

Safeguards Safety Evaluation Report - San Onofre Nuclear Generating Station,
Unit 2

On July 1, 1983 San Onofre was chosen by the International Atomic Energy Agency (IAEA), from the U.S. Eligible List, to come under the US/IAEA Safeguards Agreement.

The required Design Information Questionnaire (DIQ) dated September, 1983 was submitted by San Onofre to provide a description of their current operations and material control and accounting procedures. The review criteria used for review of the DIQ was the document:

"Instructions for Completing IAEA DIQ - Power Reactors," (IAEA Form N-71/Revision I - November 1976 and IAEA Form N-72/Revision I - April 1977) USNRC June 1980.

The completed and approved DIQ is necessary for the generation of the Facility Attachment as prepared by the U.S. Negotiating Team and the IAEA Technical Review Group.

The final approved Facility Attachment must be incorporated as a condition of license in order to implement the provisions of the US/IAEA Safeguards Agreement at the San Onofre Nuclear Generating Station.

8506270160 850618
PDR ADOCK 05000361
F PDR

SAN ONOFRE NUCLEAR GENERATION STATION, UNIT 2 .

IAEA SAFEGUARDS LICENSE CONDITIONS

1. INCORPORATION OF FACILITY ATTACHMENT:

Pursuant to 10 CFR 75.8, NRC License No. NPF-10 is hereby amended to incorporate by reference Codes 2. through 7. of Facility Attachment No. 9 dated JUN 01 1985, to the US/IAEA Safeguards Agreement.

2. INTERPRETATION OF FACILITY ATTACHMENT:

For purposes of this license amendment, the Facility Attachment shall be interpreted in accordance with the following:

Facility Attachment Code 2.2

The types of modifications with respect to which information is required, under 10 CFR 75.11, to be submitted in advance are those items stated in Code 2.2.

"Any change in the rated thermal output for continuous operations" means:

Any change that exceeds the rated thermal output for continuous operation as described in Paragraph 14 of the Design Information Questionnaire (DIQ) dated September, 1983 or as modified in accordance with 10 CFR 75.11(c).

"Any change in the access routes to the reactor area" means:

Any new entrances/exits involving SNM fuel routes or any deletion or modification of existing entrances/exits involving SNM fuel routes or new openings other than shown in Paragraph 10 (Attachment 1) and Paragraph 56 (Attachment 23) of the DIQ dated September, 1983, or as modified in accordance with 10 CFR 75.11(c).

"Any change in the design of the reactor fuel" means:

Any change in the design of the reactor fuel that would exceed the maximum quantity in weight and specifications stated in Paragraphs 24, 25, 26 (Attachment 5) and 27 (Attachment 6) of the DIQ dated September, 1983 or as modified in accordance with 10 CFR 75.11(c).

"Any change in the nominal enrichment of the fuel to more than 4.1 w/o" means:

Any change in the fuel enrichment from that listed in Paragraph 23 of the DIQ dated September, 1983, or as modified in accordance with 10 CFR 75.11(c), that would exceed 4.1 weight percent U-235.

"Any change of the refueling equipment or methods" means:

Any introduction of new, additional or modified major equipment which would cause a significant deviation from the fuel handling process and descriptions as specified in Paragraph 13 (Attachment 3) or 41 (Attachment 11) of the DIQ dated September, 1983 or as modified in accordance with 10 CFR 75.11(c).

"The introduction/installation of equipment for assembling or disassembling fuel assemblies (for fuel-pin exchange)" means:

The introduction of equipment necessary to facilitate the removal and/or replacement of fuel rods in assemblies.

"Introduction of new loop heat removal equipment which will be required to increase the nominal rated core thermal power level" means:

Any introduction/installation of new, modified or additional loop heat removal equipment which would permit increases in the core thermal output from Paragraph 14 of the DIQ dated September, 1983 or as modified in accordance with 10 CFR 75.11(c).

"The installation of any fuel assembly dismantling, decladding or dissolution equipment" means:

The introduction of equipment necessary to extract special nuclear material from the fuel rods.

Facility Attachment Code 3.1.3

"In case of prolonged shutdown of a year or longer, physical inventory takings shall be performed once every 12 months" means:

That all special nuclear material not in the core will be inventoried at least once per year. Fuel assemblies in the core are normally subject to verification only at time of refueling. Book values will be used at other times. The reactor head need not be removed expressly to take a physical inventory of the fuel in the core.

Facility Attachment Codes 3.1.3 and 5.1.2

Procedures, as referred to in 10 CFR 75.21 includes, among other things, the provisions for item counting and verification set out in Codes 3.1.3 and 5.1.2.

"Item counting and verification" means:

The continuation of the licensee's current physical inventory taking and material control and accounting procedures employed to verify the existence and/or location of SNM fuel assemblies as described in Paragraph 55 (Attachment 22) of the DIQ dated September, 1983 or as modified in accordance with 10 CFR 75.11(c). Similar inventory data for required material control and accounting reports not generated as a result of a physical inventory, may be obtained from the licensee's records.

Facility Attachment Code 5.1.1

Nuclear loss and production to be recorded as of the date of discharge, and optionally for the whole core, every six months" means:

Nuclear loss and production will be recorded at the time of taking the core physical inventory during a refueling outage and at an interval no greater than six months.

Facility Attachment Code 6.2

"Concise Notes" means those reports that are required to be submitted pursuant to 10 CFR 75.34 and 75.35 on DOE/NRC Form 740M and prepared in accordance with printed instructions for completing the form.

Facility Attachment Code 7.

"Inspection" means:

Inspection or inspections as described in 10 CFR 75.42 and as conducted by duly authorized representatives (inspectors) of the International Atomic Energy Agency (IAEA).

Facility Attachment Code 7.3

Code 7.3 shall not be interpreted as requiring a minimum actual inspection effort or any other obligation on the part of the licensee to assure that any such minimum actual inspection effort is applied. "30 man-days per year if one refueling occurs" means:

The anticipated IAEA inspection effort under ordinary circumstances.

Facility Attachment Coes 7.4.2 and 7.4.3

"Verification of the inventory, i.e., by item counting and identification" means:

The IAEA inspection effort may include the verification of all, or any portion of, the licensee's SNM inventory (fuel assemblies in the core are subject to verification only during refueling and not at any other time).

The IAEA's inventory verification procedures may include confirmation of the stated location and serial numbers of fuel assemblies using procedures that are practical and that are within both the IAEA's and the licensee's technical capabilities.

Facility Attachment Code 7.10

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 August 22, 1983, provided by the USA means:

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 inspectors' 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 either case, the licensee should take into account the Agency inspector's prior training, expertise and experience. In neither 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.

3. 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 No. NPF-10 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 2. 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. NPF-10 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.

Text prepared on: 1985-01-04

Date of entry into force: JUN 01 1985

Safeguards Agreement under NPT between the USA and the IAEA
Subsidiary Arrangements

Facility Attachment No. 9
Facility: UXRF / MBA: UXRF

SAN ONOFRE NUCLEAR GENERATING STATION
UNIT-2

Total number of pages: 20

Page No. 1

Code	General Part Reference (Codes)	Agreement Reference (Articles)
------	--------------------------------	--------------------------------

1. 43(a) Identification of the facility

Facility identification code: UXRF

1.1 Name, owner and operator

San Onofre Nuclear Generating Station, Unit-2
(SONGS-2)

Owners

Southern California Edison Company
San Diego Gas & Electric Company
City of Anaheim
City of Riverside

Operator

Southern California Edison Company

1.2 Geographic location

San Diego County, California, USA.

1.3 Postal address

Southern California Edison Company
2244 Walnut Grove Avenue
P.O. Box 800
Rosemead, California, 91770
Telephone No. (818) ~~777~~ 1749

302

1.4 Description

The power station consists of one pressurized light water reactor, 3390 MW(t) gross thermal power.

- Refuelling interval: normally 12²⁴ months.

- Number of assemblies discharged normally on refuelling: 60-~~100~~
109

Text prepared on: 1985 01-04

Date of entry into force: JUN 01 1985

Facility Attachment No. 9
 Facility: UXRF / MBA: UXRF

SAN ONOFRE NUCLEAR GENERATING STATION
 UNIT-2

Page 2

Code	General Part Reference (Codes)	Agreement Reference (Articles)
------	--------------------------------	--------------------------------

- | | | | |
|--------------|--|--|---|
| 1.4 (cont'd) | | | <ul style="list-style-type: none"> - Nominal weight of fuel in assemblies: 414kg total U. - Maximum fresh fuel enrichment (U-235): 4.1%. - Number of fuel assemblies in core: 217. - Fresh fuel storage capacity: 80. - Spent fuel storage capacity: 900. - Fuel rods may be exchanged between fuel assemblies at the time of refuelling. |
|--------------|--|--|---|

1.5			<p><u>Maps and plans</u></p> <p>See Design Information Questionnaire (DIQ).</p>
-----	--	--	---

2.	3.1	43, 44, 46(a)	<p><u>Information on the facility</u></p> <p>This Facility Attachment is based on the design information as of September 1983 provided by USA.</p>
----	-----	---------------	--

2.1		8	<p><u>Location of information</u></p> <p>Identical sets of the information provided on the facility are kept at the Agency, at the facility and at the USNRC Headquarters</p>
-----	--	---	---

2.2	3.1.3	45	<p><u>Changes in the design information on the facility to be provided in advance (with reference to the relevant paragraphs in the Design Information Questionnaire).</u></p> <ul style="list-style-type: none"> - Any change in the rated thermal output for continuous operation. (14) - Any change in the access routes to the reactor area. (10) - Any change in the design of the reactor fuel. (24, 25, 27)
-----	-------	----	---

Text prepared on: 1980-01-04

Date of entry into force: JUN 01 1985

Facility Attachment No. 9
Facility: UXRF / MBA: UXRFSAN ONOFRE NUCLEAR GENERATING STATION
UNIT-2

Page 3

Code	General Part Reference (Codes)	Agreement Reference (Articles)
------	---	--------------------------------------

2.2 (cont'd)

- Any change in the type of fuel used e.g. introduction of mixed oxide fuel. (22, 23, 25)
- Any increase in the maximum enrichments of the fuel. (23)
- Any change in the method of identifying individual fuel assemblies. (31)
- Any change of the refuelling equipment or methods. (41)
- Any change in the connection with the reactor vessel or its cover influencing access to the core. (43)
- Introduction of new irradiation positions inside the reactor vessel. (44)
- Introduction of new loop heat removal equipment which would be required to increase the nominal rated core thermal power level. (52)
- Installation of any fuel assembly decladding or dissolution equipment. (51)
- Any change in the routes of the shipping cask for irradiated fuel within the facility. (50)

3.2.2

- Any change in the health and safety regulations affecting the conduct of inspection by the Agency. (54)
- Any change in the method of storage of irradiated fuel and of the spent fuel storage capacity (48)

Any change in other parts of the design information to be submitted when the change has been completed.

Text prepared on: 1985-01-04

Date of entry into force: JUN 01 1985

Facility Attachment No. 9
 Facility: UXRF / MBA: UXRF

SAN ONOFRE NUCLEAR GENERATING STATION
 UNIT-2

Code	General Part Reference (Codes)	Agreement Reference (Articles)	
3.			<u>Safeguards measures</u>
3.1		29	<u>Accountancy</u>
3.1.1		46(b)	<u>Material balance area and identification codes</u> The SONGS-2 nuclear facility UXRF constitutes one material balance area, MBA UXRF.
3.1.2		46(b) 37, 38	<u>Strategic points which are Key Measurement Points (KMPs). (For their specifications see Code 4.)</u> (a) For determination of nuclear material flow: 6.3 KMP 1 - Receipts, de-exemptions and accidental gains of nuclear material. KMP 2 - Nuclear loss and production. 3.5, 3.7 6.3, 7.1 KMP 3 - Shipments of nuclear material, withdrawals, exemptions and accidental losses. (b) For determination of the physical inventory: KMP A - Fresh fuel storage and inspection area. KMP B - Reactor core. KMP C - Spent fuel storage racks and spent fuel shipping casks. KMP D - Other locations of nuclear material at the facility.

Text prepared on: 1985-01-04

Date of entry into force: JUN 01 1985

Facility Attachment No. 9
 Facility: UXRF / MBA: UXRF

SAN ONOFRE NUCLEAR GENERATING STATION
 UNIT-2

Page 5

Code	General Part Reference (Codes)	Agreement Reference (Articles)	
3.1.3		46(c)	<p><u>Physical inventory taking (PIT)</u></p> <p>Nominal timing:</p> <p>As soon as possible after the completion of each refuelling and before the reactor is closed again.</p> <p>In case of prolonged shutdown of one year or longer, physical inventory takings shall be performed every 12 months.</p> <p>Fuel other than that contained in the core will be inventoried at least once per year.</p> <p>Procedures:</p> <p>Item counting and identification. Preparation of an itemized inventory list for each inventory KMP.</p>
3.2		29	<p><u>Containment and Surveillance</u></p>
3.2.1		46(f)	<p><u>Strategic points for the application of containment and surveillance measures</u></p> <ul style="list-style-type: none"> - Reactor hall. - The fresh and spent fuel storage areas including access routes.
3.2.2		73(d),(e)	<p><u>Installed Agency instruments and devices</u></p> <ul style="list-style-type: none"> (a) Seals to ensure the containment of the reactor vessel; (b) Cameras for surveillance of fuel movements into or out of the reactor containment including the fresh and spent fuel storage areas; (c) Seals on shipping casks with spent fuel (d) Seals on Agency equipment.

Text prepared on: 198 01-04

Date of entry into force: JUN 01 1985

Facility Attachment No. 9
Facility: UXRF / MBA: UXRF

SAN ONOFRE NUCLEAR GENERATING STATION
UNIT-2

Page 6

Code	General Part Reference (Codes)	Agreement Reference (Articles)
------	--------------------------------	--------------------------------

3.2.2 (cont'd)			If there is a need to break a seal or interfere with the operation of safeguards instruments, the Agency shall be informed in advance by the fastest means. This information shall include the (probable) date on which the operation will take place. If a seal is removed in the absence of an Agency inspector without the operator being able to inform the Agency in advance, a special report will be prepared as specified in Code 6.4.1.
3.3	6.1	11, 35	<u>Specific provisions and criteria for termination of safeguards on nuclear material</u> None.
3.4	6.2	36, 37	<u>Specific provisions and criteria for exempting nuclear material from safeguards</u> None.
3.5	3.7, 7.1	12(a)	<u>Specific provisions and criteria for withdrawal of nuclear material from safeguards.</u> None.

Facility Attachment No. 9
 Facility: UXRF / MBA: UXRF

SAN ONOFRE NUCLEAR GENERATING STATION
 UNIT-2

Table 4.1: KMPS for the flow of nuclear material

KMP	Inventory Change	Description of a typical hatch		Item	Source data	Material Description		Meas. basis
		for fuel assemblies	One fuel assembly.			NRC	IAEA	
Receipt		for fuel assemblies	One fuel assembly.	One fuel assembly	For each fuel assembly: (1) Identification number; (2) Weights of total and fissionable uranium and chemical composition based on shipper's data.		BQ2F	N
		for small quantities of nuclear material (each less than 0.01 effective kilogram)	Any 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.	As appropriate	(1) Weight of compound; (2) Chemical form, including concentration of uranium and isotopic composition; (3) Weights of total and fissionable uranium, all based on shipper's data.		Q/SOA Q/SOH	N N
De-exemption, Accidental Gain		Same as for Receipts at KMP 1 above						

Agreement Reference (Articles): 46(b), 55, 90
 Specifications for Key Measurement Points

de 4.1: KMPs for the flow of nuclear material (continued)

KMP	Inventory Change	Description of a typical		Source data	Material Description		Meas. basis
		batch	item		NRC	IAEA	
2	Nuclear Production, Nuclear Loss (burn-up)	For fuel assemblies One fuel assembly.	One fuel assembly	(1), (2) As for fuel assemblies at KMP 1 above; (3) Estimated burn-up of each fuel assembly (in MWD/tU), date of discharge; (4) Nuclear loss of total and fissile uranium and nuclear production of plutonium for each fuel assembly when calculated, including as of the date of discharge.		BQ1G	M
	Nuclear Loss (decay)	For fuel assembly One fuel assembly.	One fuel assembly	(1), (2), (3) As above; (4) Nuclear loss of total plutonium (Pu-241 decay) for each fuel assembly when calculated, including as of the date of shipment.		BQ1G BQ2G	M M
3	Shipment	For fuel assemblies One fuel assembly.	One fuel assembly	For each fuel assembly: (1) Identification number; (2) Weights of total and fissile uranium for unirradiated fuel; (3) Weights of total and fissile uranium and total plutonium as calculated to allow for nuclear loss and production for irradiated fuel; (4) Burn-up and date of discharge of irradiated fuel; (5) Isotopic composition if available.		BQ2G BQ2F	M N

Text prepared on: 1985-01-04
 Facility: UXRF / MBA: UXRF

Page 8
 SAN ONOFRE NUCLEAR GENERATING STATION
 UNIT-2

Date of entry into force: JUN 01 1985

SAFETY INFORMATION

Code 4.1: KMPs for the flow of nuclear material (continued)

KMP	Inventory Change	Description of a typical		Source data	Material Description		Meas. basis	
		batch	item		NRC	IAEA		
3	Shipment (cont'd)	For small quantities of nuclear material (each less than 0.01 effective kilogram)	As appropriate	(1) Weight of compound; (2) Weights of total and fissile uranium and chemical composition.		Q/SOA Q/SUH	M M	
	Exemption, Accidental Loss, Withdrawal	Same as for Shipment at KMP 3 above						

Text prepared on: 1985-01-04
 Facility: UXRF / MBA: UXRF

Date of entry into force: JUN 01 1985
 SAN OMOFRE NUCLEAR GENERATING STATION
 UNIT-2

Code 4.2: KMPs for Physical Inventory of nuclear material

KMP	Description of a typical		Source data	Material Description		Meas. basis
	batch	item		NRC	IAEA	
A B	For fuel assemblies One fuel assembly.	One fuel assembly	For each fuel assembly: (1) Identification number; (2) Weights of total and fissile uranium for unirradiated fuel; (3) Weights of total and fissile uranium uranium and total plutonium as calculated to allow for nuclear loss and production for irradiated fuel; (4) Isotopic composition if available.		BQ1F BQ2F BQ4F BQ4G	N N N M
C	For fuel assemblies One fuel assembly.	One fuel assembly	(1) Identification number; (2) Weights of total and fissile uranium and total plutonium as calculated to allow for nuclear loss and production for irradiated fuel; (3) Burn-up and date of discharge of irradiated fuel; (4) Isotopic composition if available.		BQ1G BQ2G	M M
A B C D	For small quantities of nuclear material (each less than 0.01 effective kilogram) Any number of such quantities.	Not applicable	(1) Weight of compound; (2) Weights of total and fissile uranium.		Q/SOA Q/SOH	N N,M

Page 10

Text prepared on: 1985-1-04
 Facility Attachment No. 9
 Facility: UXRF / MBA: UXRF

Date of entry in force: JUN 01 1985
 SAN ONOFRE NUCLEAR GENERATING STATION
 UNIT-2

Text prepared on: 1981-04

Date of entry into force: JUN 01 1985

Facility Attachment No. 9
 Facility: UXRF / MBA: UXRF

SAN ONOFRE NUCLEAR GENERATING STATION
 UNIT-2

Page 11

Code	General Part Reference (Codes)	Agreement Reference (Articles)	
5.		46(d), 49	<u>Records System</u>
5.1	2.1.2	54, 32(f)	<u>Specific provisions for accounting records</u>
5.1.1		54(a),	<u>Inventory changes (for the specifications of source data see Code 4.1 above), time of recording</u>
			- Receipt (KMP 1): Upon receipt.
			- Nuclear loss (uranium burn-up) and nuclear production (KMP 2): When calculated, including upon discharge.
			- Nuclear loss (Pu-241 decay) (KMP 2): When calculated, including upon shipment.
			- Shipment (KMP 3): Upon shipment.
	6.2		- Exemption (KMP 3): Upon the accounting transfer of the nuclear material.
	6.3		- De-exemptions (KMP 1): Upon the accounting transfer of the nuclear material.
	3.5		- Accidental loss (KMP 3): Upon determining the amount of the loss.
			- Accidental gain (KMP 1): Upon determining the amount of the gain.
	3-7; 7-1		- Withdrawal (KMP 3): Upon withdrawal.

Text prepared on: 1981-04

Date of entry into force: JUN 01 1985

Facility Attachment No. 9

SAN ONOFRE NUCLEAR GENERATING STATION

Facility: UXRF / MBA: UXRF

UNIT-2

Page 12

Code	General Part Reference (Codes)	Agreement Reference (Articles)	
5.1.2	4.2	54(b)	<p><u>Measurement (item counting and identification) results used for determination of the physical inventory (for the specifications of source data see Code 4.2 above) and time of recording</u></p> <ul style="list-style-type: none"> - For all physical inventory KMPs: Upon identification and counting of items during the physical inventory taking. - Itemized list of nuclear material inventory: Before inventory taking.
5.1.3		54(c)	<p><u>Adjustments and corrections, time of recording</u></p> <ul style="list-style-type: none"> - Shipper/Receiver difference: Not relevant. - MUF: Normally identical to zero. - Corrections: Whenever errors have been found;
5.2	2.1.2	56	<u>Specific provisions for operating records</u>
5.2.1		56(a)	<p><u>Operating data used to establish changes in the quantities and composition of nuclear material</u></p> <ul style="list-style-type: none"> - Location of each fuel assembly at any time. - The relevant source data with respect to nuclear loss and production, including: <ul style="list-style-type: none"> (a) The monthly integrated thermal power produced by the reactor; and (b) The estimated burn-up (in MWD/t) for each fuel assembly. -- Date and duration of any reactor shutdown. - Date and description of any dismantling operation of a fuel assembly for pin exchange.

Text prepared on: 1985-01-04

Date of entry into force: JUN 01 1985

Facility Attachment No. 9
Facility: UXRF / MBA: UXRF

SAN ONOFRE NUCLEAR GENERATING STATION
UNIT-2

Code	General Part Reference (Codes)	Agreement Reference (Articles)	
5.2.2		56(b)	<u>Calibrations</u> Not required.
5.2.3		56(c)	<u>Sequence of the actions taken in preparing for and in taking the physical inventory</u> - At 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 operator but before commencement of verification by the Agency.
5.2.4		56(d)	<u>Actions taken in order to ascertain the cause and magnitude of any accidental or unmeasured loss</u> Dates and description of the actions taken and the results obtained.
5.3		50	<u>Location and language of records</u> At the facility and at the utility headquarters at Rosemead, California: English.
5.4		51	<u>Retention period for records</u> Five years.
6.	10	46(d), 57	<u>Reports system</u>
6.1	3.4.1	61(a), 62 63	<u>Specific provisions for inventory change reports (ICRs)</u>
5.1.1	10		<u>Contents</u> The inventory changes to be reported are those types specified in Code 5.1.1 above. Will be completed as specified in sections 1 through 4 of Code 10, General Part of the Subsidiary Arrangements.

Text prepared on: 1985-01-04

Date of entry into force: JUN 01 1985

Facility Attachment No. 9
Facility: UXRF / MBA: UXRFSAN ONOFRE NUCLEAR GENERATING STATION
UNIT-2

Page 14

Code	General Part Reference (Codes)	Agreement Reference (Articles)	
6.1.1	(cont'd)		Nuclear loss and production for irradiated fuel assemblies will be reported when calculated, including as of the date of discharge. The element code of the initial fuel category will be used in reporting.
6.1.2			<u>Timing or frequency of dispatch</u> Within 30 days after the end of the month in which receipt, discharge, shipment, exemption, de-exemption, withdrawal or accidental loss or gain occurred or was established.
6.2	3.4.1	62	<u>Specific provisions for concise notes</u>
6.2.1		62(a)	<u>Concise notes explaining the inventory changes</u> - May be attached to ICRs (or mailed separately) containing the data on nuclear loss and production, to state the burn-up in MWD/t of initial uranium for each fuel batch calculated. - May be attached to ICRs (or mailed separately) to explain unusual inventory changes (such as accidental loss) or correction. They may also be used to explain any other part of information included in the reports.
6.2.2		62(b)	<u>Concise notes describing the anticipated operational programme; subject and timing of dispatch</u> - Planned operations involving removal of the Agency reactor vessel seal, e.g. refuelling, fresh fuel receipts and spent fuel shipments. To be attached to each MDR (see Code 6.3.3 below) and to cover the period until the end of the next refuelling.

Facility Attachment No. 9

SAN ONOFRE NUCLEAR GENERATING STATION
UNIT-2

Facility: UXRF / MBA: UXRF

Page 15

Code	General Part Reference (Codes)	Agreement Reference (Articles)
------	---	--------------------------------------

6.2.2 (cont'd)

- Forecast for the next refuelling, physical inventory taking or spent fuel shipment, including information about the shipment casks to be used and the extent to which these are expected to be filled.

To reach the Agency at least 30 days in advance, subsequent changes thereto as soon as they are known.

6.3 3.4.2

61(b), 65

Specific provisions for material balance reports (MBRs)

6.3.1 10

Contents

- The consolidated inventory changes to be reported are those types specified in Code 5.1.1 above.

- Will be completed as specified in sections 1 through 4 of Code 10, General Part of the Subsidiary Arrangements.

6.3.2 10

Physical inventory listings (PILs) 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 of the fuel for unirradiated fuel assemblies in KMPs A and B and for small quantities and on operator's data for irradiated fuel assemblies in KMPs B and C.

Will be completed as specified in sections 1 through 4 of Code 10, General Part of the Subsidiary Arrangements.

6.3.3

Timing or frequency of dispatch

Within 30 days of the physical inventory taking under Code 3.1.3 above.

Text prepared on: 1980-01-04

Date of entry into force: JUN 01 1985

Facility Attachment No. 9
Facility: UXRF / MBA: UXRFSAN ONOFRE NUCLEAR GENERATING STATION
UNIT-2

Page 16

Code	General Part Reference (Codes)	Agreement Reference (Articles)	
6.4	3.5	66, 89(b)	<u>Special reports</u>
6.4.1			<u>Specification of circumstances requiring submission of special reports</u>
			(a) Loss limits: One fuel assembly.
			(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 such as a seal or camera, is interfered with or removed in the absence of Agency inspectors, unless the Agency has been informed in advance as provided for. 1/
6.4.2			<u>Contents, as appropriate</u>
			- Date when the incident or circumstance occurred.
			- Description of the actions taken in order to ascertain the cause of the incident or circumstance and the magnitude of the loss.
			- Cause and features of the incident or circumstance.
			- Estimated amount of nuclear material which has been lost.
7.	4.2		<u>Inspections</u>
7.1		78, 82	<u>Mode of routine inspections</u>
			Intermittent.

1/ In respect of seals on shipping casks, this requirement applies only while the casks remain in the facility.

Code	General Part Reference (Codes)	Agreement Reference (Articles)	
7.2		78	<p><u>Applicable formula and procedure for determination of maximum routine inspection effort</u></p> <p>Article 78(a) of the Agreement.</p>
7.3		76, 79	<p><u>Indication of the actual routine inspection effort under ordinary circumstances</u></p> <p>Indication of the actual routine inspection effort, as far as can be foreseen and assuming:</p> <p>3.1 (a) Circumstances at the facility to be as described in the design information provided;</p> <p>2. (b) The continued validity of the information on the national system of accounting for and control of nuclear material, as set out in the General Part of the Subsidiary Arrangements.</p> <p>(c) That the refuelling period is as stated in para. 37 of the Design Information.</p> <p>20 man-days per year.</p>
7.4		72, 73	<p><u>Indication of the scope of routine inspections under ordinary circumstances</u></p>
7.4.1			<p><u>General:</u></p> <p>Examination of records, verification for self-consistency and consistency with reports.</p>
7.4.2			<p><u>At inventory KMPs</u></p> <p>Verification of the inventory, e.g. by item counting, identification and integrity checks and non-destructive measurements.</p>

Text prepared on: 1985-01-04

Date of entry into force: JUN 01 1985

Facility Attachment No. 9
Facility: UXRF / MBA: UXRF

SAN ONOFRE NUCLEAR GENERATING STATION
UNIT-2

Code	General Part Reference (Codes)	Agreement Reference (Articles)
------	--------------------------------	--------------------------------

7.4.3 At flow KMPs

Verification of inventory changes, e.g. by item counting, identification and integrity checks, non-destructive measurements of fresh and irradiated fuel, including the use of seals on containers of irradiated fuel.

7.4.4 At strategic points for containment and surveillance

- Observation of refuelling and spent fuel removal operations;
- Application, examination and removal of Agency seals used in accordance with Code 3.2.2, as well as of other seals;
- Servicing and maintenance of the surveillance equipment.

7.5 73(d) Arrangements for the use by the Agency of equipment for independent measurements

Specific arrangements for the use by the Agency of equipment to be made as the need arises.

7.6 9.4 73(a) Duplicate and additional samples

Not relevant.

7.7 85, 86 Persons to whom a request for any operation or for services at the facility should be addressed

D.L. COX 518 302-1658
~~F.P. Hardy (213) 572-1096~~
T.D. Mercurio (818) 302-2645
Nuclear Licensing - Room 412 G.O. #1
2244 Walnut Grove Avenue
P.O. Box 800
Rosemead, Ca., 91770

Text prepared on: 1980-01-04

Date of entry into force: JUN 01 1985

Facility Attachment No. 9
 Facility: UXRF / MBA: UXRF

SAN ONOFRE NUCLEAR GENERATING STATION
 UNIT-2

Page 19

Code	General Part Reference (Codes)	Agreement Reference (Articles)
------	--------------------------------	--------------------------------

7.8

Contacts at the facility

B. Katz (714) 492-7700 Ext. 5-6631
 San Onofre Nuclear Generating Station
 P.O. Box 128
 San Clemente, Ca., 92672

7.9

14, 86

Services and charges

7.9.1

Services provided by the Operator with no charge to the Agency

- Health and safety services (protective clothing, dosimeters).
- Office space for the Agency's inspectors.
- Power supply for the Agency's instruments.
- Personnel for handling the fuel assemblies during their measurements.
- Available equipment for handling the fuel assemblies during their measurements.
- Personnel to escort and facilitate audit activities.

7.9.2

Services provided by the operator with charges to the Agency

- Means of communication (telephone, telex, cable):
 According to existing rates.

If any specific request 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 estimated 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.

Text prepared on: 1981-04

Date of entry into force: JUN 01 1985

Facility Attachment No. 9
Facility: UXRF / MBA: UXRF

SAN ONOFRE NUCLEAR GENERATING STATION
UNIT-2

Code	General Part Reference (Codes)	Agreement Reference (Articles)
------	--------------------------------	--------------------------------

7.9.3		<u>Mode of reimbursement of the expenses charged to the Agency</u>
-------	--	--

By cheque, after receipt of the invoice by the Agency.

7.10	3.2	44	<u>Specific facility health and safety rules and regulations to be observed by the Agency's inspectors</u>
------	-----	----	--

As specified in paragraph 54 of the design information as of 22 August 1983 provided by the USA. The Agency inspectors will be informed at the facility by short briefings at the time of entry into the facility of ~~changes~~ ^{AS NECESSARY} in health and safety rules, or ad hoc rules as might be required in view of a special situation that has occurred at the facility. For health and safety reasons, inspectors will be escorted by qualified personnel.

8.	4.1.3	30, 88	<u>Agency statements</u>
----	-------	--------	--------------------------

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) Verification of containment and surveillance measures;
- (d) Verification of inventory changes;
- (e) Verification of material accountancy;
- (f) Verification of the quality and functioning of the operator's measurement system;

(g) Activities in respect of MUF, shipper/RECEIVER DIFFERENCES OR LOSSES