see Attachment #1), has four years experience operating a nuclear gauge, and is scheduled to attend the RSO Training Course taught by Troxler Electronic Laboratories, Inc. in Research Triangle Park, North Carolina on March 6, 1997.

The RSO's duties and responsibilities will be those listed in Appendix C of this regulatory guide (Draft Regulatory Guide DG-0008).

RESPONSE TO ITEM 8 OF NRC FORM 313

INDIVIDUAL TRAINING CERTIFICATES

Please see Attachment #1.

INITIAL TRAINING COMMITMENT

We will insure that, before an individual is permitted to use a gauge, the individual (a) will have successfully completed a training course which meets the criteria in Part I of Appendix D to this guide (Draft Regulatory Guide DG-0008), (b) will have received copies of and been trained in our operating and emergency procedures, and (c) will have been designated as an authorized user by the RSO.

REFRESHER TRAINING COMMITMENT

We will insure that refresher training will be provided, by the RSO or an instructor whose qualifications are those described in Part II of Appendix D of this Regulatory Guide (Draft Regulatory Guide DG-0008), to all gauge users at intervals not to exceed one year.

RESPONSE TO ITEM 9 OF NRC FORM 313

FACILITIES AND EQUIPMENT

BECC's proposed permanent storage facility is the address listed in **ITEM 2** of this application. It is a multi-unit warehouse in an industrial park. Please see Attachment #2.

BECC's gauges will be used at temporary jobsites and returned to their permanent storage facility at the end of each day. Our facilities are equipped with an alarm system. The locker is kept locked at all times when a gauge is in storage. The gauge carrying cases are locked at all times when in storage. A source lock is kept on the gauges at all times when in storage.

BECC's gauges will be secured by a lock and chain in the bed of a pick-up truck for transportation to temporary jobsites and while not in use at temporary jobsites. They will be controlled by constant surveillance of authorized users at all times when not in storage.

Radiation exposure levels in unrestricted areas will be controlled and monitored to comply with 10 CFR 20.1301.

RESPONSE TO ITEM 10 OF NRC FORM 313

RADIATION SAFETY PROGRAM

Please see Attachment #3.

RESPONSE TO ITEM 11 OF NRC FORM 313

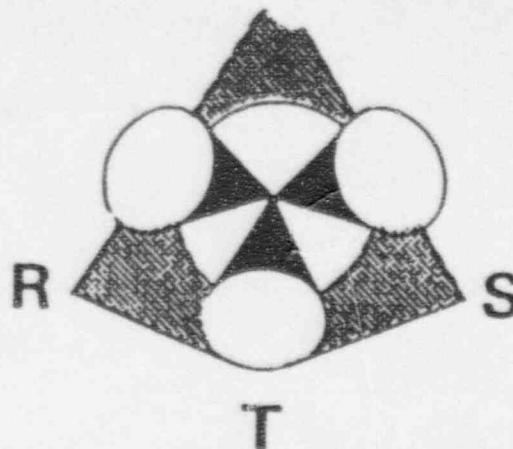
Disposal will be by transfer of the radioactive material to a person who is specifically licensed to receive and process it.

ATTACHMENT #1

ITEMS #7 & #8

Individual User Training Certificates

<u>Name</u>	<u>Title</u>	<u>Experience (yrs)</u>
Richard D. Brown	Branch Manager, RSO	4
George Hays	CMT Division Manager, Corp. RSO	12
David D. Subraj	Project Manager	10
Martin Burford	Technician	3
Tony Schultz	Technician	3
Don Gerred	Technician	22
Craig Treubig	Technician	1
Mike Roy	Technician	1



This is to certify that

RICHARD BROWN

has successfully completed the course entitled

RADIATION SAFETY FOR NUCLEAR GAUGE USERS

provided by

RADIATION TECHNICAL SERVICES & TRAINING

on

January 30, 1993



RTS&T DIRECTOR

SOUTHWESTERN LABORATORIES, INC.

HEREBY CERTIFIES THAT

GEORGE R. HAYS

HAS SUCCESSFULLY COMPLETED THE SOUTHWESTERN LABORATORIES, INC. TRAINING COURSE FOR THE USE OF SHALLOW DEPTH NUCLEAR MOISTURE-DENSITY TEST EQUIPMENT.

SUBJECTS INCLUDED IN THIS COURSE WERE AS FOLLOWS:

Radiology Safety

1. Principles and practices of radiation protection.
2. Leak testing procedures.
3. Mathematics and calculations basic to use and measurements of radioactivity.
4. Biological effects of radiation.
5. Radioactivity measurement standardization and monitoring techniques and instruments.
6. Accident and incident procedures.
7. Procedures for nuclear gauge storage and transportation.
8. General safety precautions.

Gauge Operation

1. Instrument theory
2. Operating procedures
3. Maintenance
4. Field Operation
5. General Safety precautions

W R Stone
CME QUALITY CONTROL MANAGER

01/19/85
DATE

Robert S. Patton
REGIONAL MANAGER

Training Report Moisture/Density Gauges

Technologist: David D. Subraj, C.E.T.

Date trained: June 1987

Branch or Department: Dominion Soil Investigation Inc.

Type of training: Nuclear Densimeter

Duration of training: From 9:00 am to 2:00 pm

The following subjects were covered under this training session:

- ☒ Current regulations of Atomic Energy Control Board
- ☒ Characteristics of radiation
- ☒ Personnel exposure limits
- ☒ Biological effects of radiation
- ☒ Personnel monitoring
 - ☒ Film badge
 - ☐ Other
- ☐ Radiation survey instruments
- ☒ General handling and use of gauges
- ☒ Inspection and maintenance of gauges
 - ☒ Wipe tests
 - ☐ Change in gauge operation
- ☒ Storage of gauges
- ☒ Transportation of gauges
 - ☒ Securing
 - ☒ Department of Transportation requirements
- ☒ Emergency procedures and notification
- ☒ Records and reports
- ☒ General responsibilities
- ☐ Other (explain in detail)

The above-named individual displays a satisfactory understanding of basic radiation safety as it relates to the use of soil moisture/density gauges.

Technologist: David D. Subraj

Instructor: George Ch...

Title: En. Engineer



JIM FOLSOM
GOVERNOR

ALABAMA
DEPARTMENT OF TRANSPORTATION

MONTGOMERY, ALABAMA 36130-3080

G. M. ROBERTS
DIRECTOR

October 26, 1993

BEC Consultants
5221 5th Avenue S
Birmingham, AL 35212

Attn: Shelia Collar

Dear Shelia,

Please be advised by this letter that Mr. Martin Burford attended the Radiological Safety Class given on October 6&7, 1993. Mr. Burford achieved a score of 96 on the examination, where a score of 70 is considered passing.

If you have any questions concerning this matter, please don't hesitate to give me a call.

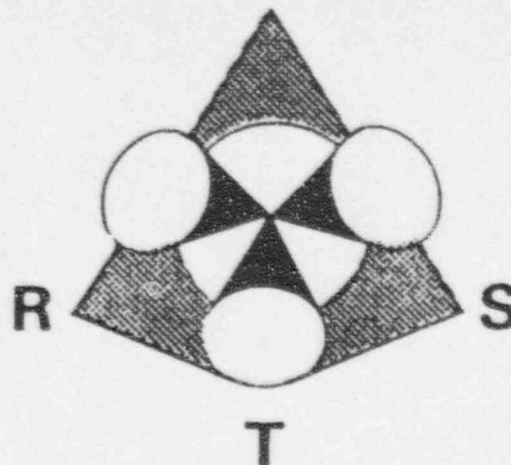
Sincerely,

Chris Edgar
Special Projects Engineer

CFE/ce

cc: File

EC CONSULTANTS INC
OCT 29 1993



This is to certify that

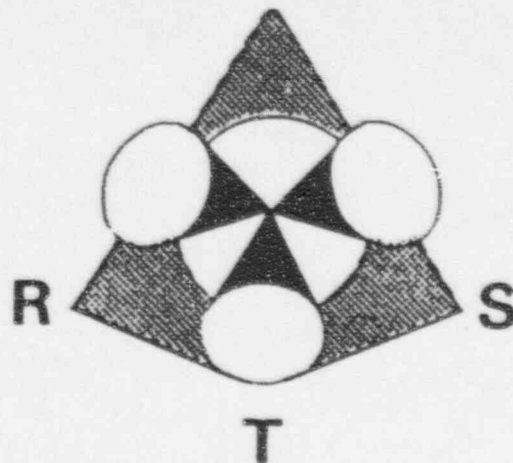
TONY SCHULTZ

has successfully completed the course entitled
RADIATION SAFETY FOR NUCLEAR GAUGE USERS

provided by
RADIATION TECHNICAL SERVICES & TRAINING

on
June 26, 1993


RTS&T DIRECTOR



This is to certify that

DONALD GERRED

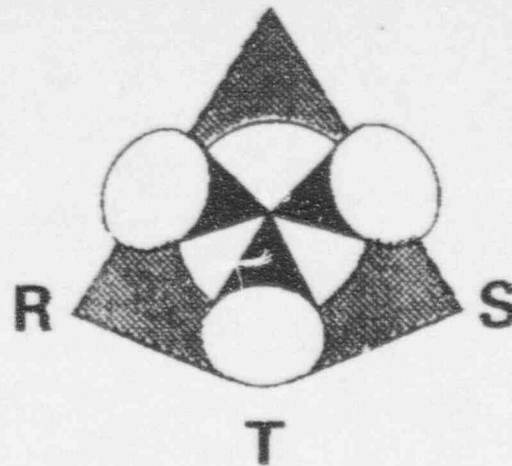
has successfully completed the course entitled
RADIATION SAFETY FOR NUCLEAR GAUGE USERS

provided by
RADIATION TECHNICAL SERVICES & TRAINING

on
July 31, 1993



RTS&T DIRECTOR



This is to certify that

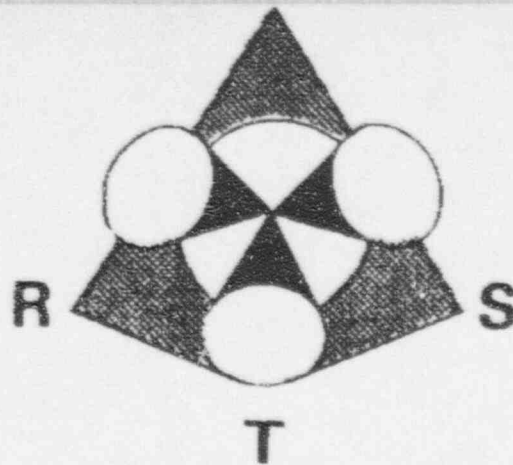
Craig Triubig

has successfully completed the course entitled
RADIATION SAFETY FOR NUCLEAR GAUGE USERS

provided by
RADIATION TECHNICAL SERVICES & TRAINING

on
July 15, 1996

RTS&T DIRECTOR



This is to certify that

Michael Roy

has successfully completed the course entitled
RADIATION SAFETY FOR NUCLEAR GAUGE USERS

provided by
RADIATION TECHNICAL SERVICES & TRAINING

on
July 15, 1996


RTS&T DIRECTOR

205 879 7902

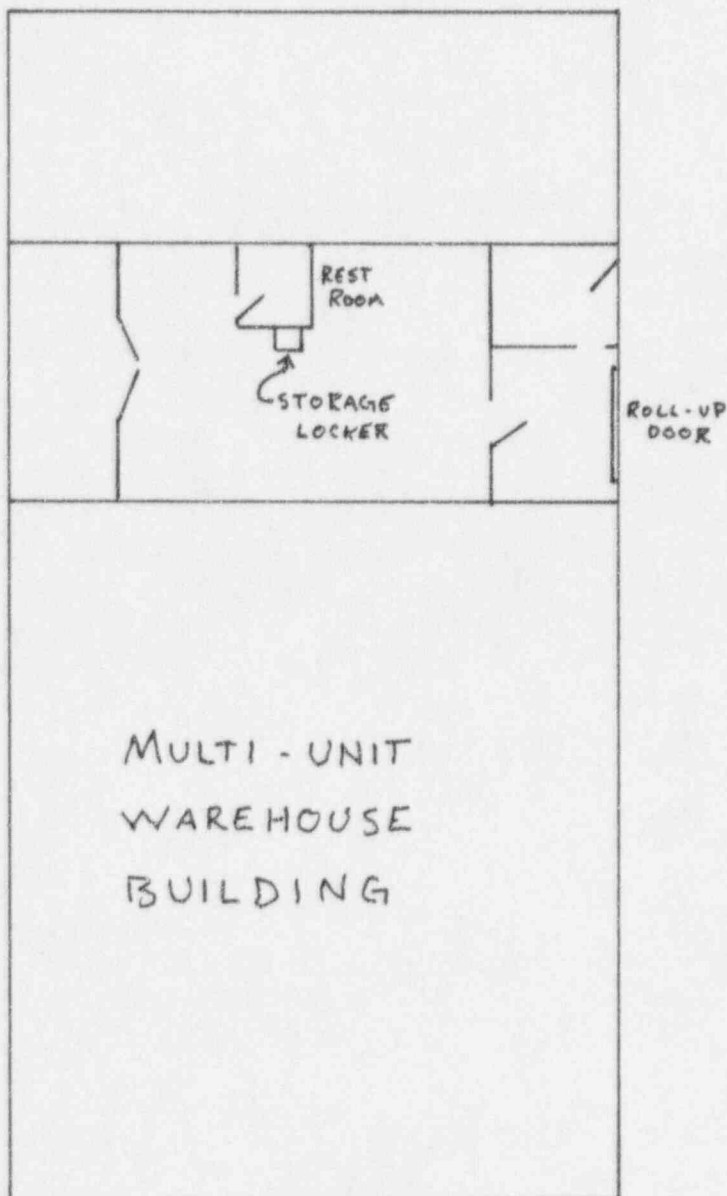
RECEIVED FROM

ATTACHMENT #2

ITEM #9

FACILITIES AND EQUIPMENT

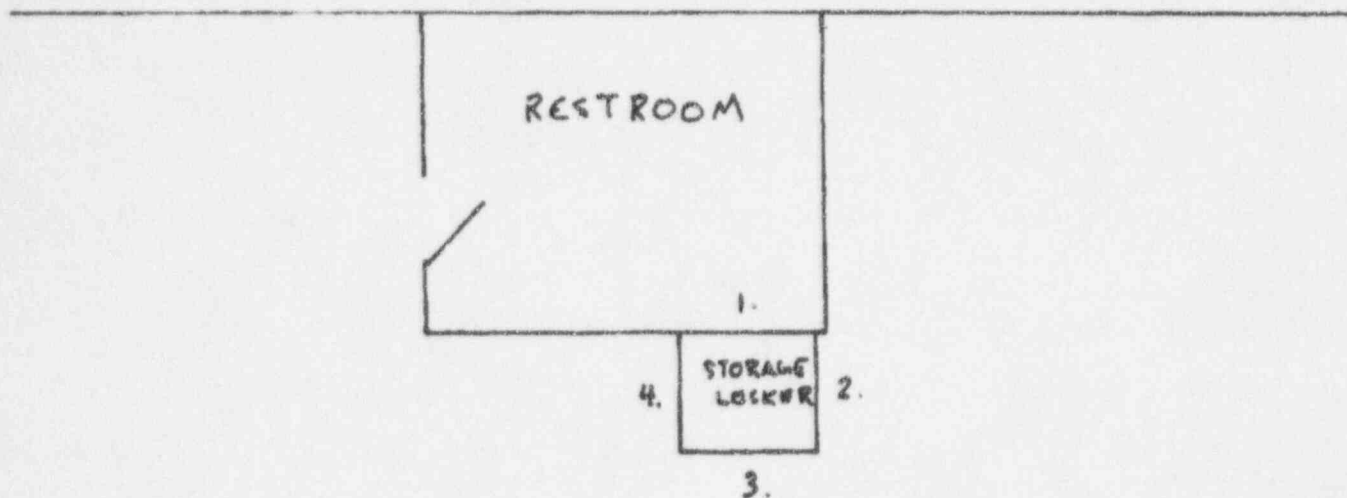
GARFIELD AVENUE



BECC, INC OFFICE
2625 GARFIELD AVE.
SILVER SPRING, MD
20910

NTS

RADIOLOGICAL SURVEY *



* USING TROXLER TROXALERT SURVEY METER
SERIAL # 1509 , CALIBRATED 10/30/95 .

SURVEY READINGS
(mR/Hr)

- 1. < 0.05
- 2. 0.15
- 3. 0.08
- 4. < 0.05

SURVEY DATE:

7/2/96

SIGNATURE

Richard D. Brown

NAME + TITLE

RICHARD D. BROWN, RSO

ATTACHMENT #3

ITEM #10

RADIATION SAFETY PROGRAM

RADIATION SAFETY PROCEDURES

FOR

BECC, INC.

FOR THE

STATE OF ALABAMA

DEPARTMENT OF PUBLIC HEALTH

RADIOACTIVE MATERIAL LICENSE

REVISION NUMBER 6

FEBRUARY 10, 1994

Note:

References in these procedures to the State of Alabama and/or its departments are applicable to NRC regulations, the Maryland Department of the Environment, Radiological Health program and the terms of its licenses.

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I. INTRODUCTION

BECC, Inc. is applying for a license with the State Board of Health, to possess and use the nuclear moisture density (NMD) gauges described in these procedures. Applications for renewal of this license will be filed with the Radiological Health Branch, State of Alabama, thirty (30) days prior to the expiration date of the licensing period. Amendments to this license will be requested as changes occur in the type, use, procedures utilized, and the maximum possession of radioactive materials possessed and used become necessary.

This procedures manual cannot be changed without the administrative approval of Bhate Engineering and the approval of the Radiological Health Branch. Its purpose is to describe the manner in which the nuclear moisture density gauges are being received, stored, transferred, used or otherwise disposed, and also to provide guidance for the operation of its radiation safety program. Unless other procedures are approved in writing, the procedures set forth in this manual must be followed by all personnel at BECC, INC.

II. MANAGEMENT PHILOSOPHY

The **ALARA** concept is one involving every individual working around radiation and essentially means that each person should try to maintain radiation exposures as low as reasonably achievable. This is to reduce unnecessary exposure to themselves and others, no matter how low the radiation exposure levels are.

Those persons authorized by BECC to make its policies and direct its activities have the responsibility of seeing that the **ALARA** concept is applied to employees, visitors, and service personnel. This responsibility will be carried out through:

- A. Employee briefings and safety training in radiation work-related activities which include **ALARA** concepts.
- B. Appropriate planning to ensure that any changes in the location of site facilities, gauge storage areas within facilities, or in the use of equipment associated with the use of the nuclear moisture density (NMD) gauges and which may affect radiation protection will be performed in consultation with the radiation safety officer (RSO).
- C. Delegation of sufficient authority to the RSO to enforce regulations and administrative policies regarding radiation safety.
- D. Continuing management evaluation of the safety program through appropriate management reviews of personnel requirements, budget requirements, and operational efforts to maintain exposures **ALARA**.

All available measures including time, distance, and shielding are to be utilized as standard policy and procedure for work in areas surrounding the storage and use of the NMD gauges.

III. PERSONNEL

Those personnel normally involved with the use and handling of the NMD gauges are the operators of these units. Their activities are directed by an operations manager who sometimes serves as the assistant radiation safety officer (RSO). The qualifications and responsibilities of these personnel are given in the following paragraphs:

- A. **Radiation Safety Officer.** This individual must have received a formal course of instruction in the radiation safety measures surrounding the use of the types of nuclear moisture density gauges which BECC is authorized to possess and use. It is a full time position that is often performed by one of the managers, but may be given to any staff member who is given adequate authority, in addition to training, to manage the radiation safety program. The RSO will act as a liaison between BECC and the Radiological Health Branch, State of Alabama, supplying the necessary information, records, and reports concerning the radiation safety program established under this license. He/she will keep the chief executive officer informed of matters affecting the safety surrounding the possession and use of these radioactive devices.

The functions of the RSO include but are not limited to the following:

1. Submit renewal applications periodically for radioactive material license renewal, as is required to maintain the license and keep it within its expiration period.
2. Ensure that adequate radiation safety instruction is given to the NMD gauge operators and other employees who might have occasion to work in areas in the vicinity of the gauges that are either being used or stored.
3. Submit amendment requests to have new workers added to the radioactive materials license as NMD gauge users, together with supporting evidence of their radiation safety training.
4. Ensure that NMD gauge operators have been authorized by the radioactive materials license before they are allowed to use these gauges.
5. Ensure that proper accountability and control for the use of all of the NMD gauges is provided. This includes:
 - a. Keeping records of their receipt, transfer, disposition, and disposal and reviewing these periodically to see that they can be accounted for.

- b. Performing physical inventories of them periodically. These inventories must be documented.
6. Report the loss of any NMD gauge immediately to the Radiological Health Branch, State of Alabama, and to take action to recover it as soon as possible. This also includes taking corrective action to prevent a reoccurrence of such loss.
 7. Report any radiation incident associated with their use, as required by the Radiation Control Rules of the State of Alabama.
 8. Ensure that proper radiation monitoring equipment is available at each facility office and that each is functional.
 9. Ensure that the available radiation monitoring equipment is calibrated at periodic intervals and only by companies approved to perform them. The interval of calibration should not exceed annual periods.
 10. Ensure that radioactive material possessions limits are not exceeded prior to giving approval regarding the purchase and receipt of any NMD gauge.
 11. Allow staff members the opportunity to discuss suspected radiation safety problems with him/her or the opportunity to discuss such suspected problems with inspectors from the Radiological Health Branch during their visits to the BECC, INC. facility, as is required by Alabama Law.
 12. Formulate emergency procedures and administrative controls as are necessary to maintain a program of operation utilizing safe and appropriate handling techniques, to obtain adequate response, and to provide for effective corrective action.
 13. Ensure that the NMD gauges are properly labeled, that the transport cases of all shipments are properly labeled, and the shipping papers (manifests) have been properly completed to adequately instruct individuals transporting and receiving the units.
- B. **Operations Manager**. This individual should be responsible for directing the work of the NMD gauge operators. Also he/she should be familiar with the safe and proper procedure for NMD gauge use. Many of the safe practices for the use of radioactive materials are no different than for other hazardous agents. By being more familiar with the type of radioactive materials used, this individual will be in a better position to adequately direct, advise, or otherwise assist gauge operators in their work. He/she should notify the RSO of any problems or incidents that occur at the facility involving radiation safety. The operations manager often serves as either the radiation safety officer or the assistant radiation safety officer.

Some of the duties of operations manager include but are not limited to those given below:

1. Inspection and administration, for accuracy and completeness, of shipping documents as these will affect the accountability involved as a result of the receipt, use, transfer, and disposition of the NMD gauges.
2. If any inaccuracies are discovered with the documents of receipt, especially concerning the number of gauges shipped or the amount of radioactive material used within them, this must be immediately reported to the RSO.
3. Report the loss of any of the NMD gauges to the RSO, immediately, and to take action. It creates a potential hazard to the general public.
4. Accepting and documenting any NMD gauges that have been returned from the manufacturer following repair. The documentation should have sufficient information to determine whether the units were returned with the proper paperwork (leak test certifications, etc.)
5. Ensure that NMD gauges are leak tested at required intervals.

C. **NMD Gauge Operators.** These personnel will be more directly involved with the handling of the NMD gauges. It is very important that they receive appropriate instruction in the safe handling of these gauges prior to using them. Remember, that they must also be listed on the radioactive materials license as authorized users of these devices. Their work would occasionally include the use of radiation monitoring equipment. They should be able to demonstrate competence in the manner with which they use the radiation monitoring equipment as well as the NMD gauges themselves. In addition, they are required to be familiar with the requirements of this manual and any special safety instruction given to them. Some of the duties of the NMD gauge operators include but are not limited to those given below:

1. Take appropriate safety measures when working with and around the NMD gauges.
2. Report any suspected radiation safety problems to the Radiation Safety Officer.
3. Make certain that the NMD gauges are properly locked and secured during their transport between job sites. This is particularly important when an open bed truck is used in their transport. Always make sure that the tailgate of the truck is up.

4. Make certain that you have a copy of the following documents while in the possession of a NMD gauge on job sites:
 - a. A copy of the radioactive materials license and;
 - b. The shipping manifest (this should be kept in easy reach of the driver of the transporting vehicle).
 5. Make certain that the NMD gauge has been leak tested within the last six-month (or other leak test interval authorized by the radioactive materials license) period.
 6. Ensure that they are wearing personnel radiation monitoring equipment while they are working with or otherwise handling the NMD gauges. The personnel monitors are to be turned in to the person collecting these at the end of the monitoring period.
- D. **Trainees.** Personnel who have recently received training in a formalized radiation safety course and have received licensed approval to use the NMD gauges will undergo a period of supervised work no less than three days.
- E. **Other Employees.** Employee who work at the BECC facility, such as secretaries, housekeeping personnel, and sales personnel who do not work with the NMD gauges, will be instructed as to the location of radioactive materials storage and any areas around the facility which might be used for any new NMD gauges until given approval by the Radiation Safety Officer. Others will be instructed not to remove any of the NMD gauges from the equipment storage area and that only authorized users and operators of the NMD gauges are allowed to do so.

IV. RECEIPT, TRANSFER, AND DISPOSITION OF NMD GAUGES

Documentation of the receipt of any of the NMD gauges must be maintained and the date of receipt must be noted. Whenever new NMD gauges are received, they should be inspected to ensure that all documentation, including a current leak test certification, is attached. Using the radiation monitor at the facility, the radiation levels at the surface and at a distance of one meter should also be determined and logged into the receipt record. The device model and serial numbers should be recorded along with the types of radioactive material and the serial number of the sealed source capsules. Whenever a NMD gauge is purchased, the seller is required to supply a certificate stating the type of material, date of manufacture, date of measurement, and the types of tests used to determine the integrity of the sealed source capsules and performance under severe conditions. This document should also be retained by BECC, be in its possession at the time of any shipment by common carrier, and this too, should be supplied to any subsequent owner at the time of transfer. Loss of the document could make a legal transfer of ownership difficult or virtually impossible.

In order to transport any NMD gauge by common carrier, the transport container must meet certain tests required by the U.S. Department of Transportation. The certification of these tests is usually on the device evaluation form and will be included with the sealed source certification. This form must be in the possession of the shipper and retained for a period of one year following any shipment by common carrier. The form will describe the types of labels which must be displayed on the container, indicate the Transport Index, which is the exposure rate in mrem/hr at a distance of one meter from the container, and the tests to which the container has been subjected.

Before a NMD gauge is transferred to a subsequent owner or another who would have occasion to possess the gauge, that person must possess a radioactive materials license to possess the gauge. BECC must receive a copy of that license prior to such transfer.

Any time the NMD gauges are transported over public highways, a shipping manifest must accompany them. The manifest, which completed gives the proper shipping name such as "Radioactive Material, Special Form, NOS", class 7, ID# UN2974, the radionuclide such as cs-137 and am-241, the chemical form such as cesium chloride or americium metal, the total activity, package type such as "Type A", the label category such as YELLOW II and the transport index such as 0.1.

The outside of the shipping case must have visible on opposite sides the YELLOW II DOT shipping labels. These shipping labels must give the type of materials, the amounts, and the transport index (which is usually 0.1 for these devices).

BECC is allowed to dispose of the NMD gauges only by transfer to persons authorized to receive them. These persons may be owners of other NMD gauges authorized to possess them, persons authorized to dispose of them by approved methods (such as those conducted by a radioactive waste disposal facility), or NMD gauge manufacturers.

V. STORAGE & SECURITY MEASURES AT FACILITY & TEMPORARY JOB SITES

The storage area must be posted with a "Caution Radioactive Materials" sign. Security measures must be provided for the NMD gauges while in storage and at such other times during their transport and use. These gauges must be stored while the source rod is in the safe and locked position. Also the storage location should be locked from unauthorized use, particularly when no personnel are present within the facility. It is recommended that locking of the storage area is preferable, but security can be as simple as having responsible personnel present in the area who are aware of the security requirements for these gauges. If these latter measures break down then more stringent measures of lock and key must be utilized at all times. Any loss of a NMD gauge must be reported to the Radiological Health Branch, State of Alabama by the Radiation Safety Officer, as soon as this is discovered. Following the reporting of such loss, the RSO will fully investigate the

incident, make necessary and reasonable attempts to recover the gauge, and take appropriate corrective action to prevent a reoccurrence of it.

VI. FACILITY RADIATION SAFETY RULES

1. Three primary safety parameters should be utilized during the transport, storage and handling of any of the NMD gauges- **time, distance, and shielding.**
 - a. Time - minimize the amount of time necessary in performing any task associated with the direct handling of the NMD gauge.
 - b. Distance - whenever possible, keep a sufficient distance from the NMD gauge until closer handling is required by the nature of the task. NO one should "mill around" areas where the NMD gauges are stored, but should keep their distance.
 - c. Shielding - utilize the shielding of the gauge itself (tungsten and lead) between the sealed sources and yourself, if a significant amount of time must be spent in the vicinity of these sources, such as leaving the source rod in the safe position during drill-hole and gauge alignment. Also the gauge housing should be used for protection during the wipe testing of the lower gauge surfaces (end of source rod for the cs-137 sealed source and at the surface of the label on the gauge body which is near the am-241 sealed source). If any servicing of the gauge is authorized by the radioactive materials license which would involve the complete removal of the source rod from the gauge (such as would occur during bearing replacement), then a lead container should be used for protection (preferably at least one inch thick).
2. Keep the NMD gauges within the storage area secured from unauthorized removal. This means that the storage area must be locked when no one is present to control the storage area.
3. Keep visitors and onlookers away from the NMD gauges during their use. This is to keep exposures to these persons ALARA. In keeping the curious away, do not frighten them.
4. Do not disassemble any of the NMD gauges or try to repair them in any manner, unless authorized by the radioactive materials license. If any servicing is warranted, it should be clear which types are allowed.

5. Check the NMD gauges frequently to ensure that they are all properly accounted for. The temporary transfer of any gauge to another licensee or to the manufacturer for repair should be noted on the completed inventory forms.
6. Place the handle of the surface gauge in the safe position when it is not in actual use.
7. Retract the depthprobe into its shield when it is not in actual use.
8. Do not intentionally expose any source in air.
9. Wear personnel radiation monitoring badges routinely. Do not store them in heated environments, glove compartments, or even in humid areas. Try to keep them from going through a washer and dryer (note when these instances occur because the badge will then give a false reading).
10. During transit in a vehicle, never place the gauge on the seat of an automobile or truck. Place it in the trunk or back of a truck as far away as possible from passengers.
11. When making a standard or measurement count, never sit or stand in close proximity to the gauge (use inverse-square distance to reduce the exposure rate and thus the total exposure to you). You not only receive increased radiation exposure, but due to the amount of water in your body, it may cause some error in the moisture reading. This would be especially true if there were several people around or close by it.

VII. RADIATION SURVEYS

- A. **Radiation Levels.** Radiation levels **in the vicinity of** and **surrounding** NMD gauge storage should be determined. The maximum radiation levels at the surfaces and at distances of one meter from **received** packages of gauge shipments should also be determined and documented. Once the initial surveys around each NMD gauge and the storage area (under conditions for the number of gauges normally stored there), is performed and documented, this survey can be used for later reference without having to resurvey each of the devices and the storage areas. The radiation survey meters used for surveys must be calibrated within a twelve month period. This calibration must be performed by persons licensed to do so by the Radiological Health Branch, another Agreement State, or the Nuclear Regulatory Commission. Records of calibration should be maintained for inspection.

B. Leak Testing of the NMD Gauges.

The NMD gauges are normally required to be leak tested every six months. These tests are performed using the wipe test procedure given in the appendices. The levels of removable contamination, as shown by the leak test certificate, must not exceed 0.005 microcuries if the gauge is to be used. If the levels of contamination exceed this level, BECC must provide for its repair and decontamination by persons authorized to do so. A report of the leakage must be filed with the Radiological Health Branch, State of Alabama. The NMD gauge cannot be used later until another leak test certificate shows that the levels of removable contamination are less than the limit given herein. Leak test certificates must be maintained for inspection.

C. Physical Inventories of NMD Gauges.

Conduct periodic inventories of the NMD gauges to ensure that they are all properly accounted for. The temporary transfer of any gauge to another licensee or to the manufacturer for repair should be noted on the completed inventory forms.

The inventory record must indicate the location of the device at the time the physical inventory is taken and should be signed and approved by the person responsible for the inventory. This record should be maintained along with a current list of all of the NMD gauges.

D. Personnel Monitoring

BECC requires that all gauge operators wear either monthly or quarterly personnel radiation monitors while using and handling the NMD gauges. These personnel monitoring devices will be worn only for the time interval in which they were intended when issued; that is, for example, a February badge will be worn only in February. It has been recommended that quarterly TLDs would be more appropriate, since these are more accurate than film badges and the expected radiation exposures to personnel are reasonably small.

The personnel radiation monitors will be issued by the Radiation Safety Officer (or by a designate) at the beginning of the monitoring interval and will be collected at the end of the same. Personnel monitoring records will be maintained permanently, as is required by regulation.

If an individual's radiation dose, as shown by the personnel monitoring report, exceeds the quarterly limit of 1250 millirems whole body radiations, the incident must be investigated and reported to the Radiological Health Branch in the format

prescribed in the Radiation Control Rules. Since the likelihood of this occurrence is fairly remote, the specific reporting requirements are not given herein.

The requirements for personnel monitoring from external radiation sources are addressed in Rule 26.12.01.01. When handling sources of radiation: (1) exposure to the whole body, (2) head and trunk, (3) active blood forming organs, (4) lens of eyes, (5) gonads, and (6) the hands are of most concern.

State Rule 26.12.01.01 establishes exposure limits for occupational workers. These limits are given in Table 1 on the following page.

PERMISSIBLE OCCUPATIONAL DOSES

Part of Body	mRems Per Calendar Quarter
Whole body; head and trunk, active blood-forming organs; lens of eyes, or gonads	1250
Hands and forearms; feet and ankles	18750
Skin of Whole Body	7500

TABLE 1

VIII. POSTING AND LABELING

The storage areas, at facilities where the NMD gauges are stored, will be posted with a "Caution, Radioactive Materials" sign. Each of them will also be visibly labeled as to the type and the amount of radioactive material (with assay date) contained therein together with the caution radiation symbol, as specified within the regulations.

IX. INSTRUCTION OF WORKERS

The regulations of the Nuclear Regulatory Commission and the Radiological Health Branch, State of Alabama require that individuals working with radioactive material receive instruction in the fundamentals of the types of materials covered by the radioactive materials license, in the safety measures they need to take to reduce their exposure to the radiation involved, in the written radiation safety procedures, and in the regulations covering the radiation involved.

The regulations also require the posting of Agency Form X, which is a "Notice to Employees", informing them of their right to know more information concerning the radiation and the radioactive materials used in the restricted areas of the facility. This notice must be posted in areas which the employees will notice near and in the restricted areas in which they work. A copy of the Alabama Regulations For Control of Radiation is available in the BECC, INC. office for reading by company personnel, and a notice alerting employees of this will also be posted in the same area as the "Notice to Employees."

X. LICENSING ACTIONS

Amendments to a license become necessary and must be received prior to the following situations:

- a. Before using radioactive material for a method of use or with a type of source not permitted by the current license;
- b. Before permitting any new personnel to work as an authorized user under the license;
- c. Before changing the Radiation Safety Officer;
- d. Before receiving radioactive material in excess of the amount authorized on the license;
- e. Before changing statements, representations, and procedures which are incorporated in the license.

The application to amend a license may be by letter and must be completed and signed in the same manner as an initial application except that pertinent information submitted on previous applications may be incorporated by reference, provided that such reference is clear and specific.

indicating the date, page, and paragraph. In applying for an amendment, the written request should state which item(s) of the radioactive material license are to be amended and what changes need to be made in each item.

To add calibration and reference sources to the license, amendment requests must contain the name of the manufacturer of the source, the model number of the source, the radioisotope, the activity, and the proposed use of the source.

Appropriate fees must accompany all amendment requests.

A radioactive material license is normally issued for a period of four (4) years. A complete application (Form RM appropriately supplemented) should be submitted at least thirty (30) days prior to the expiration date of the license. On the items on which there have been no change, the information may be restated.

NOTE: Keeping this manual current will greatly simplify renewal procedures as a current copy may be submitted at renewal in lieu of re-writing this entire manual. Additions and deletions must be made, if needed, prior to submittal with the renewal application. Any changes must be referenced by item and page number with the renewal application.

Renewal applications and amendment requests should be sent to:

Maryland Department of the Environment
Radiological Health Program
2500 Broening Highway
Baltimore, Maryland 21224

Appropriate renewal fees (if applicable) must accompany all renewal applications.

XI. EMERGENCY PROCEDURES

In responding to any emergency situation involving a NMD gauge, the gauge operator must protect human life first, and then take measures to protect property from damage which might result due to the nature of the incident.

It is highly unlikely that any radioactive contamination will be spread into the environment in the event of a severe fire or accident. It must be remembered that the radioactive materials with the gauge are doubly encapsulated within two stainless, welded containers. Furthermore, in most situations, these are usually secured within the gauge enclosure. More than ninety-five percent of the time, the source rod will be latched in the safe position.

BECC, INC. must, however, plan for the worst case scenario where there might be a loss of containment leading to a contaminating incident.

The first action to be taken in such an event is to keep other people away from the accident site.

From a safe distance of approximately ten feet, inspect the gauge for damage, checking particularly to see if the source rod is still either safely in place within the gauge, or if it is unbroken and still attached to the gauge. The gauge may have to be turned over to view the source area. Try not to walk through the area where the gauge was pushed or pulled when the accident occurred (this is to prevent any spread of possible contamination). If the source rod is still latched in the exterior position but appears to be intact, try to retract it to the safe position. If this is easily done, latch it in the safe position. If the damage appears to be only superficial, check the electronics to see if a count can be obtained with the detectors while the gauge is in the safe position. Then lock it and then return it to the storage container. After securing it, call the Radiation Safety Officer, describing what occurred and the actions that were taken. The RSO will plan to have the sealed sources leak tested before any further work is done with the gauge, and may have to call the manufacturer and arrange to have the gauge repaired.

If the source rod has been broken into but the source itself does not appear to be physically damaged, obtain a plastic bag from the transporting vehicle and while wearing a pair of leather gloves, pick up the source rod from the end away from the source, and place it inside the plastic bag. It should then be placed within a shielded container or pushed back into the gauge if possible.

Then secure both the source rod and the gauge housing, and call the RSO, describing what occurred and the actions that were taken. The RSO will give you guidance as to what further measures should be taken. At this point, the RSO will notify the Radiological Health Branch and explain what happened. Then the RSO will arrange to have the gauge and the area of the accident site surveyed with one of the radiation survey meters at the nearest facility and then plan to have the sealed sources in the gauge leak tested. The RSO (or the Assistant Radiation Safety Officer in case the RSO can't be reached) will have to go to the accident site and investigate the incident. The RSO may even have to meet with one of the Radiological Health Branch inspectors who might be

dispatched to the accident site. Later, the RSO will have to call the manufacturer and arrange to have the gauge shipped to them for repair or disposal. Do not ship the gauge to the manufacturer without their approval or knowledge.

If the gauge is completely broken apart, severely burned, severely crushed with parts strewn around, or the source area is visually damaged, the following course of action should be taken:

1. Freeze the site (call out to have the vehicle which caused the accident to stop) have its driver walk away from and stay away from the damage area. Then rope off the damage site to a distance of approximately ten (10) feet around it. Do not walk through the area of the damage (if radioactive material is loose, it might be spread to other areas).
2. Call the facility office and have the RSO notified of the incident. If the RSO or his assistant (ARSO) can't be reached, have one of the other gauge operators bring a radiation monitor to the accident site. Consulting the list of emergency telephone numbers in Section XIII of these procedures, calls may have to be made to others who might be able to provide assistance. The gauge operator or the RSO may enlist the aid of a local radiation consultant for additional assistance. The objective is to get an expert radiation technician to the accident site with an operating survey meter who can determine if the radioactive material is lost or is intact. Also call the Radiological Health Branch and inform them of what has occurred and what arrangements have already been made.
3. If the assistance of a radiation expert is obtained (or one of the members of the Radiological Health Branch can quickly respond), he or she will determine whether the site is safe, determine how much radiation exposure has occurred to personnel, will help provide for the safe removal of (1) radioactive contamination from the accident site if there is any and (2) the remains of the gauge. The same consultant could also be involved with the final survey of the remains and preparation of the radioactive contamination and these for shipment back to the factory for disposal or repair, if possible.
4. The RSO and/or members of the Radiological Health will respond and investigate the incident, determine the extent of any contamination or exposure to radiation, and determine necessary corrective actions to prevent a recurrence. The RSO will have the personnel radiation monitors of gauge operators involved with the accident sent in for immediate processing. The RSO will probably have to prepare and file a report of his investigation, findings, and possible corrective actions to the Radiological Health Branch within 30 days following the accident.

XII. LEAK TEST PROCEDURE

Regulations require that sealed sources be tested every six months (or other intervals if approved) to ensure that there is no significant amounts of removable contamination from their surfaces (or surfaces of closest access which might become contaminated as a result of a leaking source). This is to prevent contamination of personnel and other equipment. Absorption of radioactive material into the body is the most severe accident that can occur in the use of the NMD gauges. There is little likelihood that this would occur, but it is still best to prevent that possibility by periodic testing.

This test may be performed using a cotton Q-tip swab, a solvent such as ethanol (water may be used), a plastic envelope, and mailing packet. Only persons authorized by the Bureau of Radiological Health Branch, by other Agreement States, or by the NRC may perform the actual determination and certify the contents of the wipe sample after use.

Since the user does not have to access the actual surface of the sealed source capsule, regulations allow the wipe to be made on a surface of the NMD gauge that is likely to be contaminated by a leaking source. Remember that there are two sources in these gauges. The gamma source is mounted in the source rod and the most accessible location to wipe is the hole in the case through which the rod extends in normal use. The neutron source is mounted in a holder inside the case just forward of the main circuit board. Its location is covered by a radioactive material warning label. The edge of the label is the most accessible location to wipe.

Most persons authorized to leak test these sources will allow the same wipe to be used to check both sealed sources. If contamination above the allowed limits is found, however, both sources would have to be rechecked to determine which source was leaking and the amount of contamination on each of the surfaces. It should be noted that liquid scintillation counting is normally used to determine the extent of the residual contamination on wipe samples, and it is not possible to distinguish between the two distinctly different sources with this equipment. An alpha counter could be used, but the company performing the service must be notified when you wish to determine the extent of alpha contamination (from am-241) and beta contamination (from cs-137) separately from the same wipe sample and the resulting charge for this test will be greater. Since the vast majority of leak tests performed on these devices have shown no contamination, the difference is purely academic. If no contamination is discovered, it takes care of both cases.

First, fill out the information form normally supplied with a leak test kit, including the gauge model and serial number, the type of radioactive materials and the model and serial numbers of the respective types. Include the owner's name and the address to which the leak test certificate is to be returned.

Wet the cotton swab with the solvent. Make certain that other personnel are behind you and away from the NMD gauge, and then lay it on its side with the base away from you and other personnel,

so that the case provides a shield. Handling the opposite end of the Q-tip from the cotton swab (or long-handled tongs when using filter paper to take the wipe), wipe the rim of the hole thoroughly with the swab. After wiping a surface for contamination, do not touch the paper with your fingers. Treat it as potentially contaminated with loose radioactive material.

Still holding the Q-tip swab with one hand, place the gauge in the upright position. Remove the front panel and locate the label over the am-241 sealed source. Again using the swab, wipe the edges of the label with the wetted swab. After air drying, place the swab in the plastic envelope and seal it.

Place the plastic envelope and the properly completed form in a separate envelope and mail it to the leak test company. BECC, INC. will be notified if the leak testing indicates a removable activity in excess of 5 nCi (0.005 uCi) which is the legal maximum allowable. An activity in excess of 1.0 nCi will also likely result in a request to rewipe the sources.

If a positive test occurs (in excess of 5 nCi) the gauge must be removed from service, decontaminated, and the source repaired or replaced before the gauge may again be used. There will be reports to file after notification of the proper authorities within 24 hours. The leak test reports from the leak test company must be kept on file for inspection by the Radiological Health Branch, State of Alabama.

XIII. IMPORTANT TELEPHONE NUMBERS

Troxler Factory - EMERGENCY (919) 549-8661

Humboldt Factory - EMERGENCY (800) 992-4589

Richard D. Brown
Radiation Safety Officer
Work: (301) 587-5208
Home: (410) 997-8812

George Hays
Corporate Radiation Safety Officer
Work: (205) 879-7899
Home: (205) 590-0942

M. Lisa Kirby
President
Work: (205) 879-7899
Home: (205) 823-4802

NUCLEAR REGULATORY COMMISSION

Emergency Operations Center (301) 816-5100

DISTRICT OF COLUMBIA

National Response Center (202) 426-2675

MARYLAND

Department of the Environment
Bus. Hrs.: (410) 613-3300
Emergency: (410) 243-8700

VIRGINIA

Bureau of Radiological Health (804) 786-5932

ALABAMA

Division of Radiation Control (205) 613-5391

PROCEDURE FOR RECEIPT AND OPENING OF PACKAGE CONTAINING RADIOACTIVE MATERIALS (I.E., SOIL MOISTURE-DENSITY GAUGES)

I. Purpose

To provide guidelines for receipt and opening of packages containing radioactive materials (i.e., Soil/Density Gauges).

II. Scope

This procedure provides requirements and guidance to individuals (office RSO for Soil Density Gauges) who have the responsibility for receipt and opening of packages containing soil density gauges.

III. Requirements

- A. An area away from general work areas shall be designated for deposit and opening of packages containing soil density gauges.
- B. When a gauge is ordered, the vendor/supplier is requested to furnish the office RSO for Soil Density Gauges the name of the carrier.
- C. The carrier shall be instructed to notify the office RSO when the package is to be delivered, or if the package is to be picked up at the carrier's terminal, make arrangements to be notified by the carrier of the arrival of the package at the time of its arrival. If the package is to be picked up from a carrier's terminal, it shall be picked up as expeditiously as possible upon receipt of notification from the carrier. Receipt or pick-up of packages will be during normal working hours (8:00 a.m. - 5:00 p.m.) Monday through Friday unless some special prior agreement has been made.
- D. Upon receipt at the laboratory, the package shall be taken directly to the designated area for inspection and opening of packages containing soil density gauges. The package must be maintained under constant surveillance or control until the gauge is placed in the designated storage room.

- E. If upon inspection there is no evidence of damage to the package, the gauge shall be removed and taken to the designated storage room. The gauge shall be locked in its safe or storage position and stored in its approved transportation case when maintained in the storage room.
- F. It is highly unlikely that either of the radiation sources contained by the gauge would ever be out of the shielded position due to any damage to the transportation package/case caused by mishandling by the carrier, but if the package/case is damaged, it should be monitored with a survey meter to verify the manufacturer's Gamma Radiation profile. When it has been verified that the soil density gauge has not sustained any damage, it shall be placed in the designated storage room.
- G. In the event that during shipment the gauge is physically damaged to the extent that the source shielding could possibly be compromised, immediately notify, by telephone, mailgram, or facsimile, the final delivering carrier and the jurisdictional agency. Also, it would be advisable to notify the manufacturer of the gauge and solicit the manufacturer's advice/assistance. Other individuals who should be notified are: George Hays, Corporate RSO and Rajendra Gondhalekar, Corporate Assistant RSO.
- H. Addresses and telephone numbers for notification purposes are listed following:

<u>Agency or Individual</u>	<u>Address</u>	<u>Telephone No.</u>
Alabama State Board of Health Radiation Ctrl. Division	434 Monroe St. Montgomery, AL 36130-1701	(205) 613-5391
Troxler Electronic Laboratories, Inc.	P. O. Box 12067 Research Triangle Park, North Carolina 27709	(919) 549-8661
Maryland Dept. of Environ- ment	2500 Broening Highway Baltimore, Maryland 21224	(410) 631-3000

Agency or Individual**Address****Telephone No.**

U.S. NRC

Atlanta, GA

(404) 331-5624

George Hays
Rajendra GondhalekarBECC
2704 20th Street South
Birmingham, AL 35209

(205) 879-7899

IV. Documentation

- A. Acknowledgment of Receipt - A copy of the carrier's waybill, signed and dated by the individual receiving the package, shall be maintained in the radiation record's file for soil density gauges.
- B. A signed and dated copy of any package survey meter monitor readings shall be maintained in the radiation records file for soil density gauges.

OFFICIAL RECORD COPY

ML 10

124171

BETWEEN:

LICENSE FEE MANAGEMENT BRANCH, ARM
AND
REGIONAL LICENSING SECTIONS

(FOR LFMS USE)
INFORMATION FROM LTS

PROGRAM CODE: 03121
STATUS CODE: 3
FEE CATEGORY: _____
EXP. DATE: 0
FEE COMMENTS: _____
DECOM FIN ASSUR REQD: _____

LICENSE FEE TRANSMITTAL

A. REGION I

1. APPLICATION ATTACHED

APPLICANT/LICENSEE: BIRMINGHAM ENGINEERING&CONST.CONSL
RECEIVED DATE: 970129
DOCKET NO: 3034352
CONTROL NO.: 124171
LICENSE NO.:
ACTION TYPE: NEW LICENSEE

2. FEE ATTACHED

AMOUNT: \$550.00
CHECK NO.: 004234

3. COMMENTS

SIGNED
DATE

M. A. Perkins
1/29/97

B. LICENSE FEE MANAGEMENT BRANCH (CHECK WHEN MILESTONE 03 IS ENTERED 1)

1. FEE CATEGORY AND AMOUNT: 3P 8570

2. CORRECT FEE PAID. APPLICATION MAY BE PROCESSED FOR:

AMENDMENT _____
RENEWAL _____
LICENSE ✓

3. OTHER _____

SIGNED
DATE

Log	<u>Feb 5</u>
Remitter	
Check No.	<u>004234</u>
Amount	<u>8570</u>
Fee Category	<u>3P</u>
Type of Fee	<u>APP</u>
Date Check Filed	<u>2/19/97</u>
Date Completed	<u>2/19</u>
By:	<u>ET</u>

1997 FEB 18 AM 10:03