

Advance Testing

CORPORATE OFFICE

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January 21, 2003

George Pangburn
Director, Division of Nuclear Materials Safety
United States Nuclear Regulatory Commission
Region I
475 Allendale Road
King of Prussia, PA 19406

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Mr. Pangburn:

The purpose of this letter is to outline the procedures that have been put into place at Advance Testing Co., Inc. in response to the incident in August of 2002.

Operating procedures have been adjusted to include site visits/verifications where nuclear gauges are in use. These visits are scheduled on a weekly basis and will be conducted by the Radiation Safety Officer or another member of the management team.

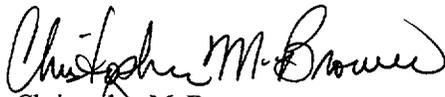
The site visit will verify operational procedures for gauge use are being followed by employees. The visit and any comments, recommendations or corrections will be documented in Advance Testing Company's Quality Assurance program. This program has been in use to evaluate employees, their procedures and performance. The program is computer based and a record of the visit will be in our database. A copy will also be filed with nuclear gauge utilization records. A sample report is attached for your review.

Currently, annual nuclear gauge safety and transportation training is taking place. Attached is an outline of what is covered with employees. Safety and security during transportation and use is stressed with each employee either one on one or in a classroom environment. Additionally, letters have been issued to employees covering security and safety gauges. Copies of these letters are attached.

The above items have been discussed with your office. John Kinneman, Chief, Nuclear Material Safety Branch, and his staff have been very helpful with any questions that I have had.

I look forward to hearing from your office concerning the decision on the above incident. If there is any other information that you require or if I can be of any further assistance, please feel free to contact me.

Very truly yours,
Advance Testing Company, Inc.



Christopher M. Brower
Radiation Safety Officer

Cc: John Kinneman, Chief, Nuclear Material Safety Branch

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Quality Assurance Inspection Report

Project: Campbell Hall
Client: Advance Testing
Date: 1/10/03
Tech: Christopher Brower
Supervisor: Mark Clark
On Site Contact: Mr. Job Super

Code: ATCMISC

Concerns	Followed Up	Date	By
<input type="checkbox"/> Tech Performance	<input type="checkbox"/>		
<input type="checkbox"/> Job Conditions	<input type="checkbox"/>		
<input type="checkbox"/> Client Satisfaction	<input type="checkbox"/>		
<input type="checkbox"/> Other	<input type="checkbox"/>		

Inspection Basics	
Tech performing required tests/inspection	Satisfactory
Tech has access to Plans and Specs	Satisfactory
Forms are properly filled out	Satisfactory
Results reported to client	Satisfactory
Personal safety equipment being used as req	Satisfactory
Vehicle safely parked	Satisfactory
Test equipment kept/used in safe area	Satisfactory
Reviewed plans and specifications	N/A
Nuclear Gauge use IAW published procedure	Satisfactory
Positive control of Nuclear Gauge at all times	Satisfactory
Gauge utilization log completed	Satisfactory
Gauge standardized properly	Satisfactory
Gauge/carrier secured properly in vehicle	Satisfactory

Job Conditions	
Spoke to foreman	Satisfactory
Technician's performance acceptable	Satisfactory
Lab results received promptly	N/A
Additional tests required	N/A
Good subcontractor/inspector relations	Satisfactory
Overall work being properly performed	Satisfactory
Work progressing on/near schedule	Satisfactory
Jobsite appears safe	Satisfactory
Nuclear Gauge Secured/Under positive cont	Satisfactory

Tests Reviewed

Notes

Inspection of Technician job performance - overall satisfactory. Nuclear gauge use and security IAW established procedures. Technician has proper attitude concerning safety and security.

Advance Testing

ALARA PRINCIPLES

Personal protection from radiation can not be overemphasized. The ALARA philosophy was developed with this concept in mind. ALARA stands for As Low As Reasonably Achievable. Due to the harmful effects that radiation causes to the human body, it is obvious for the need to protect ourselves from it. There are three factors considered in ALARA to minimize exposure: Time, Distance, and Shielding. It is vital that these three constituents be applied in every event where there will be exposure to ionizing radiation.

- **TIME**

The easiest way to reduce to ionizing radiation is to stay away from a radioactive source. When the time near a radioactive source is reduced, the exposure to harmful radiation is in turn reduced.

- **DISTANCE**

Distance is an effective means of limiting exposure because radiation becomes less intense as distance increases.

- **SHIELDING**

Shielding is an important concept for controlling radiation. Shielding can be considered as any material used to reduce the radiation from a radioactive source. Gauges have their own internal shielding built in, and are effective as long as it is not tampered with or removed.

OPERATING PROCEDURES

All operators shall have completed the manufacturer's training or training by an approved third party provider and must wear an assigned personnel dosimetry badge before transporting or using the device. Badges must not be shared and only the person to whom a badge was assigned may wear it.

- Make complete entry to utilization log, including the results of the sliding block inspection.
- Obtain the keys to storage and remove the device. Make sure that the source is in the safe (shielded) position.
- Lock device in its carrying case and lock in transport vehicle.
- **Never leave device unattended at a job site.** Gauges will be used at temporary job sites. Gauges will be locked in the safe position and returned to their container at the completion of use. **Gauges will be in locked storage or physically watched by an authorized user at all times.**
- Storage of a gauge will not be in a residence; gauges must be returned to there approved storage location upon completion of use.
- Clear area of all unnecessary persons before use of device.
- Work safely with the device following manufacturer's operating procedures and utilizing the radiation safety principles of time, distance and shielding. Do not expose yourself or others to the unshielded source. Stand back from device when possible. Return the gauge to its locked storage container at the completion of use.
- When job is finished, make sure the source holder is locked in the closed position and lock the device in its carrying case. Place carrying case in locked storage (such as trunk of car), to which only authorized users have a key.
- Return device to permanent storage and lock it up after checking to make sure that the sliding block is fully closed.

- Complete utilization log with time in and signature. Store dosimetry badges in radiation free (low background) area.
- Gauges will not be transferred to the custody, used, or stored by any person or firm other than those covered under this license, unless that person or firm possesses a valid license to possess and use such devices and is approved by the Radiation Safety Officer.

TRANSPORTATION PROCEDURES

Any vehicle used for storage shall be driven only for purposes associated with use or transport of the gauge, by an authorized user and no passengers shall be carried unless they are also involved in the work.

Before removing the device from storage, a daily utilization log entry will be made and the operator will obtain the following and keep them available:

- Manufacturer's instruction manual and the company's operating and emergency procedures;
- Copy of the latest results of test for leakage and/or contamination for the device used (leak test); and
- Shipping papers.

The Gauge will be transported in its' carrying case, locked in the trunk of a passenger vehicle, braced and blocked to prevent movement during transportation. When transported in an open bed truck the device will be locked in its case, chained to the bed of the truck and braced and blocked to prevent movement. The transportation vehicle will be secured at all times when not under the direct supervision of a qualified person.

EMERGENCY PROCEDURES

In the event that a gauge becomes physically damaged, the following steps must be taken:

- Locate the source(s);
- Immediately secure an area around the device of 15 feet in radius from the gauge to prevent entry from unauthorized personnel.
- If vehicle is involved, do not move it until it is checked for contamination and the extent of the damage is established.
- Visual inspection of the gauge should be made from a distance to determine the degree of damage and any visible cracking or deforming of surfaces.
- **Call Radiation Safety Officer (Chris Brower) and notify him of the existing conditions.**
- Describe the conditions and follow instructions. You or the RSO must also contact local authorities and the Department as soon as possible. After working hours, the New York State Warning Point should be contacted. (In a Reciprocity State follow NRC guidelines)
- Do not touch or handle the source or source rod, even if it has broken off or become detached from the device. Wait for emergency assistance before any efforts are made to retrieve a source or source rod.

MAINTENANCE

Maintenance starts with you. If you encounter **ANY** problems with a gauge you must tag the case with a repair tag and description of the problem and report any device malfunctions, unusual occurrences, or difficulties in using a device to the Radiation Safety Officer.

Never leave device unattended at a job site. When a gauge is not in use it is to be returned to its carrying case and placed into approved storage.

All storage areas must remain locked at all times.

MEMO

TO: ALL EMPLOYEES
FROM: CHRISTOPHER BROWER
RADIATION SAFETY OFFICER
DATE: 1/6/2003

Recently the news has carried stories covering the possible threat to areas in the United States from "dirty" radioactive bombs. These stories and reports that small radioactive devices have been stolen are of great concern to Advance Testing Company.

All employees are reminded that proper security measures are to be followed during transport and use of nuclear density gauges.

1. Gauges are to be signed out prior to and signed in after each use.
2. Gauges are to be secured in the following manner:
Each gauge must be secured with a source lock (Master lock), secured in a closed transport case and either locked with a second lock (Red lock) and secured in a closed car trunk or secured to the bed of a pickup truck with a chain and the lock secured to the transport case.
3. Transport documents are to be placed on the front seat with the driver during transport.
4. During use the operator must maintain positive control of the gauge at all times. The gauge is never to be left unattended
5. All operators are to contact the office if any situation occurs concerning a density gauge.

These procedures are not new and have been covered with all employees previously. This information is being put out in response to a possible threat. All employees are to adhere to these policies at all times.

Employees are also asked to be attentive to anyone that expresses interest in a density gauge. All concerns should be brought to the attention of management immediately.

Remember- Security and accountability is paramount when transporting and using a density gauge.

Christopher M. Brower
Operations Manager / RSO