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January 4, 2001

U.S. Nuclear Regulatory Commission
Document Control Desk
Washington, D.C. 20555


Subject: Oconee Nuclear Station
Docket Nos. 50-269, -270, -287
Licensee Event Report 269/2000-07, Revision 0
Problem Investigation Process No.: O-00-3937

Gentlemen:

Pursuant to 10 CFR 20.2201 Sections (b)(1) and (2), attached is Licensee Event Report 269/2000-07, Revision 0, concerning lost licensed material, specifically a calibration source containing 0.022 microcurie of AM-241.

This report is being submitted in accordance with 10 CFR 20.2201(b) which references 10 CFR 50.73. This event is considered to be of no significance with respect to the health and safety of the public.

Very truly yours,



W. R. McCollum, Jr.

Attachment

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Document Control Desk

Date: January 4, 2001

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cc: Mr. Luis A. Reyes
Administrator, Region II
U.S. Nuclear Regulatory Commission
61 Forsyth Street, S. W., Suite 23T85
Atlanta, GA 30303

Mr. D. E. LaBarge
U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Washington, D.C. 20555

Mr. M. C. Shannon
NRC Senior Resident Inspector
Oconee Nuclear Station

INPO (via E-mail)

Estimated burden per response to comply with this mandatory information collection request: 50 hrs. Reported lessons learned are incorporated into the licensing process and fed back to industry. Forward comments regarding burden estimate to the Records Management Branch (T-6 F33), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, and to the Paperwork Reduction Project (3150-0104), Office of Management and Budget, Washington, DC 20503. If an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

LICENSEE EVENT REPORT (LER)

(See reverse for required number of digits/characters for each block)

FACILITY NAME (1) Oconee Nuclear Station, Unit 1	DOCKET NUMBER (2) 05000 - 269	PAGE (3) 1 OF 6
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TITLE (4)
Source Lost- Not Secured During Unexpected Work Interruption

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
11	09	00	2000	- 07	- 00	01	04	01	Unit 2	05000 - 270
									FACILITY NAME	DOCKET NUMBER
									Unit 3	05000 - 287

OPERATING MODE (9) 1	POWER LEVEL (10) 100%	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)							
		<input checked="" type="checkbox"/> 20.2201(b)	<input type="checkbox"/> 20.2203(a)(2)(v)	<input type="checkbox"/> 50.73(a)(2)(i)(B)	<input type="checkbox"/> 50.73(a)(2)(viii)				
		<input type="checkbox"/> 20.2203(a)(1)	<input type="checkbox"/> 20.2203(a)(3)(i)	<input type="checkbox"/> 50.73(a)(2)(ii)	<input type="checkbox"/> 50.73(a)(2)(x)				
		<input type="checkbox"/> 20.2203(a)(2)(i)	<input type="checkbox"/> 20.2203(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(iii)	73.71				
		<input type="checkbox"/> 20.2203(a)(2)(ii)	<input type="checkbox"/> 20.2203(a)(4)	<input type="checkbox"/> 50.73(a)(2)(iv)	OTHER				
		<input type="checkbox"/> 20.2203(a)(2)(iii)	<input type="checkbox"/> 50.36(c)(1)	<input type="checkbox"/> 50.73(a)(2)(v)	Specify in Abstract below or in NRC Form 366A				
<input type="checkbox"/> 20.2203(a)(2)(iv)	<input type="checkbox"/> 50.36(c)(2)	<input type="checkbox"/> 50.73(a)(2)(vii)							

LICENSEE CONTACT FOR THIS LER (12)

NAME L.E. Nicholson, Regulatory Compliance Manager	TELEPHONE NUMBER (Include Area Code) (864) 885-3292
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COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX

SUPPLEMENTAL REPORT EXPECTED (14)				EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
<input checked="" type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE)	<input type="checkbox"/> NO						

ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)

On October 30, 2000, Oconee lost positive control of a radioactive calibration source containing 0.022 microcurie of Am-241 when the user experienced an unrelated medical emergency and was sent to a doctor. Upon return to work on November 7, 2000, the user identified that the source was missing. Following an unsuccessful search, the missing source was classified as lost on November 9, 2000. During this time, all three Oconee Units were operating in Mode 1 at 100% power.

An investigation concluded that the source was probably mistaken for a radiological sample and disposed of as dry active waste. In accordance with 10 CFR 20.2201(a) a telephone report was made to the NRC Operations Center on December 7, 2000 (Event Number 37575). Planned corrective actions are to

- identify an appropriate method to better mark these sources to minimize the possibility of a source being mistaken for a sample, and
- communicate management expectations for supervisor action for events affecting the ability of an individual to complete work in progress.

This event is considered to have no significance with respect to the health and safety of the public.

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TEXT (If more space is required, use additional copies of NRC Form 366A) (17)

EVALUATION:

BACKGROUND

This event is reportable in accordance with 10 CFR 20.2201(b), which references 10 CFR 50.73. The specific information to be included in this report is specified in 10 CFR 20.2201(b)(1), therefore this report will not include all information required by 50.73(b).

Prior to this event, Oconee Units 1, 2 and 3 were operating in Mode 1 at 100% power with no safety systems or components out of service that would have contributed to this event. The event did not directly affect operation of Oconee Units 1, 2, or 3.

Description of Event:

On November 7, 2000, a radioactive calibration source, designated as ONS-1075, was recognized as missing inside the Oconee restricted area. Following an unsuccessful search, it was classified on November 9, 2000 as lost. The radioactive content of this source was greater than 10 times, but less than 1000 times, the quantity specified in Appendix C to Part 20. Part 20 requires a telephone report to the NRC Operations Center within 30 days from the date of loss of this quantity of licensed material. This notification was made on December 7, 2000. In addition, the NRC Resident Inspector was notified.

Description of the lost licensed material

The lost calibration source was a 47 mm glass fiber filter material impregnated with 0.022 microcurie of AM-241, covered with mylar and contained in a stainless steel planchet. This quantity is 22 times the 10CFR20 Appendix C quantity. For comparison, the average home smoke detector contains a source of approximately 1 microcurie.

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Circumstances under which the loss occurred

The Radiation Protection (RP) Respiratory and Instrument Calibration group is responsible for the safe use, handling, and control of the calibration source that was lost.

On October 30, 2000 a technician in the RP Protection Respiratory and Instrument Calibration group was performing procedure HP/0/B/1003/023, "Calibration Procedure for Tennelec Detection Systems." The instrument being calibrated is used to count removable surface radioactive contamination smear samples from contamination surveys, etc. As part of the calibration, the technician used source ONS-1075. Prior to procedure completion and prior to returning the source to its storage location, the individual experienced a medical emergency (elevated blood pressure), was relieved from duty, and was referred to his personal physician.

His supervisor did not recognize that source ONS-1075 was in use at the time the individual was relieved from duty, and therefore did not take positive control of it. Consequently, the source was left unattended in the vicinity of the instrument being calibrated. Upon review of this event, the site RP Manager concluded that management expectations for supervisor actions in such an event had not been adequately communicated. This will be addressed below as a corrective measure.

On November 7, 2000, after being released to return to work by his physician, the technician resumed the calibration process and noted the absence of the calibration source.

Action taken to recover the material

On November 7, 2000, after recognizing that source ONS-1075 was not in its expected location, the technician conducted a search of the source's storage area and all reasonable areas where the source would be used in order to continue the calibration. When the source was not found, the individual notified his supervisor on November 8, 2000 and the search was expanded to include the individual's office area and some personal effects.

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Because the calibration source is very similar in appearance to common smear samples used to quantify removable surface radioactive contamination, it was suspected that the calibration source had been mistakenly discarded as sample waste. The decision was made to search the waste stored at the dry active collection point on November 9, 2000. No dry active waste shipments had been made during the elapsed time between October 30, 2000, when the source was last known to have been used, and November 9, 2000, when the search was conducted. However, a significant amount of waste had accumulated at the collection point. This waste was visually searched but the source was not located. Because this search failed to discover the missing source, it was classified on November 9, 2000, as lost.

Probable disposition of licensed material

Although the search failed to locate the lost source, the personnel involved in the search and RP Management still concluded that the source was probably in the accumulated dry active waste at the collection point. RP Management subsequently released the waste for disposal. Therefore, the most probable disposition of the lost source was disposal as dry active waste. Oconee currently sends this dry active waste to a vendor for incineration. The ash is then collected and buried by a vendor at a waste disposal site.

Exposures of individuals to radiation

No individuals are believed to have been exposed to this material. A dose assessment was conducted assuming a hypothetical maximally exposed individual.

The dose assessment concluded that external exposure would be negligible, because the ability of the Am-241 to deliver external dose is limited. Am-241 has low specific activity and produces radiation through primary alpha decay and secondary penetrating x-ray and gamma emission. The alpha radiation can not penetrate 7 mg/cm², the depth of concern for SDE. Also, for AM-241, the secondary penetrating radiations have relatively low photon energies such that the dose (DDE) from these secondary penetrating radiations is very small. The dose from an external pathway is considered negligible.

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Internal exposure varies according to the intake path. The dose assessment calculated that the internal dose would be 49 mRem CEDE if ingested or 11.4 Rem CEDE if inhaled.

The TEDE is equal to the sum of the CEDE and DDE (external exposure). Because the DDE is negligible, the TEDE is equal to the CEDE. Given the probable disposition and physical characteristics of this source, it is unlikely that this source was ingested or inhaled; therefore, it is **not** considered credible that any individual could receive the maximum calculable dose from this source.

Measures that have been, or will be, adopted to ensure against a recurrence of the loss of licensed material

1. This type of calibration source is similar in appearance to routine samples prepared for counting in the detector. Oconee will pursue a method for better marking of these sources to minimize the possibility of a source being visually mistaken for a waste sample.
2. RP Management will meet with RP supervision to communicate and reinforce expectations in case of an injury, illness, or other unexpected job interruption affecting the ability of an individual to complete work in progress involving a licensed source.

Neither of these measures is considered a NRC Commitment item. There are no other NRC Commitment items contained in this LER.

ADDITIONAL INFORMATION

A data base search was performed to identify any similar events at Oconee within the prior three years. No similar events were found.

This event did not directly affect operation of Oconee Units 1, 2, or 3. Therefore it did not include a Safety System Functional Failure.

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There were no equipment failures associated with this event. Therefore, this event is not considered reportable under the Equipment Performance and Information Exchange (EPIX) program.

There were no personnel injuries associated with this event.

As stated above, the investigation has concluded that this lost source was probably disposed of as dry active waste. Therefore, this event is not considered a release of radioactive materials. Also, as discussed above, there are no expected radiation exposures due to the loss of this source.

Therefore, it is concluded that there was no actual impact on the health and safety of the public due to this event.