February 1, 2005

EA 05-005

Mr. Leo J. Titus, Jr.
Office Manager
Engineering Consulting Services, Ltd.
14026 Thunderbolt Place, Suite 100
Chantilly, VA 20151

SUBJECT: NOTICE OF VIOLATION (NRC Inspection Report No. 030-30462/2004-001)

Dear Mr. Titus:

This letter refers to the routine unannounced NRC inspection conducted on November 30 and December 1, 2004, at your facility in Chantilly, Virginia. The enclosed inspection report documents the findings of the inspection, which were discussed with Mr. Stanley J. Murphy, your Corporate Radiation Safety Officer, on December 1, 2004.

Based on the inspection, the NRC has determined that a violation of NRC requirements occurred. The violation is cited in the enclosed Notice of Violation (Notice) and inspection report. During the inspection, the NRC reviewed the circumstances associated with three instances you identified in 1999 involving the failure to secure, control or maintain constant surveillance of portable nuclear gauges containing NRC licensed material. Specifically, on those three occasions, the portable gauges were left unattended in unrestricted areas at temporary job sites in Virginia (Stafford Lakes, Alexandria, and Centerville), and during those times, the gauges were damaged by construction vehicles.

On January 18, 2005, Mr. John Kinneman of my staff informed Mr. Murphy that this violation was being considered for escalated enforcement action, and the NRC did not need any additional information to make an enforcement decision. However, Mr. Kinneman provided Mr. Murphy an opportunity to attend a predecisional enforcement conference or to provide a written response, prior to the NRC determining appropriate enforcement action. During this conversation, Mr. Murphy declined the opportunity to attend a conference or to provide a written response.

Although unauthorized persons did not come into direct contact with the gauges, this violation is of concern to the NRC because (1) the failure to control the gauges containing the radioactive material could result in the loss or theft of the material, or, as occurred in these three cases, damage to the gauges; and (2) unintended radiation doses to members of the public could

occur if the damage to the gauges resulted in the sources being in the unshielded position. (Although no member of the public received unintended radiation exposure, in one of these three cases, damage to the gauge resulted in the source being unshielded for a brief time). Therefore, this violation is categorized at Severity Level III in accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," (Enforcement Policy), NUREG-1600.

In accordance with the Enforcement Policy, a base civil penalty in the amount of $3,000 is considered for a Severity Level III violation. Because your facility has not been the subject of escalated enforcement action within the last two years or two inspections, the NRC considered whether credit was warranted for *Corrective Action* in accordance with the civil penalty assessment process in Section VI.C.2 of the Enforcement Policy. Credit for corrective actions is warranted because your corrective actions were considered prompt and comprehensive. These corrective actions included, but were not limited to: (1) immediately securing the damaged nuclear gauges at all three sites and returning them to the manufacturer for disposal; (2) retraining authorized users regarding security requirements for portable nuclear gauges; (3) developing training for all corporate employees; and (4) conducting annual audits of authorized users at field sites. There were no additional incidents identified since 1999 of portable gauges being left unsecured in unrestricted areas.

Therefore, to encourage prompt and comprehensive correction of violations, I have been authorized, after consultation with the Director, Office of Enforcement, to issue the enclosed Notice of Violation without a civil penalty for this Severity Level III violation. However, you should be aware that significant violations in the future could result in a civil penalty. In addition, issuance of this Notice constitutes escalated enforcement action that may subject you to increased inspection effort.

The NRC has concluded that information regarding the reasons for the violation, the corrective actions taken and planned to correct the violation and prevent recurrence, and the date when full compliance was achieved is already adequately addressed on the docket in this letter and the enclosed inspection report. Therefore, you are not required to respond to this violation unless the description herein does not accurately reflect your corrective actions or your position. In that case, or if you choose to provide additional information, you should follow the instructions specified in the enclosed Notice.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosures, and your response (if you choose to provide one) will be made available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room). (Note:Public access to many documents in ADAMS has been temporarily suspended so that security reviews of publicly available documents may be performed and potentially sensitive information removed. Please check the NRC website for updates on the resumption of ADAMS access to all documents.) To the extent possible, your response should not include any personal privacy, proprietary or safeguards information so that it can be made available to the public without redaction. The NRC also includes significant

enforcement actions on its web site at http://www.nrc.gov; select **What We Do, Enforcement,** then **Significant Enforcement Actions.**

Sincerely,

/RA/ JWggins for

Samuel J. Collins
Regional Administrator

Docket No. 030-30462
License No. 45-24974-01

Enclosures:
1. Notice of Violation
2. NRC Region I Inspection Report 030-30462/2004-001

cc w/encls:
Stanley J. Murphy, Corporate Radiation Safety Officer
Omer Murat Duzyol, Radiation Safety Officer
State of Virginia

Mr. Leo J. Titus, Jr.

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NAME	JWray		DHolody		GPangburn		KFarrar		SCollins	
DATE	01/27/05		01/28/05		01/27/05		01/27/05		02/01/05	

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ENCLOSURE 1

NOTICE OF VIOLATION

Engineering Consulting Services, Ltd.
Chantilly, VA

Docket No. 030-30462
License No. 45-24974-01
EA 05-005

Based on an NRC inspection conducted on November 30 and December 1, 2004, a violation of NRC requirements was identified. The violation was discussed with the licensee during an exit meeting on December 1, 2004. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," (Enforcement Policy), NUREG-1600, the violation is set forth below:

> 10 CFR 20.1802 requires that the licensee control and maintain constant surveillance of licensed material that is in a controlled or unrestricted area and that is not in storage. As defined in 10 CFR 20.1003, controlled area means an area, outside of a restricted area but inside the site boundary, access to which can be limited by the licensee for any reason; and unrestricted area means an area, access to which is neither limited nor controlled by the licensee.
>
> Contrary to the above, on three separate occasions, the licensee did not adequately control and maintain constant surveillance of portable nuclear gauges containing licensed material (americium-241 and cesium-137). Specifically,
>
> 1. on August 31, 1999, a CPN Model MC3 portable gauge was left unattended at a location in Stafford Lakes, Virginia;
>
> 2. on November 18, 1999, a CPN Model MC3 portable gauge was left unattended at a location in Alexandria, Virginia; and
>
> 3. in December 1999, a CPN Model MC1DRP portable gauge was left unattended at a location in Centerville, Virginia.
>
> This is a Severity Level III violation (Supplement IV).

The NRC has concluded that information regarding the reasons for the violation, the corrective actions taken and planned to correct the violation and prevent recurrence, and the date when full compliance was achieved is already adequately addressed on the docket in the letter transmitting this Notice, and in NRC Inspection Report No. 030-30462/2004-001. However, you are required to submit a written statement or explanation pursuant to 10 CFR 2.201 if the description therein does not accurately reflect your corrective actions or your position. In that case, or if you choose to respond, clearly mark your response as a "Reply to a Notice of Violation, EA 05-005" and send it to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555 with a copy to the Regional Administrator, Region I, within 30 days of the date of the letter transmitting this Notice of Violation (Notice).

If you contest the violation, you should also provide a copy of your response, with the basis for your denial, to the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555.

If you choose to respond, your response will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's document system (ADAMS), accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html. Therefore, to the extent possible, the response should not include any personal privacy, proprietary, or safeguards information so that it can be made available to the Public without redaction.

In accordance with 10 CFR 19.11, you may be required to post this Notice within two working days.

Dated this 1ST day of February 2005

U.S. NUCLEAR REGULATORY COMMISSION
REGION I

INSPECTION REPORT

Inspection No.	03030462/2004001
Docket No.	030-30462
License No.	45-24974-01
Licensee:	Engineering Consulting Services, Ltd.
Location:	14026 Thunderbolt Place, Suite 100 Chantilly, VA 20151
Inspection Dates:	November 30 and December 1, 2004

Inspector: ***/RA/*** 01/24/2005
Jenny Johansen — date
Health Physicist

Approved By: ***/RA/*** 01/25/2005
John D. Kinneman, Chief — date
Security and Industrial Branch
Division of Nuclear Materials Safety

EXECUTIVE SUMMARY

Engineering Consulting Services, Ltd.

NRC Inspection Report No. 03030462/2004001

On November 30 and December 1, 2004, a routine, unannounced, safety inspection was conducted at Engineering Consulting Services, Chantilly, VA of activities authorized by NRC License No. 45-24974-01. The inspection was an examination of licensed activities as they relate to radiation safety and to compliance with the Commission's regulations and license conditions. The inspection consisted of observations by the inspector, interviews with personnel, and a selected examination of representative records.

During the review of an Incident Report of August 31, 1999 (Nuclear Materials Events Database (NMED) 990597) involving the improper control of a nuclear gauge resulting in the damage to the gauge at a temporary job site in Stafford Lakes, VA, the inspector was informed of two other incidents in 1999 when nuclear gauges were damaged at temporary job sites in Centerville and Alexandria, VA.

One apparent violation was identified. Failure on three separate occasions in August, November and December 1999 to control and maintain constant surveillance of licensed material contained in a nuclear gauge. Specifically, a CPN Model MC3, Serial No. M39078991; a CPN Model MC1DRP, serial no. M35096382, and a CPN Model MC3, serial no. M38038106 nuclear gauge were damaged by construction vehicles at temporary job sites in Stafford Lakes, Centerville and Alexandria, Virginia, respectively, when the license failed to control and maintain constant surveillance of the gauges as required by 10 CFR 20.1802.

The licensee's corrective actions after the 1999 incidents include implementation of a comprehensive in-house training program in radiation safety and use of portable gauges. This program includes both initial and refresher training. The licensee has also appointed a Corporate RSO. The inspector also noted that the licensee has not had any incidents of damaged gauges since 1999, nor has their audit program identified improperly secured or controlled gauges during this period.

REPORT DETAILS

I. Organization and Scope of the Program

a. Inspection Scope

The inspector interviewed staff and reviewed records maintained by the licensee and NRC.

b. Observations and Findings

Engineering Consulting Services, Ltd. is a large firm with 23 separate offices in various states. Each office has a separate NRC or Agreement State license to authorize the use of portable gauges. The firm recently appointed a Corporate RSO, who has responsibility for oversight for the firm's licensed programs and is an instructor for the licensee's extensive in-house training program in radiation safety and use of portable gauges. The RSO of the Chantilly office is also an instructor in the training program. The inspector observed part of a training session on November 30, 2004. The Chantilly, VA office has a large portable gauge program with 104 certified gauge users and possesses 57 portable gauges, 55 CPN and 2 Troxler. Annual audits of the radiation safety program have been performed. The inspector reviewed audits from 2002 and 2003. The RSO stated that audits occasionally include observations of gauge users in the field.

c. Conclusions

The inspector concluded that the organization and scope of the licensee's program is within that prescribed by the license, that the licensee has effective training program and that the licensee's annual audits provide effective oversight of the licensed program.

II. Facilities and Equipment

a. Inspection Scope

The inspector toured the licensee's gauge storage facility.

b. Observations and Findings

The licensee's gauges are in a secured storage room, chained to the wall and each other. There were 49 gauges in storage on the day of the inspection. Each gauge case was locked. Eight gauges were at temporary job sites. The inspector performed a survey for radiation levels using an Eberline E-120 survey meter, NRC 24173G, calibrated March 24, 2004. Radiation levels in the unrestricted area were 0.1-0.3 mR/hr.

c. Conclusions

The inspector concluded that the storage of the licensee's gauges was in accordance with the conditions of the NRC license.

III. Material Receipt, Use, Transfer, and Control

a. Inspection Scope

The inspector followed up on the licensee's August 31, 1999 notification to the NRC of damage to a Troxler gauge during construction activities at a temporary job site in Stafford Lakes, Virginia The inspector reviewed the licensee's records for leak testing and physical inventory of the gauges possessed.

b. Observations and Findings

During the discussion of the gauge inventory, the inspector inquired about nuclear gauges 1, 10, and 17 which had "DFR" indicated on their line on the inventory. The "comments" field for gauge 10 indicated, "Fredericksburg." The "comments" field for gauge 1 indicated "Destroyed 6/12/1999" and for gauge 17 "Destroyed 11/15/99."

The inspector inquired if gauge 10 was the one damaged in 1999 and reported to the NRC on August 31, 1999 (NMED 990597). The RSO stated that the damage to gauge 10 was reported to the NRC on August 31, 1999 by their Fredericksburg office, which at that time was covered by this license. The Fredericksburg office obtained a separate NRC license on May 7, 2002. The RSO provided the inspector with internal memos dated May 5, 2004, May 27, 2004 and a nuclear gauge inventory from the Fredericksburg Office referencing the gauge, a CPN Model MC-3, serial no. M39078991, containing 10 millicuries of cesium-137 and 50 millicuries of americium-241/beryllium. The RSO stated he had no direct knowledge of the event, but indicated that the RSO from 1999 still worked for the firm and was available to answer the inspector's questions. The inspector and the RSO both noted that the information contained in the NMED 990597 record incorrectly identified the damaged gauge as a "Troxler" rather than a CPN Model MC-3. It could not be determined if this was due to an error in the verbal report to the NRC or in the data entry.

The inspector reviewed the event with the RSO from 1999. He could not clearly recall the event, but did confirm that the gauge was damaged due to lack of control by the technician using the gauge and that the gauge was a CPN Model MC-3.

The inspector questioned the RSO from 1999, about gauge 1 which the inventory indicated was destroyed on "6/12/99." The RSO from 1999 told the inspector that the gauge was at a job site in Centerville, VA. The technician had put the gauge in a wheel barrow and left it beside the road. The technician walked away from the gauge to get something from the lunch truck parked up the embankment nearby and a construction

vehicle ran over the wheel barrow and gauge. The gauge was a CPN Model MC-3, serial No. M38038106, containing 10 millicuries of cesium-137 and 50 millicuries of americium-241/beryllium. The inspector reviewed a transfer receipt dated December 6, 1999 which indicated that CPN had received the damaged gauge. The RSO from 1999 indicated that the inventory document contains an apparent typographical error. The entry “6/12/1999" should be December 6, 1999 (12/6/1999).

The RSO from 1999 stated he could not clearly recall the details involving gauge 17. The RSO stated that he believes that the event occurred in Alexandria, VA and that the technician was not watching the gauge when a construction vehicle at the site ran over the gauge while the source rod was exposed and in the ground. A Memo to File dated November 18, 1999, contained some information concerning the event. It indicated that the guide tube and the source rod had to be cut to get the source into the shielded position in the gauge. The gauge was a CPN Model MC1DRP, serial no. M35096382, containing 10 millicuries of cesium-137 and 50 millicuries of americium-241/beryllium.

The licensee’s corrective actions after the 1999 incidents included improved initial and refresher training in radiation safety and use of portable gauges. The licensee also recently appointed a Corporate RSO, who has oversight for the firm’s licensed programs. The inspector noted that the licensee has not had any incidents of damaged gauges since 1999. In addition, no documented incidents of improperly secured or controlled gauges were identified based on review of the annual audits discussed in Section I.

c. Conclusions

The inspector concluded that in all three events which occurred in 1999, there was an apparent failure to control and maintain constant surveillance of licensed material which is a violation of 10 CFR 20.1802. The inspector noted no further incidents have occurred.

IV. Exit Meeting

The results of the inspection were discussed with the Corporate RSO and the Chantilly Office RSO at the conclusion of the inspection. The licensee’s corrective actions after the 1999 incidents were discussed.

PARTIAL LIST OF PERSONS CONTACTED

Licensee

*#Omer Murat Duzyol, RSO Chantilly
*# Stanley J. Murphy, Corporate RSO
David E. Palfrey, former RSO at Chantilly in 1999

*# indicates present at the exit meeting.