CASE No. 4-1999-016

United States
Nuclear Regulatory Commission

Report of Investigation

PROFESSIONAL SERVICE INDUSTRIES, INC.:

DELIBERATE VIOLATION OF TWO-MAN RULE AND POSSIBLE OVEREXPOSURE

Office of Investigations

Reported by OI: **RIV**

D 12

Title: PROFESSIONAL SERVICE INDUSTRIES, INC.:

DELIBERATE VIOLATION OF TWO-MAN RULE AND POSSIBLE OVEREXPOSURE

Licensee:

Professional Service
Industries, Inc.
510 East 22nd Street
Lombard, IL 60148

Docket No.: 03018460

Case No.: 4-1999-016

Report Date: June 22, 1999

Control Office: OI:RIV

Status: CLOSED

Reported by:

(b)(7)(C)

(b)(7)(C) Special Agent
Office of Investigations
Field Office, Region IV

Reviewed and Approved by:

E. L. Williamson, Director
Office of Investigations
Field Office, Region IV

WARNING

DO NOT DISSEMINATE, PLACE IN THE PUBLIC DOCUMENT ROOM, OR DISCUSS THE CONTENTS OF THIS REPORT OF INVESTIGATION OUTSIDE NRC WITHOUT AUTHORITY OF THE APPROVING OFFICIAL OF THIS REPORT. UNAUTHORIZED DISCLOSURE MAY RESULT IN ADVERSE ADMINISTRATIVE ACTION AND/OR CRIMINAL PROSECUTION.

SYNOPSIS

This investigation was initiated on April 6, 1999, by the Nuclear Regulatory Commission (NRC), Office of Investigations (OI), Region IV (RIV), to determine if a radiographer and assistant radiographer, employees of Professional Service Industries, Inc. (PSI), Lombard, Illinois, an NRC licensee, deliberately violated required radiography practices which resulted in a possible radiation overexposure.

Based on the evidence developed, testimony, and document reviews, the investigation substantiated that the radiographer and assistant radiographer willfully violated required radiography practices; however, the allegation of a possible radiation overexposure could not be substantiated.

THIS PAGE LEFT BLANK INTENTIONALLY

TABLE OF CONTENTS

THIS PAGE LEFT BLANK INTENTIONALLY

LIST OF INTERVIEWEES

(b)(7)(C)	Exhibit
	6
	8
	5
	4
	10
	11
	7
	9

THIS PAGE LEFT BLANK INTENTIONALLY

DETAILS OF INVESTIGATION

Allegation

Deliberate Violation of Two-Man Rule and Possible Overexposure

Applicable Regulations

10 CFR 20.1301: Dose Limits for Individual Members of the Public (1998 Edition)

10 CFR 20.1802: Security of Stored Material (1998 Edition)

10 CFR 34.41: Conducting Industrial Radiographic Operations (1998 Edition)

10 CFR 34.46: Supervision of Radiographer's Assistants (1998 Edition)

Purpose of Investigation

This investigation was initiated on April 6, 1999 (Exhibit 1), by the Nuclear Regulatory Commission (NRC), Office of Investigations (OI), Region IV (RIV), to determine if a radiographer and assistant radiographer, employees of Professional Service Industries, Inc. (PSI), Lombard, Illinois, an NRC licensee, deliberately violated required radiography practices which resulted in a possible overexposure at a job site in Pocatello, Idaho.

Background

On April 5, 1999, (b)(7)(C) (b)(7)(C) (b)(7)(C) contacted Kent PRENDERGAST, Materials Inspector, Division of Nuclear Materials Safety, NRC:RIV, and reported an incident that occurred at Eaton Metal Products (Eaton), Pocatello, Idaho, involving a potential overexposure. According to (b)(7)(C) PSI was conducting radiography inside an Eaton building when two Eaton employees wanted to close a large door which required transiting the rope boundary established by the PSI crew. The Eaton employees approached the PSI truck, observed one of the PSI employees asleep in the cab of the truck, and proceeded to the truck's darkroom to inquire if it was

permissible to cross the boundary. Upon knocking on the darkroom door, the other PSI employee stated, "Don't bother me, I'm developing film." The two Eaton employees understood the comment to indicate that PSI had completed their radiography and entered the barricaded area. At that point, they observed that film was still attached to the vessel being tested and assumed the source was still exposed. They exited the building and informed the PSI employee what had happened. The PSI employee allegedly told them they did not receive enough dose to be concerned about. Later that day, both Eaton employees became ill and reported the incident to their supervision. A meeting between Eaton and PSI ensued which resulted in the PSI radiographer denying he was asleep. Additionally, the (b)(7)(C) stated the exposure received was minimal and any illness of the Eaton employees was brought on by fear and not radiation related. (b)(7)(C) identified one of the Eaton employees as (b)(7)(C) [LNU].

On April 5, 1999, Ray MULLIKIN, Allegations Coordinator, RIV, contacted (b)(7)(C) regarding his concerns (Exhibit 2).

On April 5, 1999, the RIV Allegation Review Board (ARB) discussed the information provided by (b)(7)(C) and expressed concern over the failure of PSI to report a possible overexposure. The RIV:ARB requested OI:RIV obtain information from the employees who may have been subject to an overexposure.

Coordination with NRC Staff

On April 6, 1999, Elmo COLLINS, Chief, Nuclear Materials Inspection Branch, RIV, in conjunction with OI:RIV, contacted Chris SMITH, Corporate RSO, PSI; (b)(7)(C) PSI; and (b)(7)(C) to verify the occurrence of the incident in September 1998 (Exhibit 3).

Interview of Alleger (Exhibit 4)

On May 4, 1999, (b)(7)(C) was interviewed by OI:RIV and stated substantially as follows.

(b)(7)(C) stated that during the (b)(7)(C) September 14 and the (b)(7)(C) of September 15, 1998, PSI was conducting radiography operations at Eaton. Two Eaton employees, one of whom he identified as (b)(7)(C) wanted to enter the facility to close a door which required transiting the boundary area

previously established by PSI. Upon approaching the PSI truck, they noticed one of the PSI employees [NFI] asleep in the cab. When they knocked on the camper door of the truck, the other PSI employee [NFI] replied, "Don't bother me, I'm developing film." (b)(7)(C) stated the Eaton employees understood this to mean that PSI had finished their radiography. The two Eaton employees then crossed the rope barrier, noticed the film was still attached to the vessel, and assumed the source was still exposed. As they exited the building, they informed the PSI employees what had occurred. PSI informed them that they had not received sufficient exposure over which to be concerned. Later that morning, (b)(7)(C) became ill and regurgitated. According to (b)(7)(C) (b)(7)(C) reported the incident to (b)(7)(C) (b)(7)(C) Eaton, later that same day. It was (b)(7)(C) understanding that a meeting ensued between Eaton and PSI during which the radiographer denied being asleep. Allegedly PSI stated that (b)(7)(C) illness was brought on by fear rather than radiation overexposure. (b)(7)(C) admitted that all his information was provided by (b)(7)(C) and added that both Eaton employees were fearful they had been overexposed but were likewise fearful of being terminated if they made an issue of the incident with Eaton.

Testimony

Interview of (b)(7)(C) (Exhibit 5)

(b)(7)(C) was interviewed by OI:RIV on May 3, 1999, in Pocatello, Idaho, and stated substantially as follows.

(b)(7)(C) recalled that on September 14, 1998, while working the (b)(7)(C) at Eaton, PSI was conducting radiography inside an Eaton building in which he was working. He acknowledged that PSI, prior to conducting any radiography, had erected an appropriate barricade and instructed him and several other Eaton employees not to cross the barricade due to the conduct of radiography. He further stated that at approximately (b)(7)(C) September 15, 1998, he, (b)(7)(C) and (b)(7)(C) Eaton, finished their shift and prepared to exit the building which required transiting the barricaded area. (b)(7)(C) who was in the lead, claimed he did not observe any PSI employees in or around the barricaded area. As they approached the PSI truck parked near the barricade, (b)(7)(C) claimed he saw one of the PSI employees [NFI] asleep in the cab. According to (b)(7)(C) he then

proceeded to the rear of the truck where, upon knocking on the door, he heard the reply, "I'm developing."

(b)(7)(C) stated that based on his observance of the sleeping PSI employee and no observance of any other PSI employee working externally of the truck, he assumed PSI had completed their radiography and proceeded to cross the barricade. He added that (b)(7)(C) and (b)(7)(C) crossed the barricade at approximately the same time. Within seconds of crossing into the barricaded area, (b)(7)(C) stated he heard someone shouting, "Get out of there." He stated he observed one of the PSI employees [NFI] shouting but could not ascertain if the employee was shouting at him or at the other PSI employee asleep in the truck. As the shouting PSI employee approached him, (b)(7)(C) immediately exited the barricaded area. According to (b)(7)(C) the same PSI employee then held a meter [NFI] close to him (b)(7)(C) and indicated everything was all right. (b)(7)(C) estimated he was in the barricaded area for less than 1 minute and acknowledged that at no time did he actually observe the radiation source but assumed the area was "hot" based on the actions of the PSI employee. He added that later that day, at his home, he became quite ill and regurgitated but was not confident that his illness was the result of the radiation or anxiety. He further stated he did not seek medical attention for his illness and that he notified his supervisor, (b)(7)(C) (b)(7)(C) Eaton, of the incident later that same day. (b)(7)(C) concluded by saying he had observed at least one of the PSI employees [NFI] watching the perimeter of the barricade earlier that evening and offered he did not observe any other conduct which seemed inappropriate or unsafe.

Interview of (b)(7)(C) (Exhibit 6)

(b)(7)(C) was interviewed by OI:RIV on May 3, 1999, in Pocatello, Idaho, and related the following information in substance.

(b)(7)(C) recalled that on September 14, 1998, while working the (b)(7)(C) at Eaton, PSI was conducting radiography inside the Eaton building in which he was working. He acknowledged that PSI had erected a barricade alerting people to the conduct of radiography and recalled being informed by one of the PSI employees [NFI], earlier in the evening, not to cross the barricade due to the potential risk of radiation exposure. (b)(7)(C) advised that at approximately (b)(7)(C) September 15, 1998, he, (b)(7)(C) and (b)(7)(C) were approaching the barricade from

slightly different angles based on where they had finished their work for the shift. He further stated that upon approaching the barricade, he did not observe any PSI employee in or around the barricaded area as he had earlier in the shift. He claimed he did observe one of the PSI employees [NFI] apparently asleep in the cab of the PSI truck which was parked near the barricade. Based on the absence of any PSI personnel at the barricade and his observance of the PSI employee apparently asleep in the truck, (b)(7)(C) acknowledged that he assumed PSI had concluded their radiography and crossed the barricade. He maintained that he did not hear anyone shout to "Get out of there" and estimated he was in the barricaded area for no longer than 10-15 seconds. He also added he did not believe the area was "hot" until later informed by (b)(7)(C) He stated he experienced no physical ailments and that he spoke with (b)(7)(C) about the incident later that morning.

Interview of (b)(7)(C) (Exhibit 7)

(b)(7)(C) was interviewed by OI:RIV on May 4, 1999, in Pocatello, Idaho, and related the following information in substance.

(b)(7)(C) recalled that on September 14, 1998, while working the (b)(7)(C) at Eaton, PSI was conducting radiography inside the Eaton building in which he was working. He acknowledged that PSI had erected a barricade alerting people to the conduct of radiography and recalled being informed by one of the PSI employees [NFI], earlier in the evening, not to cross the barricade due to the potential risk of radiation exposure. At approximately (b)(7)(C) on September 15, 1998, he, (b)(7)(C) and (b)(7)(C) finished their shift and prepared to exit the building which required crossing the barricaded area. He added that the three Eaton employees approached the barricade from slightly different angles based on where they had finished their work for the shift. He continued that as he approached the barricade, he did not observe any PSI employee standing near the barricade as he had earlier in the shift. He further claimed he saw one of the PSI employees [NFI] apparently asleep in the cab of the PSI truck parked near the barricade.

(b)(7)(C) stated he assumed that based on the absence of any PSI employee at the barricade and his observance of the PSI employee apparently asleep in the truck, PSI had finished their radiography and proceeded to cross the barricade. Immediately

after entering the barricaded area, he heard a PSI employee [NFI] shout, "Get out of there" and approach him. He immediately exited the area and the PSI employee held a meter [NFI] close to him (b)(7)(C) and advised him it was all right. (b)(7)(C) estimated he was in the barricaded area for approximately 10-15 seconds and offered that he did not experience any illness or side effects. He further stated he was not sure if the area was "hot." In conclusion, he stated he informed (b)(7)(C) of the incident later that morning.

Interview of (b)(7)(C) (Exhibit 8)

(b)(7)(C) was interviewed by OI:RIV on May 4, 1999, in Pocatello, Idaho, and related the following information in substance.

(b)(7)(C) advised that PSI, Lombard, Illinois, an NRC licensee, operating out of Salt Lake City, Utah, had been contracted by Eaton to perform radiography and was scheduled to initiate the work during the (b)(7)(C) shift on September 14, 1998.

(b)(7)(C) said on the morning of September 15, 1998, he was informed by (b)(7)(C) of a potential radiation overexposure which occurred when (b)(7)(C) and (b)(7)(C) crossed the rope boundary of the radiation operating area, believing PSI had finished their radiography. According to (b)(7)(C) the Eaton employees had been working in an adjacent part of the facility and upon finishing their shift, prepared to exit the building which required transiting the barricaded area. As related by (b)(7)(C) the Eaton employees did not observe any PSI employees at the barricade, as they had earlier in the evening, and claimed to have observed one of the PSI employees [NFI] sleeping in the cab of the PSI truck. Believing the radiography was completed, the Eaton employees crossed the boundary, at which time the other PSI employee [NFI] exited the truck and shouted at them to leave the boundary area. According to (b)(7)(C) the same PSI employee conducted a radiation survey of the individuals and informed them the exposure readings were normal. (b)(7)(C) recalled being informed by (b)(7)(C) of his (b)(7)(C) illness but did not know if (b)(7)(C) went to a physician for an examination. (b)(7)(C) (b)(7)(C) opined that he did not believe (b)(7)(C) illness was a direct result of the radiation exposure.

On September 15, 1998, following his receipt of the information from (b)(7)(C) contacted (b)(7)(C) and informed him of the incident. Several days later, (b)(7)(C) received a copy of a letter (Exhibit 12) from (b)(7)(C) to Chris SMITH, Corporate RSO, PSI, delineating PSI's evaluation of the incident. (b)(7)(C) said on January 11, 1999, Eaton conducted a safety meeting and provided guidance (Exhibit 13) to all employees regarding the prohibition of crossing visible boundaries indicating the conduct of radiography operations. In conclusion, (b)(7)(C) stated Eaton had not experienced any problems with PSI prior or subsequent to the (b)(7)(C) incident.

Interview of (b)(7)(C) (Exhibit 9)

(b)(7)(C) was interviewed by OI:RIV on May 5, 1999, in Salt Lake City, Utah, and related the following information in substance.

(b)(7)(C) advised that PSI had contracted with Eaton to perform radiography on several 2 1/2 inch thick metal vessels. According to (b)(7)(C) on the afternoon of September 14, 1998, he, (b)(7)(C) PSI, and (b)(7)(C) (b)(7)(C) PSI, drove to the Eaton job site. (b)(7)(C) recalled he helped set up the boundary around the work area and remained there for the first two of four 1-hour exposures. According to (b)(7)(C) during the first two exposures, PSI followed the two-man surveillance requirement and ensured the presence of a certified radiographer whenever the source was exposed. At approximately 12:00 p.m., on September 14, 1998, he returned to Salt Lake City.

(b)(7)(C) stated that on the morning of September 15, 1998, he received a telephone call from (b)(7)(C) advising him that several Eaton employees [NFI] had crossed an unsupervised radiation boundary line. Additionally, (b)(7)(C) advised he was informed that one of the PSI employees [NFI] was observed sleeping in the cab of the PSI truck and that the Eaton employees had possibly been subjected to a radiation overexposure. (b)(7)(C) offered that during subsequent conversations with (b)(7)(C) and (b)(7)(C) acknowledged sleeping in the truck but only after advising (b)(7)(C) he was going to do so. According to (b)(7)(C) acknowledged that he was in the truck processing film during the conduct of the third and fourth exposures thus allowing (b)(7)(C) to surveil the boundary and conduct active radiographic operations alone.

As to the possible overexposure, (b)(7)(C) admitted that based on the information he received from (b)(7)(C) and (b)(7)(C) he determined that the duration of the barricade entry by the Eaton employees was less than 1 minute. Considering the location of the Cobalt 60 source, in relation to the point of trespass of the boundary, (b)(7)(C) estimated the Eaton employees received less than 1 mr. He further advised that on September 17, 1998, he sent a letter (Exhibit 12) to Chris SMITH, Corporate RSO, PSI, with an information copy to (b)(7)(C) informing him of the incident and his evaluation of the event. (b)(7)(C) claimed he counseled (b)(7)(C) and (b)(7)(C) on their conduct, adding that he had not experienced any previous problems with (b)(7)(C) or (b)(7)(C) during the course of their employment with PSI. According to (b)(7)(C)
(b)(7)(C)

Interview of (b)(7)(C) (Exhibit 10)

(b)(7)(C) was interviewed by OI:RIV on May 5, 1999, in Salt Lake City, Utah, and related the following information in substance.

(b)(7)(C) advised he has been employed as an (b)(7)(C) with PSI since (b)(7)(C) He acknowledged receiving training from (b)(7)(C) in PSI's operating and emergency procedures to include the "two-man" rule requirement regarding surveillance of the area during radiography. Additionally, he admitted he was instructed that as an (b)(7)(C) he was (b)(7)(C)
(b)(7)(C)
(b)(7)(C) Regarding the incident in question, (b)(7)(C) stated that on September 14, 1998, he, (b)(7)(C) and (b)(7)(C) drove to the Eaton job site in Pocatello, Idaho. According to (b)(7)(C) the radiography consisted of four shots, using a 55 Curie Cobalt 60 source, with each exposure lasting approximately 1 hour. After the second shot, (b)(7)(C) returned to Salt Lake City, and (b)(7)(C) and he (b)(7)(C) set up for the third shot. (b)(7)(C) claimed that before (b)(7)(C) cranked out the source, he (b)(7)(C) said, "You watch the barricade and I'm going to develop film." (b)(7)(C) related that he performed the surveillance of the area, alone, as instructed, and after approximately 1 hour, (b)(7)(C) exited the truck and secured the source. (b)(7)(C) said for the fourth exposure, the same procedure was followed with him (b)(7)(C) conducting surveillance of the

area, alone, and (b)(7)(C) developing film in the truck. He further disclosed that at the end of the fourth shot, (b)(7)(C) did not exit the vehicle so he (b)(7)(C) by his own initiative, retracted and secured the source. At that point, (b)(7)(C) claimed he knocked on the rear door of the truck and informed (b)(7)(C) that he (b)(7)(C) had secured the source and was going to lie down in the cab of the truck because his back was "paining" him. (b)(7)(C) strongly maintained that (b)(7)(C) acknowledged his notification, and he (b)(7)(C) proceeded to the truck cab where he fell asleep for approximately 5-10 minutes.

(b)(7)(C) maintained that the next thing he recalled was waking up to (b)(7)(C) yelling at someone to "Get out of the barricaded area." (b)(7)(C) stated he immediately exited the truck and inquired of (b)(7)(C) who he (b)(7)(C) was shouting at. According to (b)(7)(C) informed him (b)(7)(C) it was somebody [NFI] who had just crossed the barricade. At that point, (b)(7)(C) asked him (b)(7)(C) "Is the source in or out?" (b)(7)(C) replied that the source was retracted and secured and reminded (b)(7)(C) that he (b)(7)(C) had previously informed him (b)(7)(C) of that fact a few moments prior. (b)(7)(C) claimed (b)(7)(C) responded with "oh" and informed him (b)(7)(C) that he (b)(7)(C) had just cautioned the individual who crossed the barricade that the source was exposed. According to (b)(7)(C) they (b)(7)(C) and (b)(7)(C) remained at Eaton for several more hours securing their equipment. On September 15, 1998, during the return trip to Salt Lake City, (b)(7)(C) acknowledged (b)(7)(C) (b)(7)(C) He further claimed they did not discuss the fact that during the third and fourth exposures, he (b)(7)(C) was (b)(7)(C) (b)(7)(C) admitted that both he and (b)(7)(C) (b)(7)(C) (b)(7)(C) (b)(7)(C) In conclusion, (b)(7)(C) adamantly maintained he retracted and secured the source at the end of the last exposure and resultantly there was no overexposure to any of the Eaton employees who crossed the barricade.

Interview of (b)(7)(C) (Exhibit 11)

(b)(7)(C) was telephonically interviewed by OI:RIV on May 7, 1999, and related the following information in substance.

(b)(7)(C) had adamantly refused OI:RIV's request for an in-person interview, stating he was no longer employed in the radiography field and had previously provided all pertinent information, in his possession, to (b)(7)(C) agreed to be telephonically interviewed.

(b)(7)(C) recalled the September 14, 1998, job at Eaton and stated that he, (b)(7)(C) and (b)(7)(C) had driven to Pocatello on the afternoon of September 14, 1998. According to (b)(7)(C) the radiography was of a thick metal vessel which required four 1-hour exposures. He further added, to the best of his recollection, they were using a 55 curie Cobalt-60 radiation source. According to (b)(7)(C) remained at the job site for the first two exposures and then left to return to Salt Lake City. For the third exposure, (b)(7)(C) stated that he and (b)(7)(C) set up the shot, and he told (b)(7)(C) to maintain surveillance of the area from a vantage point where he (b)(7)(C) could see all boundaries of the area. Upon cranking out the source, (b)(7)(C) proceeded to the PSI truck to process the previously exposed film. Approximately 1 hour later, he (b)(7)(C) exited the truck, cranked in the source, and conducted the appropriate survey. For the fourth exposure, (b)(7)(C) stated that after he and (b)(7)(C) set up the shot, (b)(7)(C) initiated his surveillance of the area while he (b)(7)(C) again entered the truck to process film. (b)(7)(C) added that by this time, it was approaching (b)(7)(C) or later, and they wanted to finish the job as soon as possible. At the conclusion of the fourth exposure, (b)(7)(C) admitted that he did not exit the truck to crank in the source as he was busy processing film and lost track of the time.

(b)(7)(C) claimed he recalled hearing (b)(7)(C) knock on the door and advise him (b)(7)(C) that he (b)(7)(C) was going to lie down in the truck for a while. (b)(7)(C) said shortly thereafter [exact time unrecalled], he exited the truck and observed several Eaton employees [NFI] crossing the barricaded area. According to (b)(7)(C) he was not sure if the source was still exposed and shouted at the individuals to "Get out of the area." He added that after approaching the Eaton employees, he conducted a test with his survey meter, found the readings to be safe, and told the Eaton employees it was safe. (b)(7)(C) stated he then spoke to (b)(7)(C) who informed him (b)(7)(C) that he (b)(7)(C) had retracted and secured the source at the completion of the fourth shot before going to lie down in the truck. (b)(7)(C) did not recall (b)(7)(C) previously informing him that he had secured the

source but admitted that (b)(7)(C) voice was muffled while he (b)(7)(C) was in the truck, and he (b)(7)(C) possibly did not hear him (b)(7)(C) clearly. He added that (b)(7)(C) efforts to retract and secure the source were of his own volition and not at his (b)(7)(C) direction. (b)(7)(C) stated he informed (b)(7)(C) of the incident the next day.

(b)(7)(C) acknowledged receiving radiation safety training, while with PSI, to include the requirement for two-man surveillance during the conduct of radiographic operations. He further recalled receiving training on the prohibition of allowing an (b)(7)(C) (b)(7)(C) When queried as to why he allowed both these acts to occur, (b)(7)(C) steadfastly claimed that both acts were prompted by his desire to finish the job as soon as possible. Although (b)(7)(C) (b)(7)(C) (b)(7)(C) maintained that at the time, he did not think allowing (b)(7)(C) to perform the surveillance and active radiographic operations, by himself, were violations. (b)(7)(C) again cited his preoccupation with finishing the job as his rationale. He claimed he felt reasonably safe with the situation and expressed greater concern regarding the violation of the two-man surveillance rule than the conduct of radiographic operations by an (b)(7)(C) (b)(7)(C) admitted that although he possibly frightened the Eaton employees by yelling at them to exit the area, he later verified that the source had been secured and resultantly no over-exposure occurred. Under further questioning, (b)(7)(C) adamantly maintained that this was the first time he had allowed his (b)(7)(C) to solely perform the boundary surveillance and conduct (b)(7)(C) In conclusion, (b)(7)(C) was resolute in his denial that the aforementioned violations were deliberate in nature and maintained that the late hour and his desire to finish the job led to the violations.

AGENT'S NOTE: On June 1, 1999, a copy of the results of interview with (b)(7)(C) and the signed sworn statement with (b)(7)(C) was provided to Gary SANBORN, Enforcement Officer, RIV, for his review. Additionally, on June 4, 1999, a meeting with the Division of Nuclear Materials Safety staff, RIV, was held to discuss the results of the OI:RIV field work and preliminary conclusions. During the meeting and in the memorandum to SANBORN, the staff was asked if a personal, on-the-record interview of (b)(7)(C) was necessary

in that he refused to consent to a personal interview on the record. The staff related that with the information developed by OI:RIV, additional investigative activity was not warranted and if appropriate, enforcement action could be taken based on the available evidence.

Review of Documentation

PSI Letter dated September 17, 1998 (Exhibit 12)

This letter from (b)(7)(C) to SMITH was the official notification of the incident from the PSI Salt Lake City, Utah, field office to PSI Corporate Headquarters, Lombard, Illinois. (b)(7)(C) estimated that exposure to the Eaton employees was less than 1 mr.

Minutes of Eaton Safety Meeting dated January 11, 1999 (Exhibit 13)

Item 10 of this document reiterated EATON's policy regarding employee actions during the conduct of radiography.

PSI Radiation Safety Manual for Industrial Radiography dated January 1995 (Exhibit 14)

This document set forth PSI's management responsibilities, safety training, inspection and maintenance, and safety procedures regarding industrial radiography.

Part B, para 3.0 (b) stipulates that, "An assistant radiographer may, while under personal supervision and physical presence of a radiographer, use radiographic exposure devices..."

Part B, para 3.0 (c) stipulates that "A radiographer...must supervise radiographic operations by an assistant radiographer, and is responsible for assuring compliance with all applicable requirements of the USNRC and Part D (Operating and Emergency Procedures) of the radiation safety manual..."

Part B, paras 4.2 and 4.3 mandate the issuance of a copy of Part D (Operating and Emergency Procedures) of the radiation safety manual to each assistant radiographer and radiographer.

Part B, para 5.3 stipulates that "upon successful completion of all training and examination requirements, certification will be issued by the Corporate Radiation Safety Department."

Part D, para 1.3 states that "personnel classified assistant radiographer shall be qualified to conduct radiographic operations in accordance with this procedure under the direct "eyes-on" supervision of a qualified radiographer."

PSI Certification of Training for (b)(7)(C) dated (b)(7)(C) (Exhibit 15)

This document reflected (b)(7)(C) successful completion of the radiation safety training program for industrial radiographers.

PSI Certification of Training for (b)(7)(C) dated (b)(7)(C) (Exhibit 16)

This document reflected (b)(7)(C) successful completion of the radiation safety training program for assistant radiographers.

Agent's Analysis

10 CFR 20.1301(a)(1) requires, in part, that the licensee shall conduct operations so that the total effective dose equivalent to individual members of the public from the licensed operation does not exceed 0.1 rem in a year. Investigative inquiries confirmed that on September 15, 1998, three Eaton employees, of their own accord, transited the PSI barricade which had been erected to alert individual members of the public to the conduct of radiographic operations. Although the Eaton employees may have been led to believe the area was "hot" by (b)(7)(C) actions, no evidence was discovered to support the allegation that the radioactive source was exposed during the Eaton trespass. To the contrary, (b)(7)(C) testified he had secured the source prior to any encroachment of the barricaded area and had advised (b)(7)(C) of the same. (b)(7)(C) acknowledged that his actions of shouting at the Eaton employees to vacate the area, were predicated on his lack of knowledge as to whether the source was still exposed. He further acknowledged that he did not recall (b)(7)(C) previously informing him that he (b)(7)(C) had secured the source. OI:RIV could not determine that an overexposure to the Eaton employees occurred.

10 CFR 20.1802 requires that "the licensee shall control and maintain constant surveillance of licensed material that is in a controlled or uncontrolled restricted area and that is not in storage." (b)(7)(C) testified that upon completion of the fourth

exposure, he secured the source, notified (b)(7)(C) of his actions, and proceeded to the cab of the truck where he fell asleep for approximately 5-10 minutes. (b)(7)(C) corroborated (b)(7)(C) story, in part, by acknowledging that he was in the van, processing film, at the time the source was retracted following the fourth exposure. During the period of time from when (b)(7)(C) entered the cab of the truck to the point where (b)(7)(C) exited the rear of the vehicle, constant visual surveillance of the licensed material was compromised. OI:RIV determined the actions of (b)(7)(C) and (b)(7)(C) willfully violated the provisions of the procedure.

10 CFR 34.41(a) requires, in part, that whenever radiography is performed at a location other than a permanent radiographic installation, the radiographer must be accompanied by at least one other individual who has met the requirements of 10 CFR 34.43(c). The additional qualified individual shall observe the operations and be capable of providing immediate assistance to prevent unauthorized entry. Radiography may not be performed if only one qualified individual is present. (b)(7)(C) testified that he alone, as directed by (b)(7)(C) was present in a location capable of preventing any unauthorized entry into the barricaded area. (b)(7)(C) admitted he directed (b)(7)(C) to maintain surveillance of the area while he (b)(7)(C) processed film in the van. It is reasonable to assume that while (b)(7)(C) actions in this matter were willful, they were directed by his supervisor, (b)(7)(C) (b)(7)(C) acknowledged he had received training to the contrary and admitted, in retrospect, that while failing to follow the "two-man rule" was wrong, he had not considered that fact at the time. Inquiries failed to disclose any previous similar violations by (b)(7)(C) OI:RIV determined (b)(7)(C) actions willfully violated the provisions of this procedure.

10 CFR 34.46(c) requires, in part, that whenever an assistant radiographer uses radiographic exposure devices, the assistant shall be under the personal supervision of a radiographer, and the personal supervision must include the radiographer's direct observation of the assistant's performance of the operations referred to in this section. (b)(7)(C) testified that at the completion of the fourth exposure, (b)(7)(C) did not exit the vehicle to retract the source. (b)(7)(C) further admitted that, by his initiative, he retracted and secured the source. As (b)(7)(C) was in the van processing film, he was precluded from observing

(b)(7)(C) accomplish this act. (b)(7)(C) admitted he was in the van, processing film, at the completion of the fourth exposure claiming he had lost track of time. He offered that while (b)(7)(C) decision to retract the source was not directed by him (b)(7)(C) he (b)(7)(C) He admitted having received training to the contrary but maintained he had not considered it at the time. Inquiries failed to disclose any previous similar violations by (b)(7)(C) OI:RIV determined (b)(7)(C) and (b)(7)(C) actions willfully violated the requirements of this provision.

Conclusions

Based on the evidence developed, testimony, and document reviews, the investigation substantiated that (b)(7)(C) and (b)(7)(C) willfully violated required radiography practices; however, the allegation of a possible radiation overexposure could not be substantiated.

THIS PAGE LEFT BLANK INTENTIONALLY

SUPPLEMENTAL INFORMATION

On June 2, 1999, (b)(7)(C) for Regulatory Enforcement, Fraud Section, Criminal Division, U.S. Department of Justice, Bond building, Room 2428, 1400 New York Avenue, N.W., Washington, D.C. 20005, was apprised of the results of the investigation. (b)(7)(C) advised that, in his view, the case did not warrant prosecution and rendered an oral declination.

On June 4, 1999, Gary SANBORN, Enforcement Officer, Office of Enforcement, RIV, was apprised of the Department of Justice decision to decline prosecution in this matter.

THIS PAGE LEFT BLANK INTENTIONALLY

LIST OF EXHIBITS

Exhibit No.	Description
1	Investigation Status Record, dated April 6, 1999.
2	Memorandum from MULLIKIN to file, dated April 5, 1999.
3	Telephone Conversation Record, dated April 6, 1999.
4	Report of Interview with (b)(7)(C) dated May 4, 1999.
5	Report of Interview with (b)(7)(C) dated May 3, 1999.
6	Report of Interview with (b)(7)(C) dated May 3, 1999.
7	Report of Interview with (b)(7)(C) dated May 4, 1999.
8	Report of Interview with (b)(7)(C) dated May 4, 1999.
9	Report of Interview with (b)(7)(C) dated May 5, 1999.
10	Sworn Statement of (b)(7)(C) dated May 5, 1999.
11	Report of Interview of (b)(7)(C) dated May 7, 1999.
12	PSI Letter, dated September 17, 1999.
13	Minutes of Eaton Safety Meeting, dated January 11, 1999.
14	PSI Radiation Safety Manual, dated January 1995.

15 PSI Certificate of Training for (b)(7)(C) dated (b)(7)(C)

16 PSI Certificate of Training for (b)(7)(C) dated (b)(7)(C)