

FORM NRC-313 I (1-79) 10 CFR 30		U.S. NUCLEAR REGULATORY COMMISSION		1. APPLICATION FOR: <i>(Check and/or complete as appropriate)</i>	
<b>APPLICATION FOR BYPRODUCT MATERIAL LICENSE INDUSTRIAL</b>				a. NEW LICENSE  b. AMENDMENT TO: LICENSE NUMBER 34-18893-01  c. RENEWAL OF: LICENSE NUMBER	
See attached instructions for details.  Completed applications are filed in duplicate with the Division of Fuel Cycle and Material Safety, Office of Nuclear Material Safety, and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555 or applications may be filed in person at the Commission's office at 1717 H Street, NW, Washington, D. C. or 7915 Eastern Avenue, Silver Spring, Maryland.				X	
2. APPLICANT'S NAME (Institution, firm, person, etc.) ATEC Associates, Inc. Ohio District  TELEPHONE NUMBER: AREA CODE - NUMBER EXTENSION (513) 489-1221			3. NAME OF PERSON TO BE CONTACTED REGARDING THIS APPLICATION Larry A. Jeffers, Vice Pres.-OH Dist. Mgr.  TELEPHONE NUMBER: AREA CODE - NUMBER EXTENSION (513) 489-1221		
4. APPLICANT'S MAILING ADDRESS (Include Zip Code) 11306 Tamarco Drive Cincinnati, Ohio 45242			5. STREET ADDRESS WHERE LICENSED MATERIAL WILL BE USED (Include Zip Code) 1) Main Office Address 2) 2718 Linden Avenue, Dayton, OH 45203 3) Temporary jobsites of applicant on various construction projects in Ohio, Indiana, Kentucky, and West Virginia.		
(IF MORE SPACE IS NEEDED FOR ANY ITEM, USE ADDITIONAL PROPERLY KEYED PAGES.)					
6. INDIVIDUAL(S) WHO WILL USE OR DIRECTLY SUPERVISE THE USE OF LICENSED MATERIAL <i>(See Items 16 and 17 for required training and experience of each individual named below)</i>					
FULL NAME			TITLE		
a. Robert T. Stickney, P.E.			Operations Manager		
b. Thomas R. Baker			Testing Supervisor - Cincinnati		
c. Karl Jund			Testing Supervisor - Dayton		
7. RADIATION PROTECTION OFFICER  Robert T. Stickney, P.E.			<i>Attach a resume of person's training and experience as outlined in Items 16 and 17 and describe his responsibilities under Item 15.</i>		
8. LICENSED MATERIAL					
L I N E  NO.	ELEMENT AND MASS NUMBER  A	CHEMICAL AND/OR PHYSICAL FORM  B	NAME OF MANUFACTURER AND MODEL NUMBER <i>(If Sealed Source)</i>  C	MAXIMUM NUMBER OF MILLICURIES AND/OR SEALED SOURCES AND MAXIMUM ACTI- VITY PER SOURCE WHICH WILL BE POSSESSED AT ANY ONE TIME  D	
(1)	Cesium 137	Sealed Capsule	Campbell Pacific Nuc CPN 131 MC-1 Portapro	8 millicuries per source - max 5 sources	
(2)	Americium 241 Be	Sealed Capsule	Campbell Pacific Nuc CPN 131 MC-1 Portapro	40 millicuries per source - max 5 sources	
(3)	Cesium 137	Sealed Capsule	Troxler 3401/3411 Compac	10 millicuries per source - max 5 sources	
(4)	Americium 241:Be	Sealed Capsule	Troxler 3401/3411 Compac	50 millicuries per source - max 5 sources	
DESCRIBE USE OF LICENSED MATERIAL E					
(1)	Lines 1 and 2 - Material to be used in Campbell Pacific Nuclear Corporation Model				
(2)	MC Series portable nuclear gauges to measure moisture and/or surface density of materials.				
(3)	Lines 3 and 4 - Material to be used in Troxler Electronic Laboratories, Inc. Model				
(4)	3401 or 3411 Compac portable nuclear gauges to measure moisture and/or surface density of materials.				

### 9. STORAGE OF SEALED SOURCES

LINE NO.	CONTAINER AND/OR DEVICE IN WHICH EACH SEALED SOURCE WILL BE STORED OR USED. A.	NAME OF MANUFACTURER B.	MODEL NUMBER C.
(1)	Surface Density Gauge	Troxler	3401/3411
(2)	Surface Density Gauge	Campbell	MC-1/MC2
(3)			
(4)			

### 10. RADIATION DETECTION INSTRUMENTS

LINE NO.	TYPE OF INSTRUMENT A	MANUFACTURER'S NAME B	MODEL NUMBER C	NUMBER AVAILABLE D	RADIATION DETECTED (alpha, beta, gamma, neutron) E	SENSITIVITY RANGE (milliroentgens/hour or counts/minute) F
(1)	N/A					
(2)						
(3)						
(4)						

### 11. CALIBRATION OF INSTRUMENTS LISTED IN ITEM 10

<input type="checkbox"/> <b>a. CALIBRATED BY SERVICE COMPANY</b> NAME, ADDRESS, AND FREQUENCY  <p style="text-align: center;">Manufacturer Only</p>	<input type="checkbox"/> <b>b. CALIBRATED BY APPLICANT</b> <i>Attach a separate sheet describing method, frequency and standards used for calibrating instruments.</i>
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### 12. PERSONNEL MONITORING DEVICES

TYPE (Check and/or complete as appropriate.) A	SUPPLIER (Service Company) B	EXCHANGE FREQUENCY C
<input checked="" type="checkbox"/> (1) FILM BADGE  <input type="checkbox"/> (2) THERMOLUMINESCENCE DOSIMETER (TLD)  <input type="checkbox"/> (3) OTHER (Specify): _____  	R. S. Landauer Company Glenwood Science Park Glenwood, Illinois 60425 (312) 755-7000	<input checked="" type="checkbox"/> MONTHLY  <input type="checkbox"/> QUARTERLY  <input type="checkbox"/> OTHER (Specify): _____  

### 13. FACILITIES AND EQUIPMENT (Check where appropriate and attach annotated sketch(es) and description(s).)

- ☐ a. LABORATORY FACILITIES, PLANT FACILITIES, FUME HOODS (Include filtration, if any), ETC.  
☒ b. STORAGE FACILITIES, CONTAINERS, SPECIAL SHIELDING (fixed and/or temporary), ETC.  
☐ c. REMOTE HANDLING TOOLS OR EQUIPMENT, ETC.  
☐ d. RESPIRATORY PROTECTIVE EQUIPMENT, ETC.

### 14. WASTE DISPOSAL

a. NAME OF COMMERCIAL WASTE DISPOSAL SERVICE EMPLOYED

b. IF COMMERCIAL WASTE DISPOSAL SERVICE IS NOT EMPLOYED, SUBMIT A DETAILED DESCRIPTION OF METHODS WHICH WILL BE USED FOR DISPOSING OF RADIOACTIVE WASTES AND ESTIMATES OF THE TYPE AND AMOUNT OF ACTIVITY INVOLVED. IF THE APPLICATION IS FOR SEALED SOURCES AND DEVICES AND THEY WILL BE RETURNED TO THE MANUFACTURER, SO STATE

Source to be returned to manufacturer for all disposal.

# INFORMATION REQUIRED FOR ITEMS 15, 16 AND 17

Describe in detail the information required for Items 15, 16 and 17. Begin each item on a separate page and key to the application as follows:

15. **RADIATION PROTECTION PROGRAM.** Describe the radiation protection program as appropriate for the material to be used including the duties and responsibilities of the Radiation Protection Officer, control measures, bioassay procedures (if needed), day-to-day general safety instruction to be followed, etc. If the application is for sealed source's also submit leak testing procedures, or if leak testing will be performed using a leak test kit, specify manufacturer and model number of the leak test kit.
16. **FORMAL TRAINING IN RADIATION SAFETY.** Attach a resume for each individual named in Items 6 and 7. Describe individual's formal training in the following areas where applicable. Include the name of person or institution providing the training, duration of training, when training was received, etc.
  - a. Principles and practices of radiation protection.
  - b. Radioactivity measurement standardization and monitoring techniques and instruments.
  - c. Mathematics and calculations basic to the use and measurement of radioactivity.
  - d. Biological effects of radiation.
17. **EXPERIENCE.** Attach a resume for each individual named in Items 6 and 7. Describe individual's work experience with radiation, including where experience was obtained. Work experience or on-the-job training should be commensurate with the proposed use. Include list of radioisotopes and maximum activity of each used.

## 18. CERTIFICATE

(This item must be completed by applicant)

The applicant and any official executing this certificate on behalf of the applicant named in Item 2, certify that this application is prepared in conformity with Title 10, Code of Federal Regulations, Part 30, and that all information contained herein, including any supplements attached hereto, is true and correct to the best of our 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.

a. LICENSE FEE REQUIRED: *17.84 \$1.00* *51 JUL 88*  
(See Section 170.31, 10 CFR 170)

b. CERTIFYING OFFICIAL (Signature)

c. NAME (Type or print)

Larry A. Jeffers, P.E.

(1) LICENSE FEE CATEGORY: 3-L

d. TITLE

Vice President, Ohio District Manager

(2) LICENSE FEE ENCLOSED: \$

e. DATE

August 1, 1983

# ATEC Associates, Inc.



Consulting Geotechnical & Materials Engineers

11306 Tamarco Drive

Cincinnati, Ohio 45242

(513) 489-1221

## 13. PERMANENT STORAGE LOCATION FOR NUCLEAR DENSITY GAUGES

Revision Number	Description	By	Date
0	Issued for license application	FLC	2/20/83
1	Issued for license amendment	RTS	8/01/83

Prepared:

Robert T. Stickney 8/1/83  
Robert T. Stickney, P.E. Date

Reviewed:

Robert T. Stickney 8/1/83  
Robert T. Stickney, P.E. Date

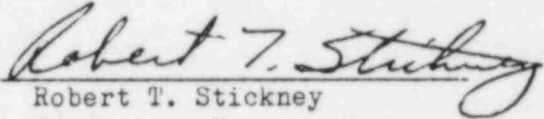
Approved:

Larry A. Jeffers 8/1/83  
Larry A. Jeffers Date

Effective Date:

August 1, 1983

- 1.0 Figure 1 and Figure 2 illustrate the proposed manner in which we will store our nuclear gauges. Doors, windows, desks, and work areas are designated. We have designated the hours per day required for employees for each work area within 10 feet of the gauges.
- 2.0 Gauges will be stored in one of the following manners:
- 2.1 Gauge shipping case, or "like" case, secured to the floor or wall in a shared closet or cabinet. Radiation signs on case, case locked and immobile.
- 2.2 Gauge stored inside cabinet or closet with lock and sign outside of cabinet or closet, limited key access. Gauge case is not necessarily locked (charging, etc.)
- 2.3 Gauge case and or cabinet or closet not locked, however, the room is locked with limited key access. Sign on room door.
- 3.0 Certification
- 3.1 I certify that Figure 1 and Figure 2 are accurate representations of our storage intentions. I also certify that the gauges will be stored on temporary jobsites in accordance with the same instructions, procedures, and recommendations for permanent storage, as closely as is practical.

  
Robert T. Stickney  
Operations Manager

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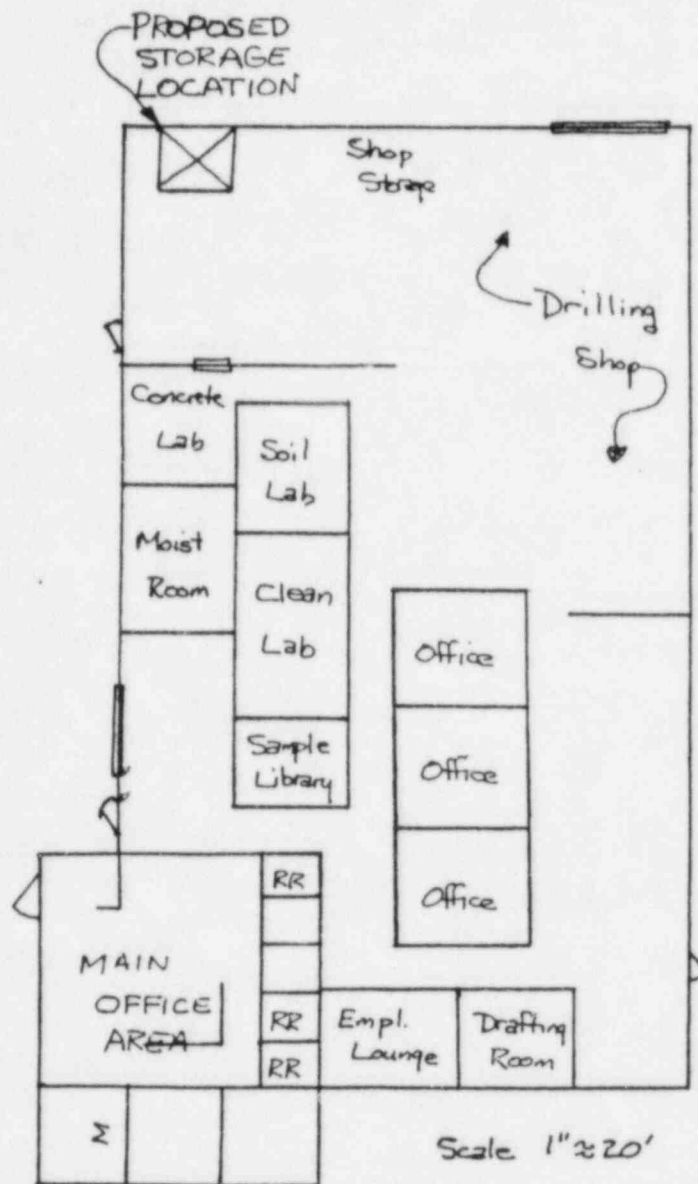


Figure 1.

Permanent Storage Location for Nuclear Gauges  
 Main Office  
 ATEC Associates, Inc.  
 11306 Tamarco Drive  
 Cincinnati, Ohio 45242

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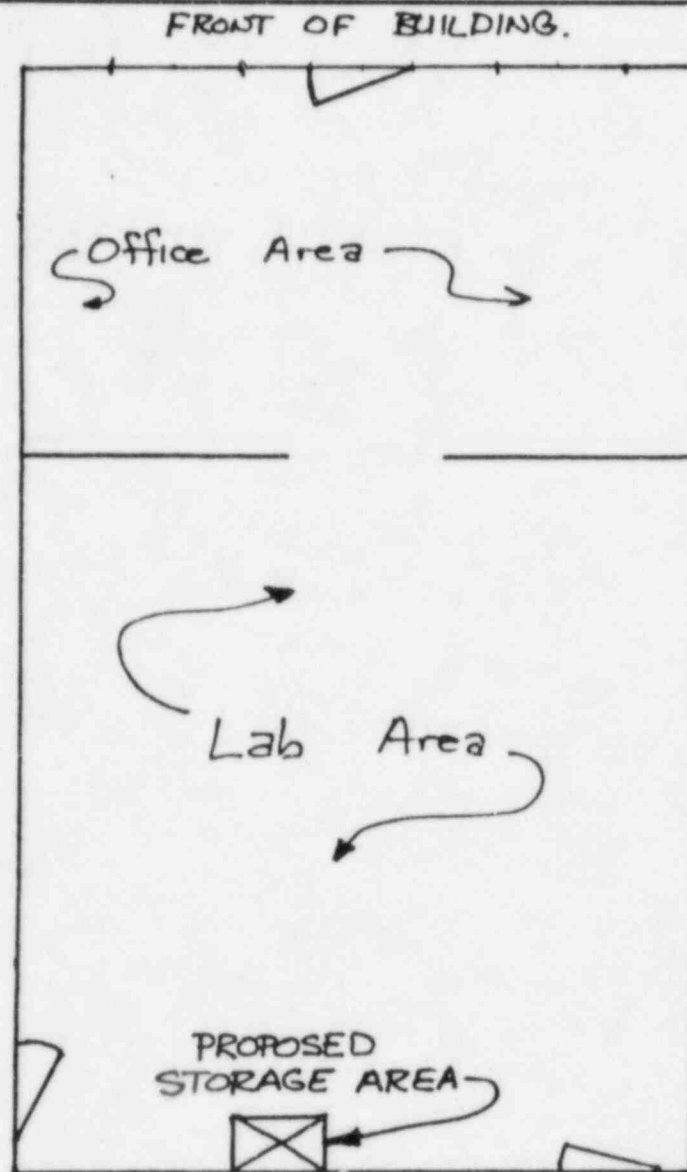


FIGURE 2

Permanent Storage Location for Nuclear Gauges  
Branch Office  
ATEC Associates, Inc.  
2718 Linden Avenue  
Dayton, Ohio 45203

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# ATEC Associates, Inc.



Consulting Geotechnical & Materials Engineers

11306 Tamarco Drive  
Cincinnati, Ohio 45242  
(513) 489-1221

## 15. RADIATION PROTECTION PROGRAM PROCEDURES FOR NUCLEAR MEASUREMENT GAUGES

Revision Number	Description	By	Date
0	Issued for use and license application	FLC	2/20/83
1	Issued for use and license amendment	RTS	8/01/83

Prepared: Robert T. Stickney 8/1/83  
Robert T. Stickney, P.E. Date

Reviewed: Robert T. Stickney 8/1/83  
Robert T. Stickney, P.E. Date

Approved: Larry A. Jeffers 8/1/83  
Larry A. Jeffers Date

Effective Date: August 1, 1983



1.0 General

- 1.1 This procedure is intended to cover handling, usage, and emergency procedures associated with nuclear measurement gauges.

2.0 Handling Procedures

- 2.1 Do not operate or attempt to operate the instrument unless you have been authorized to do so.
- 2.2 Keep the source position in the "SAFE" or store position when not in use.
- 2.3 Wear a Film Badge or other dose measurement device when using or transporting the instrument.
- 2.4 While exposure dose levels are well within limits for radiation workers, never expose yourself to the bare source without sufficient reason for justification of the additional dose.
- 2.5 Keep all unauthorized persons out of the operating area.
- 2.6 Maintain security of the instrument at all times. The source lock should be in place when not in use and the instrument should be kept in a locked vehicle when transported. When stored, the area should be locked. Not only is it an expensive piece of equipment but, if stolen, could be abandoned under conditions which could be a hazard to the general public.
- 2.7 Follow manufacturer's instructions in the general operation of the gauge.
- 2.8 Insure that any gauge used has had leak test measurements at intervals not to exceed six (6) months.
- 2.9 Report anything to the RSO that you feel is unsafe.
- 2.10 If you have any doubts or questions about anything, ask your supervisor or RSO.

3.0 Security

- 3.1 Locks must be maintained on radioactive equipment to prevent accidental exposure of a sealed source when not under the direct supervision of approved personnel. In addition, storage containers shall be physically secured to prevent tampering or removal by unauthorized personnel.

4.0 Personnel Monitoring

- 4.1 No person is to use this equipment unless at all times the user is in the possession of a film badge dosimeter, thermoluminescent dosimeter (TLD) or pocket chamber. Chambers shall be read daily and records maintained. Film badge and TLD reports shall be maintained for inspection.

5.0 Records and Reports

- 5.1 A quarterly physical inventory will be conducted to account for all sealed sources received and possessed under this license. The record shall be maintained for inspection.

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- 5.2 all sealed sources shall be leak tested at intervals not to exceed six months. In the absence of a certificate, the source shall not be put into use until tested.
- 5.3 Reports from film badge service shall be maintained for inspection.
- 5.4 When an individual terminates employment with a licensee, a record of his total received dose must be made available to the employee.

#### 6.0 Incidents

- 6.1 ATEC will report any theft or loss of licensed material by telephone or telegram to the appropriate agency, including the appropriate state agency. Within 30 days after the loss, a written report must be filed giving detailed description of the source, circumstances of the loss, statement of disposition, possible radiation exposures or hazard, actions taken to recover the source and procedures which will be implemented to prevent a recurrence of the loss or theft.
- 6.2 ATEC will report any overexposure of operators which exceeds the limits given in 10 CFR part 20, detailing circumstances of the exposure and possible injury.

#### 7.0 Handling and Emergency Procedures

- 7.1 No personnel may transport or use the nuclear gauges unless the individual has been approved by the radiation safety officer and the requirements of these procedures are met.
- 7.2 Each user must demonstrate their ability to correctly and safely use the nuclear gauge.
- 7.3 At the termination of each field use, the nuclear gauge will be transferred to its regular storage area.
- 7.4 In the event of physical damage to the gauge, a six (6) feet radius exclusion area will be maintained until the extent of source damage (if any) is determined. If a vehicle is involved, it will be stopped and remain stopped until the extent of contamination hazard (if any) is determined. If visual examination of the instrument and source rod indicated damage to the source rod tip, including fracture of the tip or weld, you should notify the ATEC Radiation Safety Officer, State Board of Health, and gauge manufacturer and keep personnel clear of the instrument. You should remove the instrument from the site by using a shovel or other long handled instrument and place it in a suitable container such as a metal drum. You should make provisions to have the site surveyed after the removal of the instrument to determine if a breakage had occurred. Disposition by the factory, as covered later, would be arranged after a leak test had been performed to determine the integrity of the source before transport back to the factory.
- 7.5 Immediate telephone notification will be made to the following in the event of accident (7.4 above) or the loss of a sealed source, whether accidental or due to theft.

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- A. ATEC R.S.O.: Robert T. Stickney  
Office (513) 489-1221  
Home (513) 984-0083
- B. Ohio Department of Health  
450 East Town  
Columbus, Ohio 43215  
(614) 466-3543
- C. Nuclear Regulatory Commission, Region II  
(312) 858-2660
- D. Local Authorities: Fire Department,  
Sheriff, Police, State Highway Patrol,  
if necessary
- E. Gauge manufacturer, if necessary:
  - 1. Troxler Electronic Laboratories  
(919) 549-8661
  - 2. Campbell Pacific Nuclear Corp.  
(415) 687-6472

8.0 Transport by Private Motor Vehicle

- 8.1 The instrument, in its container, may be transported by motor vehicle under the "Yellow II" label without placarding the vehicle as required by 49 CFR 177.823.
- 8.2 The source rod lock should be in place and the container placed in a portion of the vehicle which can be locked. When not in transit, the instrument should be stored in a secured area.
- 8.3 Since the container has a Transport Index of 0.1 or greater it may not be stored less than 30 centimeters from passengers per 49 CFR 1784.586. It also should not be stored for more than 8 hours at less than 1 meter from undeveloped film.

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ATEC ASSOCIATES

Position Description

TITLE: Radiation Safety Officer (RSO) - Ohio District

HELD BY: Robert T. Stickney

The RSO shall:

- 1.0 Report directly to the President of ATEC on radiation safety matters.
- 2.0 Coordinate the safe use of nuclear measurement gauges and radiographic devices.
- 3.0 Assure compliance with the requirements of Title 10 CFR Parts 19, 20, 30, 34, 71 and all applicable US DOT regulations.
- 4.0 Assure by-product materials possessed under the license are in conformity to materials listed on the license.
- 5.0 Assure that use of devices (particularly in the field) is only by persons named as users under the license or persons who have completed acceptable training.
- 6.0 Assure all users wear personnel monitoring equipment when using gauges.
- 7.0 Assure gauges are properly secured against unauthorized removal at all times.
- 8.0 To serve as point of contact and give assistance in case of emergency - to insure all proper authorities are notified promptly in case of accident.
- 9.0 Assure that terms conditions of license are met such as:
  - a) Periodic leak tests are performed
  - b) All required records are kept and reviewed periodically for compliance with regulations - these include source certificate, leak test records, personnel exposure records, and transfer of radioactive materials.

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16. FORMAL TRAINING IN RADIATION SAFETY

17. EXPERIENCE

(See Attached Resumes')

Prepared: Robert T. Stickney 8/1/83  
Robert T. Stickney, P.E. Date

Reviewed: Robert T. Stickney 8/1/83  
Robert T. Stickney, P.E. Date

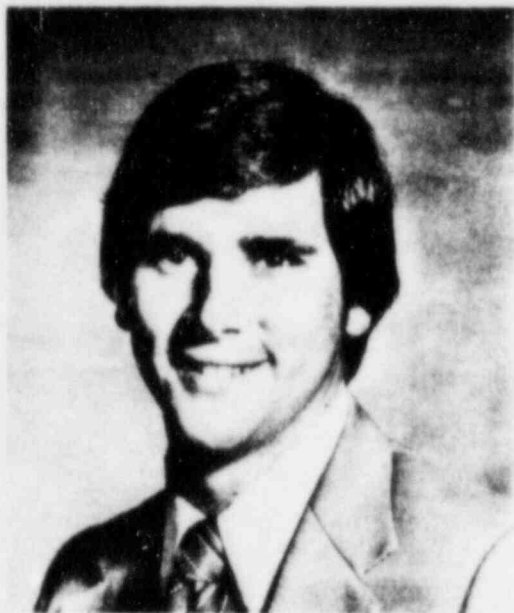
Approved: Larry A. Jeffers 8/1/83  
Larry A. Jeffers Date

Effective Date: August 1, 1983

# Robert T. Stickney, BSCE

OPERATIONS MANAGER

Project Engineer



## TYPES OF PROJECTS:

Industrial - Heavy and Light Manufacturing, Tank Storage Complexes, Warehouses

Commercial - Shopping Centers, Apartment Complexes, Department Stores, Restaurants

Municipal - Sewage Treatment Plant, Schools, Ground Storage Tanks

High Rise Structures - Office and Apartment Buildings, Grain Elevators, Elevated Water Towers

Pavements - Streets, Parking Lots, Truck Docking

## PROFESSIONAL REGISTRATION:

Engineer-in-Training - Ohio

## SPECIALTY:

Geotechnical Engineering  
Construction Materials Testing

## EDUCATION:

University of Cincinnati, Graduate Studies  
in Geotechnical Engineering, 1978 to Present

University of Cincinnati, BSCE,  
Civil Engineering, 1978

## EXPERIENCE:

ATEC Associates, Inc.  
Project Engineer 1978 to Present

ATEC Associates, Senior Engineering  
Technician, 1975 to 1978 (Co-op student)

## AFFILIATIONS:

American Society of Civil Engineers  
National and Ohio Society of Civil Engineers

## RADIATION TRAINING:

- \* Troxler Electronic Laboratories, Inc. - Training Course in use of Nuclear Testing Equipment - Indianapolis, Indiana-May 1979
- \* On-the-job training 1975-Present

**ATEC Associates, Inc.**





THOMAS R. BAKER  
Senior Engineering Technician - Level II  
Assistant Materials Division Supervisor

EDUCATION:

University of Cincinnati - 1962 to 1970 - Chemical Engineering  
Major: Chemistry

EXPERIENCE:

ATEC Associates, Inc. - Engineering Technician - 1978 to 1979  
Senior Engineering Technician - 1979 to 1982 - various duties  
including concrete, soil and asphalt testing, inspection,  
structural steel inspection, and laboratory testing.  
Assistant Materials Division Supervisor - 1982 to present -  
duties include directly assisting materials division manager in  
scheduling technicians, training field personnel, handling  
specialized inspection and testing projects, troubleshooting,  
and related administrative duties.

Mason Railroad Salvage - Unrelated Field - 1973 to 1978

Hilton Davis Chemical Company - Lab Technician - 1963 to 1973 -  
Chemical lab technician.

MAJOR PROJECTS:

Dayton Power and Light Company - J.M. Stuart Stations 1 and 2 -  
Aberdeen, Ohio: Structural steel inspection, including  
erection procedure inspection and inspection of bolted  
connections, concrete and soil inspection and testing.

Quebec Courts - Cincinnati, Ohio: Reconstruction of a major  
landslide including soil embankment testing and inspection.

Miscellaneous Subdivisions and Commercial Projects - Hamilton,  
Butler and Warren counties, Ohio: Soil embankment testing and  
inspection, inspection of underground utilities, concrete  
testing and inspection.

Kingston House High Rise Condominium Project - Cincinnati, Ohio:  
Site evaluation and inspection, soil inspection and testing and  
concrete testing and inspection.

J.C. Penney Company - New Store - Dayton, Ohio: Concrete, soil  
and structural steel testing and inspection.

Prudential Office Park - Blue Ash, Ohio: Same as above.

THOMAS R. BAKER - Continued  
Senior Engineering Technician - Level II  
Assistant Materials Division Supervisor

V.A. Medical Center Building - Dayton, Ohio: Fireproofing  
inspection and testing

Repaving I-74 - Hamilton County Ohio - Asphalt inspection and  
testing of ODOT Item 848 material for extensive road repaving.

Repaving Runway 18/36 - James N. Cox Dayton International Airport -  
Complete inspection of asphalt material and paving work to FAA  
specifications for major runway improvements.

Comprehensive testing of asphalt, concrete and soil in laboratory.

RADATION TRAINING:

- Troxler Electronic Laboratories, Inc. - Training course in  
use of Nuclear Testing Equipment - Indianapolis, Indiana -  
May 1979
- On-the-job training 1978 - Present

KARL L. JUND  
Senior Engineering Technician  
Branch Office Supervisor (Dayton)

EXPERIENCE:

A TEC Associates, Inc. - Engineering Technician, Supervisor - 1983  
Various duties including soil embankment compaction testing  
and inspection, concrete testing and inspection, soil and  
concrete laboratory testing, asphalt.  
Supervisor of Branch Office in Dayton, Ohio.

Lockwood, Jones & Beal - Construction Inspector - 1982.  
Provide construction inspections on large sewage treatment  
plant project.

Bowser Morner Testing Laboratories - Construction Inspector/Soil  
Exploration Specialist - 1981 to 1982.  
Various duties including soil embankment compaction testing  
and inspection, concrete testing and inspection, soil and  
concrete laboratory testing, asphalt.

Dravo Aggregate Division - Exploration Specialist - 1977 to 1981  
Operated drilling equipment in exploration for aggregate.

Self Employed - 1976 to 1977 - Operated small excavation company.

Dayton Testing Laboratory - Drill Operator/Technician - 1965 to  
1976 - Operated test drilling rig for subsurface investigations,  
and performed various testing duties as materials technician.

RADATION TRAINING:

- Gauge Users Training Course - Bowser Morner Testing  
laboratories - Dayton, Ohio - 1981.
- On-the-job training 1981 to 1982.