

January 21, 1997

Professional Service Industries, Inc.  
ATTN: Mr. Adam C. Ackermann  
Corporate Radiation Safety Director  
510 East 22nd Street  
Lombard, IL 60148

SUBJECT: NRC INSPECTION REPORT 45-25088-01/96-01

Dear Mr. Ackermann:

This letter refers to the special inspection conducted during the period November 13-21 and December 4, 1996, by the Nuclear Regulatory Commission's (NRC) Augmented Inspection Team (AIT) at your Bristol, Virginia; Ann Arbor, Michigan; Lansing, Michigan; Detroit, Michigan; St. Louis, Missouri; and Roanoke, Virginia facilities. The inspection included a review of the facts and circumstances relating to an apparent radiation overexposure at your Bristol, Virginia facility which you reported to the NRC on November 6, 1996. The inspection also included a review of the radiation safety programs at the other facilities listed above to determine if there were any generic aspects to the findings at the Bristol office. On December 4, 1996, the findings from this inspection were discussed with you and other members of your company identified in Appendix B of the report.

Areas examined during the inspection are identified in the report. Within these areas, the inspection consisted of interviews with personnel, observations of activities, and selective examinations of procedures and representative records.

The AIT concluded that the thermoluminescent dosimeter reading and the cytogenetic test results are consistent with a whole body exposure to penetrating radiation of approximately 16 rems. However, the AIT concluded that this dose could not have resulted from the use of the moisture/density gauge in the manner described by the technician. The AIT performed an independent dose assessment based on data provided by the manufacturer, your independent consultant, and interviews with the technician. This assessment indicated that the dose received by the technician from use of the gauge in the manner described by the technician was approximately 100 millirem, or two percent of the NRC annual limit. The maximum dose to the technician's hands calculated by the AIT was approximately 25 rems which is well below the NRC annual limit for dose to extremities of 50 rems. The AIT also determined, based on statements made by the technician, that the symptoms reported by the technician occurred before a significant part of the apparent radiation dose to the hands had been received.

9702110030 970121  
PDR ADOCK 03031566  
C PDR

1/1

1007

The AIT concluded that implementation and management oversight of your moisture/density gauge operator training program at the Bristol, Ann Arbor, Lansing, and Detroit offices were less than adequate. In addition, the team identified several failures to follow your operating procedures at the Bristol facility.

The AIT also identified an instance where a technician assigned to the Detroit, Michigan office failed to secure a moisture/density gauge located in an unrestricted area at a temporary jobsite from unauthorized removal.

The AIT charter (See Appendix A to the Report) did not direct the AIT to determine compliance with NRC rules and regulations or to recommend enforcement actions. These aspects will be reviewed in a subsequent inspection and provided to you by separate correspondence.

In accordance with 10 CFR 2.790, of the NRC's "Rules of Practice," a copy of this letter and enclosure will be placed in the NRC Public Document Room.

We appreciate your cooperation and the cooperation of the PSI staff at the offices inspected. Your open discussion of issues and findings was beneficial to our evaluation.

Should you have any questions concerning this letter, please contact us.

Sincerely,

(original signed by  
Luis A. Reyes)

Luis A. Reyes  
Regional Administrator

Docket No. 030-31566  
License No. 45-25088-01

Enclosure: NRC Inspection Report

cc w/encl:  
Commonwealth of Virginia  
State of Michigan  
State of Missouri

Distribution w/encl: (See page 3)

PSI

3

Distribution w/encl:

PUBLIC

B. Mallett, RII

D. Cool, NMSS

C. Pederson, RIII

OFFICE	RII:DNMS	RII:DNMS	NMSS:INMS	NMSS:INMS	RII:DNMS	RII:DNMS	RII:ORA
SIGNATURE	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>
NAME	Sparker	J Jones	Trich	Ssherbin	Chasey	Bmallett	EMerschhoff
DATE	1/15/97	1/17/97	1/15/97	1/21/97	1/15/97	1/15/97	1/15/97
COPY?	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO

OFFICIAL RECORD COPY

DOCUMENT NAME: G:\DNMS\MLIB1\PSIAIT\LETTER.001

NOT IN OFFICE

## TABLE OF CONTENTS

Executive Summary.....	I
------------------------	---

Report Details.....	1
---------------------	---

1.0 Description of Occurrence.....	1
2.0 Sequence of Events.....	1
3.0 Equipment .....	2
4.0 Training.....	13
5.0 Procedural Controls.....	19
6.0 Management of Oversight of Licensed Activities.....	23
7.0 Radiation Dosimetry.....	24
8.0 Licensee's Investigation and Immediate Actions.....	35
9.0 Root Causes and Contributing Factors.....	36
10.0 Inspections and other PSI Offices.....	36
11.0 Licensee's Response to Confirmation of Action Letter...	40
12.0 Exit Meeting .....	41

### Appendices

A. AIT Charter.....	A1
B. Partial List of Persons Contacted.....	B1
C. Acronyms and Abbreviations.....	C1
D. List of Documents Reviewed.....	D1
E. Confirmation of Action Letter (11/8/96).....	E1