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Docket No. 50-272

UNITED STATES NUCLEAR REGULATORY COMMISSION

WASHINGTON, D. C. 20555

August 24, 1987

Mr. Corbin A. McNeill, Jr.
Senior Vice President - Nuclear
Public Service Electric & Gas Company
P.O. Box 236
Hancocks Bridge, New Jersey 08038

Dear Mr. McNeill:

SUBJECT: LICENSE CONDITION REGARDING IMPLEMENTATION OF THE INTERNATIONAL

ATOMIC ENERGY AGENCY (IAEA) SAFEGUARDS (TAC NO. 65357)

Re: SALEM NUCLEAR GENERATING STATION, UNIT NO. 1

The Commission has issued the enclosed Amendment No. 81 to Facility Operating License No. DPR-70 for the Salem Nuclear Generating Station, Unit No. 1. This amendment adds a License Condition in response to your application dated April 20, 1987.

This amendment adds License Condition 2.I. regarding the implementation of the International Atomic Energy Agency (IAEA) Safeguards at Salem Nuclear Generating Station, Unit 1.

The United States of America is committed by treaty to permit the IAEA to apply safeguards in the US in the same manner as in nonnuclear weapons countries. On July 19, 1985, Salem Nuclear Generating Station, Unit 1, was selected by the IAEA under Article 39(b) of the US/IAEA Safeguards Agreement for application of IAEA safeguards. By letter dated September 5, 1985, we informed Public Service Electric and Gas Company (PSE&G) of the IAEA selection of Salem, Unit 1 and advised them that the US and the IAEA would develop a Facility Attachment (FA), which would define the IAEA safeguards inspection program for Salem, Unit 1. In order to produce the FA, an IAEA Design Information Questionnaire (DIQ) was submitted by PSE&G on October 11, 1985. The DIQ provided a description of the Salem, Unit 1, facility design and nuclear material and accounting procedures. A proposed FA was then prepared by the U. S. Negotiating Team and the IAEA Technical Review Group. Subsequent discussions between PSE&G and the NRC, and between the US and IAEA, resulted in a finalized FA, which is enclosed. In addition, a license condition implementing the principal text of the US/IAEA Safeguards Agreement and the FA was developed in consultation with your staff.

This amendment, which implements the IAEA Safeguards Inspection Program at the Salem, Unit 1, facility, does not affect the existing design basis nor result in any changes to the operational limitations of this facility. Furthermore, this amendment is in accordance with the requirements specified in 10 CFR 75. Therefore, we have determined that the amendment is acceptable.

This amendment relates solely to safeguards matters and does not involve any significant construction impacts. Accordingly, this amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(12). Pursuant to CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of this amendment.

We have also concluded, based on the consideration discussed above that:
(1) there is reasonable assurance the health and safety of the public will not be endangered by operation in the proposed manner, and (2) such activities will be conducted in compliance with the Commission's regulations and the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

The Notice of Issuance will be included in the Commission's next regular bi-weekly Federal Register notice.

Sincerely,

Donald C. Fischer, Project Manager

Project Directorate I-2

Division of Reactor Projects I/II Office of Nuclear Reactor Regulation

Enclosures:

1. Amendment No. 81 to License No. DPR-70

2. Facility Attachment

cc w/enclosures:
See next page

Mr. C. A. McNeill Public Service Electric & Gas Company

Salem Nuclear Generating Station

· cc:

S. E. Miltenberger Vice President - Nuclear Operations Nuclear Department P. O. Box 236 Hancocks Bridge, NJ 08038

Mark J. Wetterhahn, Esquire Conner and Wetterhahn Suite 1050 1747 Pennsylvania Avenue, NW Washington, DC 20006

Richard Fryling, Jr., Esquire Law Department - Tower 5E 80 Park Place Newark, NJ 07101

Gene Fisher, Bureau Chief Bureau of Radiation Protection 380 Scotch Road Trenton, NJ 08628

Mr. John M. Zupko, Jr. General Manager - Salem Operations Salem Generating Station Post Office Box E Hancocks Bridge, NJ 08038

Robert Traae, Mayor Lower Alloways Creek Township Municipal Hall Hancocks Bridge, NJ 08038

Thomas Kenny, Resident Inspector Salem Nuclear Generating Station U.S. Nuclear Regulatory Commission Drawer I Hancocks Bridge, NJ 08038

Richard F. Engel
Deputy Attorney General
Department of Law and Public Safety
CN-112
State House Annex
Trenton, NJ 08625

Frank Casolito, Action Chief Bureau of Radiation Protection Department of Environmental Protection 380 Scotch Road Trenton, NJ 08628

Richard B. McGlynn, Commission Department of Public Utilities State of New Jersey 101 Commerce Street Newark, NJ 07102

Regional Administrator, Region J U. S. Nuclear Regulatory Commission 631 Park Avenue King of Prussia, PA 19406

Lower Alloways Creek Township c/o Mary O. Henderson, Clerk Municipal Building, P.O. Box 157 Hancocks Bridge, NJ 08038

Mr. Bruce A. Preston, Manager Licensing and Regulation Nuclear Department P. O. Box 236 Hancocks Bridge, NY 08038

Mr. David Wersan Assistant Consumer Advocate Office of Consumer Advocate 1425 Strawberry Square Harrisburg, PA 17120

Morgan J. Morris, III
General Manager - Operating License
Atlantic Electric
P. O. Box 1500
1199 Black Horse Pike
Pleasantville, NJ 08232

Delmarva Power c/o Thomas S. Shaw, Jr. Vice President - Production 800 King Street P. O. Box 231 Wilmington, DE 19899



UNITED STATES NUCLEAR REGULATORY COMMISSION WASHINGTON, D. C. 20555

PUBLIC SERVICE ELECTRIC & GAS COMPANY

PHILADELPHIA ELECTRIC COMPANY

DELMARVA POWER AND LIGHT COMPANY

ATLANTIC CITY ELECTRIC COMPANY

DOCKET NO. 50-272

SALEM NUCLEAR GENERATING STATION, UNIT NO. 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 81 License No. DPR-70

- 1. The Nuclear Regulatory Commission (the Commission or the NRC) has found that:
 - A. The application for amendment filed by the Public Service Electric & Gas Company, Philadelphia Electric Company, Delmarva Power and Light Company and Atlantic City Electric Company (the licensees) dated April 20, 1987, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance: (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations set forth in 10 CFR Chapter I;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.
- 2. Accordingly, Facility Operating License No. DPR-70 is hereby amended by adding paragraph 2.I. to read as follows:

I. <u>IAEA SAFEGUARDS</u>

1. INCORPORATION OF FACILITY ATTACHMENT:

Pursuant to 10 CFR 75.8, NRC License No. DPR-70 is hereby amended to incorporate by reference Codes 1. through 7. of Facility Attachment No. 13 dated October 1, 1986, to the US/IAEA Safeguards Agreement.

2. FACILITY ATTACHMENT CODE 2.2

Notification of the changes referred to in Code 2.2 of the facility attachment is the responsibility of the operating facility. They can be notified to the NRC with a Concise Note (DOE/NRC Form 740M) or a letter. Notification is required 70 days prior to the event.

3. FACILITY ATTACHMENT CODE 3.1.3 & 5.1.2 & 5.2.3

The itemized lists of nuclear material to be provided to the IAEA as of cycle shutdown date prior to physical inventory taking are:

- 1. A complete list of fuel assemblies by ID number at all locations.
- 2. Reactor and fuel storage maps showing location of fuel by ID number at time of physical inventory taking.
- 3. A list, by batch, of any other accountable nuclear material, e.g., start-up sources, samples.

4. FACILITY ATTACHMENT CODE 3.2.2

Please refer to NRC letter dated May 27, 1986, to Mr. C. A. McNeill from Steven A. Varga which spells out timeliness and procedures for notification under this code.

5. FACILITY ATTACHMENT CODE 5.1.1 & 6.1.1

The statement "when calculated" means at least as often as required on page 2 of NUREG/BR-0006 Revision 2 or more often, at your option, if you calculate burn up more than every six months.

6. FACILITY ATTACHMENT CODE 6.1.1 & 6.1.2

The phrase "as specified in relevant paragraphs of Code 10" is a requirement on the U.S. All of the paragraphs in the US/IAEA

Agreement that require a report from the U.S. to the IAEA based on source data from an operating facility have been incorporated into NUREG's BR-0006 and 0007 so that the NRC may collect the needed data for transmittal to the IAEA. PSE&G should follow these NUREGs precisely in reporting inventory changes. A complete response to the reporting instructions in the NUREGS will satisfy the requirements specified in Code 10.

7. FACILITY ATTACHMENT CODE 6.2.2

The phrase "precise forecasts" means best estimates. These required concise notes should be dispatched to the NRC at least 40 days in advance of a projected 6 month operational programming.

8. FACILITY ATTACHMENT CODE 6.3.1 & 6.3.2

See response to Code 6.1.1 and 6.1.2 above.

9. FACILITY ATTACHMENT CODE 7.9

The specific facility health and safety rules and regulations to be observed by the Agency's (IAEA) inspectors, as specified in Paragraph 54 of the design information as of October 10, 1986, provided by the U.S.A. mean:

Agency inspectors who have previously visited the facility will be informed as necessary at the time of entry into the facility of health and safety rules and ad hoc rules as might be required in view of a special situation that has occurred at the facility since the inspector's last visit to the facility. The briefing will be of a short duration, not to exceed 30 minutes, covering topics deemed relevant by the licensee.

Agency inspectors who have not previously visited the facility will be informed as necessary at the time of entry into the facility of health and safety rules and ad hoc rules as might be required in view of a special situation that has occurred at the facility. The briefing will be of an appropriate duration, not to exceed three hours, and consist of topics deemed relevant by the licensee.

In <u>either</u> case, the licensee should take into account the Agency inspector's prior training, expertise and experience. In <u>neither</u> case shall the Agency inspector be subject to any form of evaluation or testing by facility representatives or representatives of the U.S. Government.

For health and safety reasons, Agency inspectors will be escorted by qualified facility personnel at times deemed appropriate by the licensee.

10. TERMINATION

Pursuant to the provisions of 10 CFR 75.41, the Commission will inform the licensee, in writing, when its installation is no longer subject to Article 39(b) of the principal text of the US/IAEA Safeguards Agreement. The IAEA Safeguards License Conditions incorporating Code 7. of the Facility Attachment as part of NRC License DPR-70 will be terminated as of the date of such notice from the Commission. However, since the IAEA may elect to maintain the licensee's installation under Article 2(a) of the Protocol, provisions equivalent to Codes 1. through 6. of the Facility Attachment (with possible appropriate modifications) may still apply, and accordingly all other IAEA Safeguards License Conditions to NRC License No. DPR-70 will remain in effect until the Commission notifies the licensee otherwise. If this option is not selected by the IAEA, the Commission will then notify the licensee that all License Conditions pertaining to the US/IAEA Safeguards Agreement are terminated.

3. This license amendment is effective as of its date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

/s/

Walter R. Butler, Director Project Directorate I-2 Division of Reactor Projects I/II Office of Nuclear Reactor Regulation

Attachment: Facility Attachment

Date of Issuance: August 24, 1987

Previously concurred*:

PDI-2/LA*
MO'Brien

08/13/87

PDI-2/PM* DFischer:ca 08/13/87

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8/21/87 W

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FOR THE NUCLEAR REGULATORY COMMISSION

/s/

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FOR THE NUCLEAR REGULATORY COMMISSION

Walter R. Butler, Director

Project Directorate I-2

Division of Reactor Projects I/II Office of Nuclear Reactor Regulation

Attachment: Facility Attachment

Date of Issuance: August 24, 1987

Text prepared on 1986- -24

Date of en___ into force: 1986-10-01

Safeguards Agreement between USA and the IAEA Subsidiary Arrangements

Facility Attachment No. 13

SALEM NUCLEAR GENERATING STATION, UNIT 1

Facility Code: UXHF / MBA Code: UXHF

Total number of pages: 19

--- Page No. 1 of 19 pages

Code	General Part Reference (Codes)	Agreement Reference (Articles)	SAFEGUARDS CONFIDENTIAL
1.		43(a)	Identification of the facility
			Facility identification code: UXHF
1.1			Name
		-	Salem Nuclear Generating Station Unit 1 (SNGS 1)
		٠.	Owner and Operator
			Public Service Electric & Gas Co.
1.2			Geographic location
			Salem County, New Jersey, USA
1.3		•	Postal address
	·		Public Service Electric and Gas Co. Nuclear Department P.O. Box 236 Hancocks Bridge, New Jersey 08038
1.4	•		Description
			The power station consists of one pressurized light water reactor. Pin removal or exchange is not normally performed.
			Main design features are as follows:
			- Reactor thermal output: 3411 MW(th)
			- Refuelling interval: normally 15-19 months
			- Number of fuel assemblies in the reactor core: 193
			- Fresh fuel storage capacity: 72
		•	- Spent fuel storage capacity: 1170

[0609W]

Text prepared on 1986-04-24

Date of entry into force: 1986-10-01

Facility Attachment, No. 13

Facility Code: UXHF / MBA Code: UXHF

SALEM NUCLEAR GENERATING STATION, UNIT 1

Page No. 2 of 19 pages

	,		, and the last parties
Code	General Part Reference (Codes)	Agreement Reference (Articles)	SAFEGUARDS CONFIDENTIAL
1.4 (c	ontinued)		- Nominal weight of nuclear material in an assembly: 462kg
			- Maximum fresh fuel enrichment (U-235): 3.80 w/o
			 Number of assemblies normally discharged on refuelling: 72-117
1.5			Maps and plans
		معمد	See Design Information Questionnaire (DIQ).
2.	3.1	43, 44 46(a)	Information on the facility
		. • •	This facility attachment is based on the design information dated 10 October 1985, and the design information supplement provided in September 1986.
2.1	•	8(c)	Location of information
			Identical sets of the information provided on the facility are kept at the Agency, at the facility and at the USNRC Headquarters.
2.2	3.1.3	45	Changes in the information on the facility to be provided in advance With reference to the relevant paragraphs of the Design Information Questionnaire
			- Change in the rated thermal output for continuous operation by 20% or more; (14)
		·	 Change of the type of fuel used, e.g. introduction of mixed oxide fuel for test purposes or for routine use; (22, 23, 25)
			- Change of the maximum enrichments of the fuel; (23)
			- Change in the design of the reactor fuel; (24, 26, 27)
			- Installation of equipment for pin removals or exchange in assemblies for test purposes or for routine use; (13, 28)
		·	- Change in the method and/or procedure of identifying individual fuel assemblies; (31)

 Change in the methods and/or equipment for refuelling and/or for handling of irradiated

fuel; (41)

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Text prepared on 1986-24

Date of enery into force: 1986-10-01

Facility Attachment No. 13 Facility Code: UXHF / MBA Code: UXHF

SALEM NUCLEAR GENERATING STATION, UNIT 1

Page No. 3 of 10 pages

1		•	Page No. 3 of 19 pages
Code	General Part Reference (Codes)	Agreement Reference (Articles)	SAFEGUARDS CONFIDENTIAL
2.2 (cd	ontinued)		 Change influencing the access to the reactor vessel and/or its cover; (43)
			 Change in the number of fuel assemblies, control elements, dummy assemblies and/or irradiation positions inside the reactor vessel; (44)
			 Change in the method of storage of irradiated fuel and/or in the spent fuel storage capacity; (48)
		. معدد	 Installation of any dismantling, decladding or dissolution equipment; (13, 28, 51)
			- Change in the nuclear material accountancy and control procedures; (55)
			- Change in the access routes to the reactor area; (10)
		· ·	Change in the shipping containers and/or the routes followed by irradiated fuel within the facility; (50)
	·		 Change in the health and safety rules and procedures affecting the conduct of inspection; (54)
	. ,		Any change in other parts of the design information to be submitted when the change has been completed.
•			Safequards measures
.1		29	Accountancy
.1.1		46(b)	Material Balance Areas and their identification codes. The Salem Nuclear Generating Station Unit 1, UXHF, constitutes one material balance area, UXHF.
. 1 . 2		46(b) 90(K)	Strategic points which are Key Measurement Points (KMPs), (for their specifications see Code 4.)
			(a) For determination of nuclear material flow:

KMP 1 - Receipts, accidental gains and

de-exemption of nuclear material;

Text prepared on 1986-9-24

Date of entry into force: 1986-10-01

Facility Attachment No. 13

Facility Code: UXHF / MBA Code: UXHF

SALEM NUCLEAR GENERATING STATION, UNIT 1

Page No. 4 of 19 pages

Code	General Part Reference (Codes)	Agreement Reference (Articles)	SAFEGUARDS CONFIDENTIAL
3.1.2	(continued)		<pre>KMP 2 - Nuclear loss (burn-up) nuclear production and category change in fuel discharged from the reactor; nuclear loss (Pu-241 decay);</pre>
			<pre>KMP 3 - Shipments of nuclear material,</pre>
			(b) For determination of physical inventory:
			KMP A - Fresh fuel storage and inspection area;
			KMP 8 - Reactor core;
			KMP C - Spent fuel storage racks and spent fuel shipping casks;
			KMP D — Other locations of nuclear material at the facility.
3.1.3		46(c)	Physical inventory taking
	•		Nominal timing: As soon as possible after completion of each refuelling and before the reactor is closed again. In cases of prolonged shutdowns of one year or longer, PITs shall be performed once every twelve months.
			Procedures: Item counting and identification. Preparation of itemized list of nuclear material including identification number, material description, quantity of nuclear material and location of each item for each inventory KMP.
3 . 2		29	Containment and surveillance
3.2.1		46(f) 90(S)	Strategic points for application of containment and surveillance measures
			- Reactor hall including reactor vessel;
			- Access routes to and from the reactor hall and spent fuel pool;

- Fresh and spent fuel storage areas;

- Any other points that might be mutually agreed.

Text prepared on 1986-09-24

Date of encry into force: 1986-10-01

Facility Attachment No. 13

Facility Code: UXHF / MBA Code: UXHF

SALEM NUCLEAR GENERATING STATION, UNIT 1

Page No. 5 of 19 pages

Code	General Part Reference (Codes)	Agreement Reference (Articles)	SAFEGUARDS CONFIDENTIAL
3.2.2	•	73(d)	Installed Agency instruments and devices
		73(e)	(a) Seals to ensure the containment of the reactor vessel;
			(b) Cameras for surveillance of fuel movements into or out of the reactor vessel, the reactor containment and the fresh and spent fuel storage areas;
		بر بعدمه ،	(c) Seals on shipping casks with spent fuel and other containers as applicable;
1	· .		(d) Seals on Agency instruments and devices;
			(e) Seals on containers with fuel assemblies received at the facility;
			(f) Seals on the reactor containment building (e.g. equipment hatches).
			If there is a need to break a seal or interfere with the operation of surveillance devices, the Agency shall be informed in advance and by the fastest means. This information shall include the (probable) date on which the operation will take place.
3.3	6.1	11, 35	Specific provisions and criteria for termination of safequards on nuclear material
			None.
3.4	6.2	36, 37	Specific provisions for exempting nuclear material from safeguards
			None.
3.5	3.7, 7.1	12(a)	Specific provisions and criteria for withdrawal of nuclear material from safeguards
			None.

Text prepared on 1986-09-24

Date of entry into force: 1986-10-01

Facility Attachment No. 13

SALEM NUCLEAR GENERATING STATION, UNIT 1

Facility Code: UXHF / MBA Code: UXHF

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Code 4.

Agreement References (Articles):

Specifications for Key Measurement Points

×	Inventory	Description of a typi		 Source data	Descr.	Meas.
민	Change	batch	<u>item</u>		Code	
1	Receipts of nuclear material	For fuel assemblies: One fuel assembly.	One fuel assem- bly	For each fuel assembly: 1) Identification number; 2) Weights of total and fissile uranium, and the chemical composition; based on shipper's data.	BQ2F	
		For small quantities of nuclear material (each less than 0.01 effective kilogram): A number of such quantities received in one calendar month from the same shipper or, if a physical inventory was taken during the month, separately before and after the time of physical inventory taking.		For each batch: 1) Weight of compound; 2) Weights of total and fissile uranium, and of plutonium, and the chemical composition; based on shipper's data.	As appro- priate	•
	De-exemption, Accidental gain	Sau	ne as fo	r Receipts at KMP 1 above.		-
2	Nuclear production,	For fuel assemblies:	One fuel	For each fuel assembly:	BQ1G	M
	Nuclear loss (burn-up)	One fuel assembly.	assem— bly	1)-2) As for fuel assem- hlies at KMP 1 above; 3) Date of discharge; 4) Estimated burn-up of each fuel assembly (in MWD/tU);	BQ4G	M

SAFEGUARDS CONFIDENTIAL UNCLASSIFIED

Text prepared on 1986-09-24

Date of entry inco force: 1986-10-01

Facility Attachment No. 13

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SALEM NUCLEAR GENERATING STATION, UNIT 1

Facility Code: UXHF / MBA Code: UXHF

Page No. 7 of 19 pages

ΚÏ		Description of a ty	pical		Mat.	Meas.
1	Inventory Change	batch	item	Source data	Descr.	DE 315
2	Nuclear production, Nuclear loss (burn-up) [continued]			5) Nuclear loss of total and fissile uranium and nuclear production of total plutonium when calculated, including as of the date of discharge. 1/		
	Category change	For fuel assemblies: One fuel assembly	One fuel assemble bly	 Identification number; Date of discharge; Weight of total and fissile uranium as of the date of discharge. 	BQ1G	m
	Nuclear loss (Pu-241 decay)	For fuel assemblies: One fuel assembly.	One fuel assem- bly	For each fuel assembly: 1)-2) As for fuel assemblies at KMP 1 above; 3) Date of discharge and shipment; 4) Nuclear loss of total plutonium (Pu-241 decay) for each fuel assembly when calculated, including as of the date of shipment.	BQ1G BQ4G	M
•	Shipment of nuclear material	For fuel assemblies: One fuel assembly.	One fuel assem- bly	For each fresh fuel assembly: 1) Identification number; 2) Weights of total and fissile uranium, and the chemical composition.	BQ2F	N

If fuel assemblies discharged from the reactor are returned to the core, the values for nuclear production and nuclear loss which had been recorded for these assemblies shall be kept.

SAILGUAKUS GUNFIULNHAL

Text prepared on 1986-09-2

Date of entry baco force: 1986-10-01.

Facility Attachment No. 13 Facility Code: UXHF / MBA Code: UXHF

SALEM NUCLEAR GENERATING STATION, UNIT 1

Page No. 8 of 19 pages

	Inventory	Description of a type	ical	Source data	Mat. Descr.	Meas
	Change	batch	item		Code	
r	Shipment of nuclear	For fuel assemblies: One fuel assembly.	One fuel	For each irradiated fuel assembly:	BQ2G	M
	[continued]		bly	1) Identification number; 2) Date of discharge; 3) Burn—up (MND/tU); 4) Weights of total and fissile uranium and of total plutonium, calculated as of the date of discharge, and corrected for Pu-241 decay between the date of discharge and the date of shipment; 5) Isotopic composition of uranium and pluto—nium calculated for each assembly as of the date of discharge, and corrected for Pu-241 decay between the date of discharge and the date of ship—ment.		***
		For small quantities of nuclear material (each less than 0.01 effective kilogram): Any number of such quantities shipped in one calendar month to the same recipient or, if a physical inventory was taken during the month, separately before and after the time of physical inventory taking.		For each batch: 1) Weight of compound; 2) Weights of total and fissile uranium, and of plutonium, and the chemical composition.	As appro-	N, M
Ac	ccidental	Same	as for	Shipment at KMP 3 above.	'	

SAFEGUARDS CONFIDENTIAL UNCLASSIFIED

Text prepared on 1986-09-24

Date of entry into force: 1986-10-01

Facility Attachment No. 13

Facility Code: UXHF / MBA-Code: UXHF

SALEM NUCLEAR GENERATING STATION, UNIT 1

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K M			Source data	Descr.	Meas basi:
2	batch	_ item		Code	ļ
	For fuel assemblies: One fuel assembly.	One fuel assembly bly	For each fuel assembly: As for fuel assemblies at KMP 1 above.	BQ1F BQ2F	N N
	For fuel assemblies: One fuel assembly.	One fuel assembly			N M
	For fuel assemblies: One fuel assembly.	One fuel assembly	For each fuel assembly: 1) Identification number; 2) Weights of total and fissile uranium and of total plutonium calculated as of the date of discharge, and corrected for Pu-241 decay between the date of discharge and the date of shipment; 3) Date of discharge; 4) Burn-up (MWD/tU); 5) Isotopic composition.	BQ1G BQ2G	m m
	For small quantities of nuclear material (each less than 0.01 effective kilogram): Any number of such quantities.	As appro- priate	•	As appro- priate	

Text prepared on 1986-09-24

Date of entry into force: 1986-10-01

Facility Attachment No. 13

Facility Code: UXHF / MBA Code: UXHF

SALEM NUCLEAR GENERATING STATION, UNIT-1

Page No. 10 of 19 pages

Code	General . Part Reference (Codes)	Agreement Reference (Articles)	SAFEGUARDS CONFIDENTIAL
5.		\$75.0) (45.0) (40.0)	Records system
5.1	25.1	Mer), Ci	Specific provisions for accounting records
5.1.1		54(E) 9557)	Inventory changes (for the specifications of source data see Code 4.1 above), time of recording.
			- Receipt: Upon receipt.
		بعمي	- Nuclear loss (burn-up), nuclear production and category change:
•			When calculated, including upon discharge. 2/, 3/
			 Nuclear loss (Pu-241 decay): When calculated, including upon shipment.
			- Shipment: Upon shipment.
	6.3,6.2		- Exemption/de-exemption: Upon accounting transfer of the nuclear material.
			 Accidental loss/gain: Upon establishment of the amount of material lost/gained.
	3.7, 7.1		- Withdrawal: Upon withdrawal.
5.1.2	2.1	54(b)	Measurement (item counting and identification) results used for determination of the physical inventory (for specifications of source data see Code 4.2 above), time of recording.
			 Itemized list of nuclear material quantities on inventory for each inventory KMP: Upon identification and counting of items during the physical inventory taking.
	•		- Itemized list of muclear material inventory identifying changes since the physical inventory taking:
			Before inventory verification.

^{2/} Fuel removed from the reactor shall be considered as discharged if it remains out of the core after the routine refuelling shutdown is completed.

^{3/} If fuel assemblies discharged from the reactor are returned to the core, the values for nuclear production and nuclear loss which had been recorded

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operator but before commencement of verification

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Code	General Part Reference (Codes)	Agreement Reference (Articles)	SAFEGUARDS CONFIDENTIAL
5.1.3	****		Adjustments and corrections, time of recording.
			- Shipper/receiver difference: Normally not relevant.
			- MUF: Normally identical to zero.
		-	 Corrections: Whenever errors have been found, with specific reference to the entry being corrected.
5.2	1.2	56	Specific provisions for operating records
5.2.1		((3)	Operating data used to establish changes in the quantities and composition of nuclear material
			- Location of each fuel assembly at any time;
		,	 The relevant source data with respect to nuclear loss and production, including: (a) The monthly integrated thermal power produced by the reactor; and (b) The estimated burn-up (in MWD/t of uranium) for each fuel assembly;
	÷		- Date and duration of any reactor shutdown;
	• •		- Date and nature of the use of fuel handling and transport equipment.
.2.2		56(1)	Calibrations
			Not required.
. 2 . 3		39(c)	Sequence of the actions taken in preparing for and in taking the physical inventory
			 All physical inventory KMPs: Dates and description of the actions taken and the results obtained.
			- An itemized list of nuclear material inventory after completion of inventory taking by the

by the Agency.

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Code	General Part Reference (Codes)	Agreement Reference (Articles)	SAFEGUARDS CONFIDENTIAL
5.2.4		***	Actions taken in order to ascertain the cause and magnitude of any accidental or unmeasured loss
			- Dates and description of the actions taken and the results obtained.
53		3	Location and language of records
			At the facility in English.
5.4		ent)	Retention period for records
		- Parameter - Para	Five years.
6.		APPENDED TO	Reports system
6.1	3.4.1	MACON STATE	Specific provisions for Inventory Change Reports (ICRs)
5.1.1	10	(Sel ta)	Contents
	•		The recorded entries to be reported are those types specified in Code 5.1.1 above. ICRs will be completed as specified in the relevant paragraphs of Code 10, General Part. Nuclear loss, nuclear production and category change for irradiated fuel assemblies will be reported when calculated including as of the date of discharge.
5.1.2		6Ï(a)	Timing or frequency of dispatch
	÷		As soon as possible and in any event within 30 days after the end of the month in which inventory changes specified in Code 5.1.1 occurred or were established.
5.2	3.4.1	62	Specific provisions for concise notes
3.2.1		62(a)	Concise notes explaining the inventory changes
			- To be attached to ICRs containing data on nuclear loss and production; they are to state the burn-up in MWD/t of initial U for each fuel assembly discharged:

assembly discharged;

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Code	General Part Reference (Codes)	Agreement Reference (Articles)	SAFEGUARDS CONFIDENTIAL
6.2.1	(continued)		- To be attached to ICRs to explain unusual inventory changes (such as accidental loss) and corrections. They may also be used to explain any other part of information included in reports
6,2.2			Concise notes describing the anticipated operational programme; subject and time of dispatch.
			- Planned operations involving refuelling, fresh fuel receipts and spent fuel shipments: To be attached to each MBR (see Code 6.3.3 below) and to cover the period until the end of the next refuelling, to be updated every six months.
•			- Precise forecasts for: a) Date of the next refuelling, physical inventory taking including date when seals are expected to be removed from the reactor; and
			b) Spent fuel shipments, including information about the shipping casks to be used, the extent to which they are expected to be filled:
•			to reach the Agency at least 30 days in advance, subsequent changes as soon as known.
6.3	3.4.2	61(b),65	Specific provisions for Material Balance Reports (MBR)
5.3.1	10	65, 90(M)	MBR contents
			The consolidated inventory changes to be reported are those types specified in Code 5.1.1 above. MBRs will be completed as specified in relevant paragraphs of Code 10, General Part.
5.3.2	. 10	65 ; 90(M)	PIL contents
			- Physical inventory listings (PILs) based on the results of physical inventory taking, to be

- Physical inventory listings (PILs) based on the results of physical inventory taking, to be attached to MBRs. The batch data included in PILs will be based on the shipper's data on the initial nuclear material content for the fuel for unirradiated fuel assemblies or on the operator's data for irradiated fuel assemblies. PILs will be completed as specified in relevant paragraphs of Code 10, General Part.

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Code	General Part Reference (Codes)	Agreement Reference (Articles)	-SAFEGUARDS CONFIDENTIAL
6.3.3		3	Timing or frequency of dispatch:
	. who '		 As soon as possible and in any event within 30 days after the physical inventory taking under Code 3.1.3 above.
5.4	3.5.1	SERION	Special reports
5.4.1			Specification of incidents or circumstances requiring submission of special reports
		introduce and	(a) Losses: One or more fuel assemblies;

- (b) Changes in containment:
 - Physical integrity of a fuel assembly as an accounting unit is accidentally broken;
 - Any Agency containment and surveillance device, referred to in Code 3.2.2 is interfered with or removed in the absence of Agency inspectors, unless the Agency has been informed in advance as provided.4/

5.4.2

Contents

- Date when the incident occurred or circumstances were established:
- Description of the actions taken in order to ascertain the cause of the event and to establish the magnitude of any loss of nuclear material;
- Cause and features of the incident or circumstances;

^{4/} In respect of seals on shipping casks, this requirement applies only while the cask remains in the facility.

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Code	General Part Reference (Codes)	Agreement Reference (Articles)	SAFEGUARDS CONFIDENTIAL
6.4.2	(continued)		- Estimated amount of nuclear material which has been lost.
7. .	4.2	•	Inspections
7.1		79,33	Mode of routine inspections
			Intermittent.
7.2		761	Applicable formula and procedure for determination of maximum routine inspection effort:
			Article 78(a) of the Agreement
7.3		18.75	Actual inspection effort related to routine inspection activities
			The actual inspection effort will be determined by the Agency on the basis of the relevant provisions of the Agreement to ensure the attainment of Agency safeguards objectives, assuming:
·	3.1		 a) Circumstances at the facility to be as described in the design information referred to in Code 2. above;
	2.		b) The continued validity of the information on the State System of accounting for and control of nuclear material, as set out in the General Part.
7.4		72.73	Indication of the scope of routine inspections under ordinary circumstances
7.4.1			General:
		•	 Examination of the records, verification for self-consistency;
			- Comparison of reports and records for consistency.
7.4.2			At inventory KMPs
			 Verification of the inventory by item counting, identification, integrity checks, non-destructive measurements.

seals.

- Application, examination and removal of Agency

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Code	General Part Reference (Codes)	Agreement Reference (Articles)	SAFEGUARDS CONFIDENTIAL
7.4.3			At flow KMPs
			 Verification of inventory changes by item counting, identification, integrity checks, non-destructive measurements of fresh and irradiated fuel.
			 Application, examination and removal of Agency seais.
7.4.4			At strategic points for containment and surveillance
		****	 Application, examination and removal of Agency seals;
		•	 Servicing and maintenance of C/S instruments and devices;
			 Observation of refuelling and spent fuel removal operations.
7.4.5			During interim verification of nuclear material inventory
			 Item counting, identification, integrity checks, and NDA measurements (except material in core).
			- Application, examination and removal of Agency seals.
7.5		73(d)	Arrangements for the use by the Agency of equipment for independent measurement
			Specific arrangements for the use of equipment to be made as the need arises.
7.6		65, 86	Persons to whom a request for any operation or for services at the facility should be addressed
			Vice President for Nuclear Public Service Electric and Gas Company
7.7			Contacts at the facility
			Manager - Nuclear Fuel Nuclear Department Salem Nuclear Generating Station, Unit 1

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Code	General Part Reference (Codes)	Agreement Reference (Articles)	SAFEGUARDS CONFIDENTI	AL
7.8			Services and charges	
7.8.1	•		Inspection activities	Charge
			- Observation of ongoing operational activities.	None
			- Item counting and identification.	None
		-	 Reading of instruments relevant to measurements connected with source and process data. 	None
			- NDA measurements: a) Calibration of NDA instruments;	None
			 b) Verification of NDA instruments calibration through the use of standards. 	None
			c) Agency NDA measurements.	None
			d) Personnel and equipment for handling nuclear material during its measurement.	None
	•		- Records: Examination of records including reconciliation of records and reports and establishment of updated book inventory.	None
			 Application, checking and removal of Agency seals. 	None
			 Surveillance: Positioning, removal and use of Agency's surveillance devices. 	None
			 Lighting, including emergency lighting to light all critical areas under surveillance. 	None
			- Reviewing of surveillance records.	None
			- Other charges.	₩

Charges in connection with inspection activities not included above will be discussed as the situation arises.

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Code	General Part Reference (Codes)	Agreement Reference (Articles)	SAFEGUARDS CONFIDENTI	AL
7.8.2			Services	
			 Health and safety (including e.g. protective clothing, dosimeters). 	None
			- Office space.	None
			- Power supply for IAEA instruments	None
		بعضامه	 Means of communication (telephone, telex, cable). 	R
-			- Other services	**
			- Facility personnel to escort the Agency inspectors	None
7.8.3			Mode of reimbursement of the expenses of the Agency	harged to
			 By cheque after receipt of the invoic Agency. 	e by the
7.9	集 2	11 44	Specific facility health and safety rul regulations to be observed by Agency in	
			- As specified in paragraph 54 of the D Information Questionnaire.	esign
			- The Agency inspectors will be informe facility by short briefings at the ti into the facility of any changes in h safety rules or ad hoc rules as might in view of a special situation that h at the facility. For health and safe inspectors will be escorted by qualif personnel.	me of entry ealth and be required as occurred ty reasons,

R Costs to be reimbursed by the Agency.

If any specific requiret by the Agency for services not covered above gives rise to expenses for which reimbursement is requested from the Agency, the Agency shall be notified of the expenses before the service is performed. The Agency will only reimburse such expenses if it has confirmed its initial request and agreed in writing to the amount involved which it will reimburse.

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Code	General Part Reference (Codes)	Agreement Reference (Articles)	SAFEGUARDS CONFIDENTIAL
8.		30,	Agency statements
8.1		88(a)	A summary statement will be made on the result of each inspection within 30 days of its completion.
8.2		88(b)	A statement on the conclusions the Agency has drawn from its verification activities in respect of the facility will be made within 60 days after the end of the month in which the Agency has verified the physical inventory. The statement will include, as appropriate, conclusions drawn from:
			(a) Records examination;

- (b) Reports to the Agency;
- (c) Examination of containment and surveillance results:
- (d) Verification of inventory changes;
- (e) Verification of material accountancy;
- (f) Verification of the quality and functioning of operator's measurement system.
- (g) Activities in respect of MUF, shipper/receiver differences and/or losses.

This amendment relates solely to safeguards matters and does not involve any significant construction impacts. Accordingly, this amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(12). Pursuant to CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of this amendment.

We have also concluded, based on the consideration discussed above that:
(1) there is reasonable assurance the health and safety of the public will not be endangered by operation in the proposed manner, and (2) such activities will be conducted in compliance with the Commission's regulations and the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

The Notice of Issuance will be included in the Commission's next regular bi-weekly Federal Register notice.

Sincerely,

/s/

Donald C. Fischer, Project Manager Project Directorate I-2 Division of Reactor Projects I/II Office of Nuclear Reactor Regulation

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Enclosures:

- Amendment No. 81 to License No. DPR-70
- 2. Facility Attachment

cc w/enclosures:
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DFischer/MThadani TBarnhart (4) RDiggs, ARM/LFMB

Previously concurred*:

Concurred by phone:
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MO'Brien DFischer:ca ESparks MKarman WButler
08/13/87 08/13/87 08/12/87 08/18/87 \$ /2 1/87

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Donald C. Fischer, Project Manager Project Directorate I-2 Division of Reactor Projects I/II Office of Nuclear Reactor Regulation

Enclosures:

Amendment No. License No. DPR-70

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Previously concurred*:

DFischer:ca

Concurred by phone:

NMSS/LB* ESparks

08/12/87

PDI-2/D

(arman WButler

10. TERMINATION

Pursuant to the provisions of 10 CFR 75.41, the Commission will inform the licensee, in writing, when its installation is no longer subject to Article 39(b) of the principle text of the US/IAEA Safeguards Agreement. The IAEA Safeguards License Conditions incorporating Code 7. of the Facility Attachment as part of NRC License DPR-70 will be terminated as of the date of such notice from the Commission. However, since the IAEA may elect to maintain the licensee's installation under Article 2(a) of the Protocol, provisions equivalent to Codes 1. through 6. of the Facility Attachment (with possible appropriate modifications) may still apply, and accordingly all other IAEA Safeguards License Conditions to NRC License No. DPR-70 will remain in effect until the Commission notifies the licensee otherwise. If this option is not selected by the IAEA, the Commission will then notify the licensee that all License Conditions pertaining to the US/IAEA Safeguards Agreement are terminated.

3. This license amendment is effective as of its date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Walter R. Butler, Director Project Directorate I-2 Division of Reactor Projects I/II Office of Nuclear Reactor Regulation

Attachment: Facility Attachment

Date of Issuance:

DFischer:ca 95/13/87

OGC

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PDI-2/D WButler

HOMMENTAL