10 ATTACHMENT- 2

FORM NIS-2 OWNER'S REPORTS FOR REPAIRS OR REPLACEMENTS

As Required by the Provisions of the ASME Code SectionXI

Owner:

Southern California Edison Company

2244 Walnut Grove Avenue Rosemead, California 91770

95051027003 95051027000 MO: Rspec: ASME SECTION XI DATA-0581

2 Plant:

San Onofre Nuclear Generating Station

P&ID: 40123A (G2) S2-1208-3 N-5:

2

Unit:

San Clemente, California 92674-0128

3. Work Performed by:

Southern California Edison Company

Type Code Symbol Stamp: N/A Authorization No:

N/A

Expiration Date:

N/A

4. Identification of System: Chemical and Volume Control

5. (a) Applicable Construction Code: ASME Section III. Class 2. 9171 Edition. Summer 1973 Addenda: Code Case: None

(b) Applicable Edition of Section XI Utilized for Repairs or Replacements: 1989 Edition. No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components:

Name of Component	Name Of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced or Replacement	ASME Code Stamped Yes/No
1 1/2" Angle Drag Valve	Control Components	35208-1-1-2	N/A	2LV0110B	1984		Yes
Spindle (Plug)	Control Components	M416600 S/N 1	N/A	RSO 0509-93, SA479 316	1993	Replacement	Yes
Bonnet Studs (8)	Cardinal Industrial Products	Ht. # KN827, Trace Code Y20 F169	N/A	RSO-3170-88, SA564 Tp.630	N/A	Replacement	No
Bonnet Nuts (8)	Control Components	Ht. # 626420 Trace Code AJJ	N/A	RSO-2207-87, SA564 Tp.630	N/A	Replacement	No

7. Description of Work:

The pressurizer level control valve located in plant position 2LV0110B was found to be leaking. The valve was disassembled and the spindle (plug) and bonnet bolting was replaced with in-kind replacements. The valve was reassembled, reinstalled and a System Functional VT-2 test was performed with satisfactory results.

8. Tests Conducted: System Functional Pressure Test

Pressure: NOP

Temp: N/A

See: AR 950600088-3

	(Applicable Manufacturer's Data Reports are available on-site)
	CERTIFICATE OF COMPLIANCE
We certify that the statements made in the rest the ASME Code, Section XI.	eport are correct and this replacement conforms to the rules repair or replacement
Type Code Symbol Stamp: N/A	
	Expiration Date: N/A vervising ASME Codes Engineer Date: 1/25/99
Owner or Owner's Designee, Title	
	CERTIFICATE OF INSPECTION
the undersigned holding a valid commission	on issued by the National Board of Boiler and Pressure Vessel Inspectors and
	ployed by Arkwright Mutual Insurance Company of
Valtham. Massachusetts have inspected,t	he components described in this Owner's Report during the period
Valtham, Massachusetts have inspected to 6/5/95 to 1/26/9	the components described in this Owner's Report during the period, and state that to the best of my knowledge and belief, the Owner
Valtham, Massachusetts have inspected to 6/5/95 to 1/26/9	he components described in this Owner's Report during the period
Valtham. Massachusetts have inspected to 15/95 to 1/26/9 as performed examinations and taken corre	the components described in this Owner's Report during the period and state that to the best of my knowledge and belief, the Owner ective measures described in this Owner's Report in accordance with the
Valtham. Massachusetts have inspected to 45/95 to 1/26/9 as performed examinations and taken corre	the components described in this Owner's Report during the period and state that to the best of my knowledge and belief, the Owner ective measures described in this Owner's Report in accordance with the
Waltham, Massachusetts have inspected to	the components described in this Owner's Report during the period and state that to the best of my knowledge and belief, the Owner ective measures described in this Owner's Report in accordance with the I.
Valtham, Massachusetts have inspected to 1269	the components described in this Owner's Report during the period and state that to the best of my knowledge and belief, the Owner ective measures described in this Owner's Report in accordance with the I. Sector nor his employer makes any warranty, expressed or implied, concerning the
Altham, Massachusetts have inspected to 1269 to 1269 is performed examinations and taken correquirements of the ASME Code, Section X is signing this certificate, neither the Inspectaminations and corrective measures described.	the components described in this Owner's Report during the period and state that to the best of my knowledge and belief, the Owner ective measures described in this Owner's Report in accordance with the I. Sector nor his employer makes any warranty, expressed or implied, concerning the ribed in this Owner's Report. Furthermore, neither the Inspector nor his
Altham, Massachusetts have inspected to 1969 to 1969 is performed examinations and taken correquirements of the ASME Code, Section X signing this certificate, neither the Inspectaminations and corrective measures descriptly of the section of the ASME Code, Section X is signing this certificate, neither the Inspectaminations and corrective measures descriptly of the section of th	the components described in this Owner's Report during the period and state that to the best of my knowledge and belief, the Owner ective measures described in this Owner's Report in accordance with the I. Sector nor his employer makes any warranty, expressed or implied, concerning the
Altham, Massachusetts have inspected to 1969 to 1969 is performed examinations and taken correquirements of the ASME Code, Section X signing this certificate, neither the Inspectaminations and corrective measures descriptly of the section of the ASME Code, Section X is signing this certificate, neither the Inspectaminations and corrective measures descriptly of the section of th	the components described in this Owner's Report during the period and state that to the best of my knowledge and belief, the Owner ective measures described in this Owner's Report in accordance with the I. Sector nor his employer makes any warranty, expressed or implied, concerning the ribed in this Owner's Report. Furthermore, neither the Inspector nor his
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Altham, Massachusetts have inspected to 1269 t	the components described in this Owner's Report during the period and state that to the best of my knowledge and belief, the Owner ective measures described in this Owner's Report in accordance with the classical content of the con
Altham. Massachusetts have inspected to 2009 to 2009 as performed examinations and taken correquirements of the ASME Code, Section X sy signing this certificate, neither the Inspectaminations and corrective measures descriptly of the section of the ASME Code, Section X aminations and corrective measures descriptly of the section of th	the components described in this Owner's Report during the period , and state that to the best of my knowledge and belief, the Owner ective measures described in this Owner's Report in accordance with the I. ctor nor his employer makes any warranty, expressed or implied, concerning the ribed in this Owner's Report. Furthermore, neither the Inspector nor his my personal injury or property damage or a loss of any kind arising from or Commissions [BL2 California
Valtham. Massachusetts have inspected to 1269 as performed examinations and taken correctivements of the ASME Code, Section X by signing this certificate, neither the Inspect examinations and corrective measures descriptly and the section of the ASME code, Section X by signing this certificate, neither the Inspect examinations and corrective measures descriptly and the section of the section o	the components described in this Owner's Report during the period , and state that to the best of my knowledge and belief, the Owner ective measures described in this Owner's Report in accordance with the I. ctor nor his employer makes any warranty, expressed or implied, concerning the ribed in this Owner's Report. Furthermore, neither the Inspector nor his my personal injury or property damage or a loss of any kind arising from or
Waltham, Massachusetts have inspected to 1/26/95 to 1/26/95 to 1/26/95 as performed examinations and taken corresponding the ASME Code, Section X by signing this certificate, neither the Inspectional and corrective measures described the section of the ASME Code, Section X by signing this certificate, neither the Inspectional and corrective measures described to the section of the ASME Code, Section X by signing this certificate, neither the Inspection of the ASME Code, Section X by signing this certificate, neither the Inspection of the ASME Code, Section X by signing this certificate, neither the Inspection of the ASME Code, Section X by signing this certificate, neither the Inspection of the ASME Code, Section X by signing this certificate, neither the Inspection of the ASME Code, Section X by signing this certificate, neither the Inspection of the ASME Code, Section X by signing this certificate, neither the Inspection of the ASME Code, Section X by signing this certificate, neither the Inspection of the ASME Code, Section X by signing this certificate, neither the Inspection of the ASME Code, Section X by signing this certificate, neither the Inspection of the ASME Code, Section X by signing this certificate, neither the Inspection of the ASME Code, section of the AS	the components described in this Owner's Report during the period , and state that to the best of my knowledge and belief, the Owner ective measures described in this Owner's Report in accordance with the I. ctor nor his employer makes any warranty, expressed or implied, concerning the ribed in this Owner's Report. Furthermore, neither the Inspector nor his my personal injury or property damage or a loss of any kind arising from or Commissions [BL2 California
Altham. Massachusetts have inspected to 2009 to 2009 as performed examinations and taken correquirements of the ASME Code, Section X sy signing this certificate, neither the Inspectaminations and corrective measures descriptly of the section of the ASME Code, Section X aminations and corrective measures descriptly of the section of th	the components described in this Owner's Report during the period , and state that to the best of my knowledge and belief, the Owner ective measures described in this Owner's Report in accordance with the I. ctor nor his employer makes any warranty, expressed or implied, concerning the ribed in this Owner's Report. Furthermore, neither the Inspector nor his my personal injury or property damage or a loss of any kind arising from or Commissions BLZ California

As Required by the Provisions of the ASME Code SectionXI

1. Owner: Southern California Edison Company

2244 Walnut Grove Avenue

Rosemead, California 91770

Unit: 2

MO: 95051300000

Rspec: ASME SECTION XI DATA-0176

P&ID: 40124A (H6)

N-5: S2-1208-11

2. Plant: San Onofre Nuclear Generating Station San Clemente, California 92674-0128

3. Work Performed by:

Southern California Edison Company

Type Code Symbol Stamp: N/A

Authorization No:

Expiration Date:

N/A

Identification of System: Chemical and Volume Control

N/A

5. (a) Applicable Construction Code: ASME Section III, Class 2, 1971 Edition Summer 1973 Addenda; Code Case: None

(b) Applicable Edition of Section XI Utilized for Repairs or Replacements: 1989 Edition, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components:

Name of Component	Name Of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced or Replacement	ASME Code Stamped Yes/No
3" 150# Flow Diverting Valve (BW)	Hammel-Dahl Conoflow	74/5797/018	N/A	2LV0227A	1977		Yes
3" Upper Valve Plug	Neles-Jamesbury	5S4331	N/A	RSO-1365-96, SA351 CF8M	N/A	Replacement	Yes
3" Lower Valve Plug	Hammel-Dahl Conoflow	S/N 2, Ht.# B4166	N/A	RSO-6804-85, SA351 CF8M	N/A	Replacement	Yes
Valve Plug Nut	Anchor/Darling	Ht.# 693656	N/A	RSO-0106-91, SA479 Tp.316	N/A	Replacement	No

7. Description of Work:

The valve in plant position 2LV0227A (Volume Control Tank Inlet Valve) was disassembled, inspected, and refurbished. The upper and lower valve plugs and valve plug nut, were replaced in accordance with ASME XI DATA FLAG - 0176 and MO 95051300000. The removed valve plugs were placed into the Rebuild Program.

8. Tests Conducted: System Functional Pressure Test

Pressure: NOP

Temp: N/A

See: AR 961100997-1

9. Remarks: None.

(Applicable Manufacturer's Data Reports are available on-site) CERTIFICATE OF COMPLIANCE We certify that the statements made in the report are correct and this replacement conforms to the rules of the ASME Code, Section XI. repair or replacement Type Code Symbol Stamp: N/A Certificate of Authorization No: N/A Expiration Date: N/A Date: 9/15/97Supervising ASME Codes Engineer Owner or Owner's Designee, Title CERTIFICATE OF INSPECTION I, the undersigned holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of California, and employed by Arkwright Mutual Insurance Company of Waltham, Massachusetts have inspected the components described in this Owner's Report during the period to 09/16/97 ____, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI. By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this impection. Commissions California National Board, State, Province, and Endorsements

As Required by the Provisions of the ASME Code SectionXI

1. Owner:

Southern California Edison Company

2244 Walnut Grove Avenue

Rosemead, California 91770

2. Plant:

San Onofre Nuclear Generating Station

San Clemente, California 92674-0128

3. Work Performed by:

Southern California Edison Company

4. Identification of System: Chemical and Volume Control

Sheet I of I

Unit: 2

MO: 95111190000

FCN: F16074M, F16170M

Rspec: 175-98

P&ID: 40123B (E6)

S2-1208-11 N-5:

Type Code Symbol Stamp: N/A

Authorization No:

N/A

N/A Expiration Date:

5. (a) Applicable Construction Code: ASME Section III, Class 2, 1974 Edition. Summer 1974 Addenda: Code Case: None

(b) Applicable Edition of Section XI Utilized for Repairs or Replacements: 1989 Edition. No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components:

Name of Component	Name Of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced or Replacement	ASME Code Stamped Yes/No
2" 600# Globe Valve	Control Components	36995-1-1	N/A	2PV0201A	1984		Yes
Spindle	Control Components	S/N M241280, Ht. Code CY23	N/A	RSO-1479-98, SB637 N07718	1998	Replacement	Yes

7. Description of Work:

Replaced the spindle on the valve in plant location 2PV0201A with a new unbalanced Inconel 718 spindle in accordance with Repair Specification 175-98 and FCN's F16074M and F16170M.

8. Tests Conducted: System Functional Pressure Test

See: AR 980900986-06

Pres: NOP

	(Applicable Manufacturer's Data Reports are available on-site)
	CERTIFICATE OF COMPLIANCE
We certify that the statements many of the ASME Code, Section XI.	nade in the report are correct and this replacement conforms to the rules repair or replacement
Type Code Symbol Stamp: N	/A
Certificate of Authorization No. Signed: Owner of Owner's Desi	Supervising ASME Codes Engineer Date: 4/24/99
	CERTIFICATE OF INSPECTION
the State or Province of <u>Califor</u> Waltham, Massachusetts hav	lid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and rnia, and employed by Arkwright Mutual Insurance Company of we inspected the components described in this Owner's Report during the period and taken corrective measures described in this Owner's Report in accordance with the de, Section XI.
evaminations and corrective m	her the Inspector nor his employer makes any warranty, expressed or implied, concerning the easures described in this Owner's Report. Furthermore, neither the Inspector nor his manner for any personal injury or property damage or a loss of any kind arising from or
and a so	Son Commissions 1862 California

Sheet 1 of 1

2

96090159000

As Required by the Provisions of the ASME Code SectionXI

1. Owner:

Unit: Southern California Edison Company MO: 2244 Walnut Grove Avenue

Rosemead, California 91770 FCN: F12059M

Rspec: ASME SECTION XI DATA-0581 2. Plant:

San Onofre Nuclear Generating Station P&ID: 40123A (G1) San Clemente, California 92674-0128 N-5: S2-1208-3

3. Work Performed by: Southern California Edison Company Type Code Symbol Stamp: N/A

Authorization No: N/A

Expiration Date: N/A 4. Identification of System: Chemical and Volume Control

5. (a) Applicable Construction Code: ASME Section III, Class 2, 1971 Edition, Summer 1973 Addenda; Code Case: None

(b) Applicable Edition of Section XI Utilized for Repairs or Replacements: 1989 Edition, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components:

Name of Component	Name Of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced or Replacement	ASME Code Stamped Yes/No
1 1/2" 1500# Drag Valve	Control Components	352081-1-1	N/A	2LV0110A	1984		Yes
Spindle (Plug)	Control Components	S/N 2, Ht.# EN93	N/A	RSO-0017-98, SB637 N07718 (INCONEL)	1998	Replacement	No

7. Description of Work:

The valve spindle was re-designed to use Inconel 718 instead of type 316 stainless steel in order to reduce erosion, and was replaced in accordance with the new design as shown in drawing SO23-950-186. Reference: FCN F12059M.

8. Tests Conducted: <u>System Functional Pressure Test</u>

Pres: NOP

9. Remarks: CR-1001-96 reconciles the replacement spindle (plug) which was certified to ASME III, Class 2, 1989 Edition, No Addenda. (Applicable Manufacturer's Data Reports are available on-site) CERTIFICATE OF COMPLIANCE We certify that the statements made in the report are correct and this replacement conforms to the rules of the ASME Code, Section XI. repair or replacement Type Code Symbol Stamp: N/A Certificate of Authorization No: N/A Expiration Date: N/A Date: 4/11/98 Supervising ASME Codes Engineer Signed: Owner or Owner's Designee, Title CERTIFICATE OF INSPECTION I, the undersigned holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of California, and employed by Arkwright Mutual Insurance Company of Waltham, Massachusetts have inspected the components described in this Owner's Report during the period 0///3/9% to 0/4/3/9%, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI. By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection. _Commissions _ National Board, State, Province, and Endorsements Date April 13, 1998

As Required by the Provisions of the ASME Code SectionXI

1. Owner:

Southern California Edison Company

2244 Walnut Grove Avenue Rosemead, California 91770

2 Unit:

96100247000 MO:

Rspec: 209-95

P&ID: 40123B (E6)

2. Plant:

3. Work Performed by:

San Onofre Nuclear Generating Station

San Clemente, California 92674-0128

S2-1208-11 N-5:

Type Code Symbol Stamp: N/A

Authorization No:

N/A

4. Identification of System: Chemical and Volume Control

Expiration Date:

5. (a) Applicable Construction Code: ASME Section III. Class 2. 1971 Edition. Summer 1973 Addenda: Code Case: None

(b) Applicable Edition of Section XI Utilized for Repairs or Replacements:

1989 Edition. No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components:

Southern California Edison Company

Name of Component	Name Of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced or Replacement	ASME Code Stamped Yes/No
2" 1500# Packed Y- type Globe Valve	Kerotest	AFE2-11	N/A	S21208MU166	1984	Repaired	Yes

7. Description of Work:

The valve in plant location S21208MU166 was found to have a seat leakage problem. The bonnet seal weld was cut to gain access to the valve internals. No ASME Code items were replaced. The seal weld was reapplied in accordance with weld record WR2-95-638 and Repair Specification 209-95. Reference: AR 981101182

8. Tests Conducted: System Functional Pressure Test See: AR 961100997-2

Pressure: NOP

. Remarks: None.
(Applicable Manufacturer's Data Reports are available on-site)
CERTIFICATE OF COMPLIANCE
We certify that the statements made in the report are correct and this of the ASME Code, Section XI. repair or replacement
Type Code Symbol Stamp: N/A
Certificate of Authorization No: N/A Expiration Date: N/A Signed: Supervising ASME Codes Engineer Date: 1/2/99 Owner or Owner's Designee, Title
CERTIFICATE OF INSPECTION
I, the undersigned holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of <u>California</u> and employed by <u>Arkwright Mutual Insurance Company</u> of <u>Waltham, Massachusetts</u> have inspected the components described in this Owner's Report during the period <u>10/21/96</u> to <u>01/12/99</u> , and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.
By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.
Inspector's Signapare Commissions /862 California National Board, State, Province, and Endorsements
Date Jan 12, 1999

As Required by the Provisions of the ASME Code SectionXI

Southern California Edison Company Owner:

2. Plant:

2244 Walnut Grove Avenue

Rosemead, California 91770

San Onofre Nuclear Generating Station

San Clemente, California 92674-0128

Unit:

97030391000 MO:

Rspec: GEN-107A R1, GEN-107B

P&ID: 40111A

2

N/A N-5:

Bechtel Construction Company 3. Work Performed by:

P.O. Box 450

San Clemente, CA. 92674-0128

Type Code Symbol Stamp: N/A

Authorization No:

N/A

Expiration Date:

N/A

4. Identification of System: Reactor Coolant

5. (a) Applicable Construction Code: ASME Section III, Class 1, 1971 Edition, Winter 1973 Addenda: Code Case: None

(b) Applicable Edition of Section XI Utilized for Repairs or Replacements: 1989 Edition. No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components:

Name of Component	Name Of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced or Replacement	ASME Code Stamped Yes/No
CEDM #19 Vent Valve Assembly	ABB Combustion Engineering	1370-182	N/A	S21104CEDM #19	N/A	Repaired	Yes
Ball Seal Housing	ABB Combustion Engineering	S/N 413 Ht.#MT13222/ 95843	N/A	RSO-1391-97, SA479 316	N/A	Replacement	No
Vent Stem	ABB Combustion Engineering	S/N 436	N/A	RSO-1726-94, SA479 316	N/A	Replacement	No
Housing Nut	ABB Combustion Engineering	S/N 412 HL#36101	N/A	RSO-1974-92, SA479 316	N/A	Replacement	No
CEDM #67 Vent Valve Assembly	ABB Combustion Engineering	1370-130	N/A	S21104CEDM #67	N/A	Repaired	Yes
Ball Seal Housing	ABB Combustion Engineering	S/N 412 HL#MT13222/ 95843	N/A	RSO-1391-97, SA479 316	N⁄Α	Replacement	No
Vent Stern	ABB Combustion	S/N 428	N/A	RSO-1726-94, SA479 316	N/A	Replacement	No
Housing Nut	ABB Combustion Engineering	S/N 413 Ht.#36101	N/A	RSO-1974-92, SA479 316	N/A	Replacement	No
Weld Filler Metal	Johnston Stainless	Ht.#S469929	N/A	RSO-8069-84, ER-308L	N/A	Replacement	No

7. Description of Work:

The Reactor Head CEDM vent valve assemblies were replaced at plant CEDM locations #19 and #67 per NCR 950300079 and 970300002 dispositions. The work was performed under MO 97030391 and ABB CE Traveler 2008620-001 respectively. Work activities included: a) cutting out the ball seal housings (#19 and #67), machining the new weld prep on the upper pressure housings, and performing a P.T. examination of new weld preps; b) installation of new seal ball housings, performance of the "omega" seal weld, and performance of post weld PT examination; c) reassembly of vent valves using new internals (ie. vent stem and housing nut). All replacement pressure boundary materials were verified to meet the requirements of the original construction code. Note: Activities (a) and (b) above were performed by ABB CE in accordance with ABB CE Traveler 2008620-001 utilizing ABB CE procedures and personnel. Activity (c) was performed by SCE maintenance personnel.

8. Tests Conducted: System Leakage Pressure Test

Pres: NOP

Temp: NOT

See: AR 970300002-5, 950300079-6

9. Remarks: None.
(Applicable Manufacturer's Data Reports are available on-site)
CERTIFICATE OF COMPLIANCE
We certify that the statements made in the report are correct and this of the ASME Code, Section XI. repair or replacement conforms to the rules repair or replacement
Type Code Symbol Stamp: N/A
Certificate of Authorization No: N/A Expiration Date: N/A Signed: Supervising ASME Codes Engineer Date: 2/25/99 Owner or Owner's Designee, Title
CERTIFICATE OF INSPECTION
I, the undersigned holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of California, and employed by Arkwright Mutual Insurance Company of Waltham, Massachusetts have inspected the components described in this Owner's Report during the period to 02/25/99, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.
By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.
Inspector's Signature Commissions 1862 California National Board, State, Province, and Endorsements
Date (Lah. 25 1999

As Required by the Provisions of the ASME Code SectionXI

1. Owner: Southern California Edison Company

2244 Walnut Grove Avenue

Rosemead, California 91770

Unit: A

MO: 97030424000

Rspec: ASME SECTION XI DATA-0207

P&ID: 40112DSO3 (C5)

N-5: N/A

2. Plant: San Onofre Nuclear Generating Station

San Clemente, California 92674-0128

3. Work Performed by: Southern California Edison Company

m 016

Type Code Symbol Stamp: N/A

Authorization No:

N/A

4. Identification of System: Safety Injection and Shutdown Cooling

Expiration Date:

N/A

5. (a) Applicable Construction Code: ASME Section III, Class 2, 1974 Edition, Summer 1974 Addenda; Code Case: None

(b) Applicable Edition of Section XI Utilized for Repairs or Replacements: 1989 Edition, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components:

Name of Component	Name Of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced or Replacement	ASME Code Stamped Yes/No
6" x 8" Relief Valve	Crosby Valve & Gage	N60061-00-0003	N/A	026-44409	1980		Yes
Spindle Point	Crosby Valve & Gage	N91311-37-0008, Ht.#824556	N/A	RSO2-P-1023-81, SA479 Tp.316	N/A	Replacement	No

7. Description of Work:

MO 97030424000 disassembled the spare relief valve, inspected the valve internals and replaced the spindle point with an in-kind replacement.

8. Tests Conducted: N/A

Pressure: N/A

9. Remarks: None.

(Applicable Manufacturer's Data Reports are available on-site)

CERTIFICATE OF COMPLIANCE
CERTIFICATE OF COMPLIANCE
We certify that the statements made in the report are correct and this of the ASME Code, Section XI. replacement conforms to the rules repair or replacement
Type Code Symbol Stamp: N/A
Certificate of Authorization No: N/A Expiration Date: N/A
Signed: Supervising ASME Codes Engineer Date: 9/11/98 Owner or Owner's Designee, Title
CERTIFICATE OF INSPECTION
I, the undersigned holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of California, and employed by Arkwright Mutual Insurance Company of Waltham, Massachusetts have inspected the components described in this Owner's Report during the period and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.
By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.
Commissions 1862 California
Inspector's Signature National Board, State, Province, and Endorsements
Date Sept. 11, 1998

As Required by the Provisions of the ASME Code SectionXI

1. Owner:

Southern California Edison Company

2244 Walnut Grove Avenue

Rosemead, California 91770

Unit: Α

MO: 97061681000

Rspec: 081-97 R1

P&ID: N/A

2. Plant:

3. Work Performed by:

San Onofre Nuclear Generating Station

San Clemente, California 92674-0128

N-5: N/A

Southern California Edison Company

Type Code Symbol Stamp: N/A

Authorization No:

N/A

Identification of System: N/A - Spare

Expiration Date:

N/A

5. (a) Applicable Construction Code: ASME Section III, Class 1, 1971 Edition Summer 1972 Addenda; Code Case: N-474-1

(b) Applicable Edition of Section XI Utilized for Repairs or Replacements: 1989 Edition, No Addenda; 1992 Edition No

Addenda (NDE); Code Case: N-416-1

6. Identification of Components Repaired or Replaced and Replacement Components:

Name of Component	Name Of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced or Replacement	ASME Code Stamped Yes/No
RCS Pressure Nozzle	SCE	RS-046-97-H; RSO-0639-97, SA479-316L, Ht. Code FAL	N/A	RSO-1084-96, SB166-NO6690, Ht#ED84	N/A	Replacement (Spare)	No

7. Description of Work:

Spare Reactor Coolant Loop Piping pressure measurement nozzle serial number RS-046-97-H was partially fabricated in accordance with Repair Specification 046-97, M.O. 97040953 (machining), and M.O. 97041119 (welding) and weld record WR3-97-244. Completion status was as follows:

Welding was completed, machining and NDE still needed to be performed.

M.O. 97061681 completed the fabrication as follows:

Completed the internal and external machining to meet the final dimensions of drawing 41116, Sheet land performed final NDE. Final NDE is documented on reports 3RT-078-97 and 3PT-163-97.

Note: AR's 970700325 and 970900470 were generated to document and address not having performed the electropolishing of the nozzle bore per 41116, Sheet 1, Note 4. NCR 970700405 was generated to document and address a dimensional non conformance.

8. Tests Conducted: N/A

Pressure: N/A

9. Remarks: None.

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this replacement conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp: N/A

Certificate of Authorization No: N/A Expiration Date: N/A

Signed: Supervising ASME Codes Engineer Date: 3/4/94

Owner or Owner's Designee, Title

CERTIFICATE OF INSPECTION

I, the undersigned holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of California, and employed by Arkwright Mutual Insurance Company of

has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or

Waltham, Massachusetts have inspected the components described in this Owner's Report during the period 07/04/97 to 03/04/99, and state that to the best of my knowledge and belief, the Owner

Commissions 1862 California

Inspector's Signature National Board, State, Province, and Endorsements

Date March 4, 1999

As Required by the Provisions of the ASME Code SectionXI

1. Owner:

Southern California Edison Company

2244 Walnut Grove Avenue

Rosemead, California 91770

2. Plant:

San Onofre Nuclear Generating Station

San Clemente, California 92674-0128

3. Work Performed by:

Southern California Edison Company

4. Identification of System: Reactor Coolant

Sheet I of 1

Unit: 2

MO: 97070201000

VIO. 97070201000

FCN: F13805M, F13810M

Rspec: 109-97

P&ID: 40123A (C7)

N-5: S2-1201-3-7

Type Code Symbol Stamp: N/A

Authorization No:

N/A

Expiration Date: N/A

5. (a) Applicable Construction Code: ASME Section III, NB (Class1), 1971 Edition, Summer 1973 Addenda (valve); 1974 Edition, Summer 1974 Addenda (installation); Code Case: N-416-1

(b) Applicable Edition of Section XI Utilized for Repairs or Replacements: 1989 Edition, No Addenda; 1992 Edition, No

Addenda (NDE & VT-2); Code Case: N-416-1

6. Identification of Components Repaired or Replaced and Replacement Components:

Name of Component	Name Of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced or Replacement	ASME Code Stamped Yes/No
2"- 1513# Y-type Check Valve	Kerotest	NAW9-20	N/A	S21201MU019	N/A	Replaced	Yes
2"- 1665# Y-type Check Valve	BW/IP International	901-L-0126	N/A	RSO-1094-97	1991	Replacement	Yes

7. Description of Work:

Existing mark # 554 valve in plant position S21201MU019 was replaced with a mark # 558 valve per weld records WR2-97-374 (2PT-051-97, 2PT-057-97, 2PT-059-97, 2RT-035-97), WR2-97-375 (2PT-052-97, 2PT-058-97, 2PT-060-97, 2RT-034-97). Prior to installation, the body/bonnet sealweld was cut and the valve was disassembled. The valve was reassembled after installation and body/bonnet re-sealwelded per WR2-97-376 (2PT-053-97, 2PT-063-97). Reference: FCN's F13805M & F13810M

8. Tests Conducted: System Leakage Pressure Test

See: AR 970700021-5

Pres: NOP

Temp: NOT

This test was performed in lieu of a hydrostatic pressure test as allowed under Code Case N-416-1.

•	(Applicable Manufacturers Data Reports are available on-site)					
CERTIFICATE OF COMPLIANCE						
We certify that the statements made in the re of the ASME Code, Section XI.	port are correct and this repair and replacement conforms to the rules repair or replacement					
Type Code Symbol Stamp: N/A						
Certificate of Authorization No: N/A Signed: Super Owner's Designee, Title	Expiration Date: N/A ervising ASME Codes Engineer Date: 9/11/95					
	CERTIFICATE OF INSPECTION					
I, the undersigned holding a valid commission the State or Province of <u>California</u> , and emp	on issued by the National Board of Boiler and Pressure Vessel Inspectors and soloyed by Arkwright Mutual Insurance Company of					
<u>0//07/97</u> to <u>04//3/9</u>	ctive measures described in this Owner's Report in accordance with the					
examinations and corrective measures descri	tor nor his employer makes any warranty, expressed or implied, concerning the bed in this Owner's Report. Furthermore, neither the Inspector nor his any personal injury or property damage or a loss of any kind arising from or					
Est Ourson	Commissions1862					

As Required by the Provisions of the ASME Code SectionXI

1. Owner:

Southern California Edison Company

2244 Walnut Grove Avenue

Rosemead, California 91770

Unit:

97070291000 MO:

Rspec: ASME SECTION XI DATA-0179, 110-97

P&ID: 40112C (D4)

N-5: S2-1204-11

2. Plant:

San Onofre Nuclear Generating Station

San Clemente, California 92674-0128

Type Code Symbol Stamp: N/A N/A

Authorization No: Expiration Date:

N/A

3. Work Performed by:

Southern California Edison Company

4. Identification of System: Safety Injection and Shutdown Cooling

5. (a) Applicable Construction Code: ASME Section III. Class 2, 1974 Edition, No Addenda; Code Case: None

(b) Applicable Edition of Section XI Utilized for Repairs or Replacements: 1989 Edition. No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components:

Name of Component	Name Of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Replaced or Replacement	ASME Code Stamped Yes/No	
2" Y-Type Globe Valve	Target Rock	S/N 9	N/A	2HV9323	1977	Repaired	Yes	

7. Description of Work:

Removed and restored the body-to-bonnet seal weld of the valve located in plant position 2HV9323 in accordance with Repair Specification 110-97 and weld record WR2-97-377. Performed a post weld PT (2PT-105-99) of the completed bonnet seal weld with satisfactory results. Note: MO 97061532 inspected valve internals, but performed no ASME code work.

8. Tests Conducted: System Functional Pressure Test

See: AR 970500163-04

Pressure: N/A

9. Remarks: None. (Applicable Manufacturer's Data Reports are available on-site) CERTIFICATE OF COMPLIANCE We certify that the statements made in the report are correct and this repair conforms to the rules of the ASME Code, Section XI. Tepair or replacement Type Code Symbol Stamp: N/A Certificate of Authorization No: N/A Expiration Date: N/A 4/14/99 Supervising ASME Codes Engineer Signed: Owner or Owner's Designee, Title CERTIFICATE OF INSPECTION I, the undersigned holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of California, and employed by Arkwright Mutual Insurance Company of Waltham, Massachusetts have inspected the components described in this Owner's Report during the period 09/02/97 to 04/5/99, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI. By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection. Commissions National Board, State, Province, and Endorsements Date April 15, 1999

As Required by the Provisions of the ASME Code SectionXI

Sheet I of I

Unit:

97070339000 MO:

FCN: F13783M, F13787M

Rspec: 089-97

P&ID: 40123A (E7)

N-5: S2-1201-3-9

Type Code Symbol Stamp: N/A

Authorization No:

N/A

Expiration Date:

N/A

3. Work Performed by:

1. Owner:

2. Plant:

Southern California Edison Company

4. Identification of System: Reactor Coolant

Southern California Edison Company

San Onofre Nuclear Generating Station

San Clemente, California 92674-0128

2244 Walnut Grove Avenue

Rosemead, California 91770

5. (a) Applicable Construction Code: ASME Section III, NB (Class 1), 1971 Edition, Summer 1973 Addenda (valve); 1974 Edition, Summer 1974 Addenda (installation); Code Case: N-416-1

(b) Applicable Edition of Section XI Utilized for Repairs or Replacements: 1989 Edition, No Addenda; 1992 Edition, No Addenda (NDE & VT-2); Code Case: N-416-1

6. Identification of Components Repaired or Replaced and Replacement Components:

Name of Component	Name Of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced or Replacement	ASME Code Stamped Yes/No
2" 1513# Y-type Check Valve	Kerotest	ABR9-17	N/A	S21201MU021	1983	Replaced	Yes
2" 1665# Y-type Check Valve	BW/IP International	901-L-0129	N/A	RSO-1119-97	1992	Replacement	Yes

7. Description of Work:

Existing mark #554 valve in plant position S21201MU021 was replaced with a mark #558 valve per weld records WR2-97-347 (2PT-054-97, 2PT-064-97, 2PT-067-97, 2RT-037-97), WR2-97-348 (2PT-055-97, 2PT-065-97, 2PT-066-97, 2RT-036-97). Prior to installation, the body/bonnet sealweld was cut and the valve was disassembled. The valve was reassembled after installation and the body/bonnet re-sealwelded per weld record WR2-97-349 (2PT-056-97, 2PT-068-97). Reference: FCN's F13783M & F13787M

8. Tests Conducted: System Leakage Pressure Test

Pres: NOP

Temp: NOT

See: AR 970700245-5

This test was performed in lieu of a hydrostatic pressure test as allowed under Code Case N-416-1.

(Applicable Manufacturer's Data Reports are available on-site)						
CER	CTIFICATE OF COMPLIANCE					
We certify that the statements made in the report a of the ASME Code, Section XI.	are correct and this replacement conforms to the rules repair or replacement					
Type Code Symbol Stamp: N/A						
Certificate of Authorization No: N/A Signed: Supervisit Owner or Owner's Designee, Title	Expiration Date: N/A Ing ASME Codes Engineer Date: 4/11/98					
	TIFICATE OF INSPECTION ued by the National Board of Boiler and Pressure Vessel Inspectors and					
the State or Province of <u>California</u> , and employed <u>Waltham, Massachusetts</u> have inspected the con	d by Arkwright Mutual Insurance Company of mponents described in this Owner's Report during the period, and state that to the best of my knowledge and belief, the Owner measures described in this Owner's Report in accordance with the					
examinations and corrective measures described i	or his employer makes any warranty, expressed or implied, concerning the in this Owner's Report. Furthermore, neither the Inspector nor his rsonal injury or property damage or a loss of any kind arising from or					
Inspector's Signature	Commissions					
Date april 13, 1998	ivational Board, State, Province, and Endorsements					

As Required by the Provisions of the ASME Code SectionXI

Southern California Edison Company 1. Owner:

2244 Walnut Grove Avenue Rosemead, California 91770

Unit: 2 MO:

97080010000 Rspec: GEN-105P

P&ID: 40141A (E5) S2-1201-3 N-5:

San Onofre Nuclear Generating Station 2. Plant:

San Clemente, California 92674-0128

Type Code Symbol Stamp: N/A

Authorization No:

N/A

3. Work Performed by:

Southern California Edison Company

Identification of System: Reactor Coolant

Expiration Date:

N/A

5. (a) Applicable Construction Code: ASME Section III, Class 1, 1971 Edition, Summer 1971 Addenda; Code Case: None

(b) Applicable Edition of Section XI Utilized for Repairs or Replacements: 1989 Edition, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components:

Name of Component	Name Of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced or Replacement	ASME Code Stamped Yes/No
Steam Generator	CE	71270-1	22218	S21301ME089P	1976		Yes
1 1/2"-8x 14 1/4" Manway Stud (1)	Energy Steel & Sup.	Ht.# 96894, Lot Code DUE5	N/A	RSO-1144-97, SA540, Gr.B24 (CR-3007-94)	N/A	Replacement	No
1 1/2" Geared Nut (1)	Vitco Nuclear Products	Ht.# 52763, Trace Code V,86C-6	N/A	RSO-2554-85, SA194, Gr.7	N/A	Replacement	No

7. Description of Work:

The steam generator manway studs and nuts were removed and examined. All manway studs and nuts were acceptable for reuse with the exception of stud number 14 and geared nut number 14, which were replaced. A VT-1 examination was performed on the replacement bolting with satisfactory results.

8. Tests Conducted: N/A

Pressure: N/A

9. Remarks: CR-3007-94 reconciles the replacement stud which was certified to ASME III, Class 1, 1989 Ed., No Add.;
The Memo of Code Reconciliation, reconciles the replacement geared nut which was certified to ASME III,

Class 1, 1971 Ed., Summer 1971 Add.
(Applicable Manufacturer's Data Reports are available on-site)
CERTIFICATE OF COMPLIANCE
We certify that the statements made in the report are correct and this of the ASME Code, Section XI. replacement conforms to the rules repair or replacement
Type Code Symbol Stamp: N/A
Certificate of Authorization No: N/A Expiration Date: N/A Signed: Supervising ASME Codes Engineer Date: 3/16/98 Owner or Owner's Designee, Title
CERTIFICATE OF INSPECTION
I, the undersigned holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of California, and employed by Arkwright Mutual Insurance Company of Waltham, Massachusetts have inspected the components described in this Owner's Report during the period and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.
By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection. Commissions California National Board, State, Province, and Endorsements
Date 3/16/98

MO: 97080010000

As Required by the Provisions of the ASME Code SectionXI

Southern California Edison Company 1. Owner:

2244 Walnut Grove Avenue

Unit: MO: 97080013000

Rosemead, California 91770

Rspec: GEN-105P

P&ID: 40141A (E5)

San Onofre Nuclear Generating Station San Clemente, California 92674-0128

N-5: S2-1201-3

Type Code Symbol Stamp: N/A

3. Work Performed by:

2. Plant:

Southern California Edison Company

Authorization No:

N/A

Identification of System: Reactor Coolant

Expiration Date:

N/A

5. (a) Applicable Construction Code: ASME Section III, Class 1, 1971 Edition, Summer 1971 Addenda; Code Case: None

(b) Applicable Edition of Section XI Utilized for Repairs or Replacements: 1989 Edition, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components:

Name of Component	Name Of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced or Replacement	ASME Code Stamped Yes/No
Steam Generator	CE	71270-2	22219	S21301ME088P	1976		Yes
1 1/2"-8x 14 1/4" Manway Stud (1)	Energy Steel & Sup.	Ht.# 96894, Lot Code DUE5	N/A	RSO-1144-97, SA540, Gr.B24 (CR-3007-94)	N/A	Replacement	No
1 1/2" Geared Nut (1)	Vitco Nuclear Products	Ht.# 52763, Trace Code V,86C-6	N/A	RSO-2554-85, SA194, Gr.7	N/A	Replacement	No

7. Description of Work:

The steam generator manway studs and nuts were removed and examined. All manway studs and nuts were acceptable for reuse with the exception of stud number 17 and geared nut number 17, which were replaced. A VT-1 examination was performed on the replacement bolting with satisfactory results.

8. Tests Conducted: N/A

Pressure: N/A

Remarks: CR-3007-94 reconciles the replacement stud which was certified to ASME III, Class 1, 1989 Ed., No Add.;
 The Memo of Code Reconciliation, reconciles the replacement geared nut which was certified to ASME III,
 Class 1, 1971 Ed., Summer 1971 Add.

Class 1, 1771 Ed., Sulling 1771 Aud.
(Applicable Manufacturer's Data Reports are available on-site)
CERTIFICATE OF COMPLIANCE
We certify that the statements made in the report are correct and this of the ASME Code, Section XI. replacement conforms to the rules repair or replacement
Type Code Symbol Stamp: N/A
Certificate of Authorization No: N/A Expiration Date: N/A Signed: Supervising ASME Codes Engineer Date: 3/16/98 Owner or Owner's Designee, Title
CERTIFICATE OF INSPECTION
CERTIFICATE OF INSPECTION
I, the undersigned holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of California, and employed by Arkwright Mutual Insurance Company of Waltham, Massachusetts have inspected the components described in this Owner's Report during the period and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.
By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection. Commissions California National Board, State, Province, and Endorsements
Date 3/16/98

As Required by the Provisions of the ASME Code SectionXI

Southern California Edison Company 1. Owner:

2244 Walnut Grove Avenue

Rosemead, California 91770

Unit: 2

97080542000 MO:

Rspec: ASME SECTION XI DATA-0243

P&ID: 40124B (G2) N-5: S2-1208-11

San Onofre Nuclear Generating Station

San Clemente, California 92674-0128

Type Code Symbol Stamp: N/A

Authorization No:

N/A

4. Identification of System: Chemical and Volume Control

Expiration Date:

N/A

5. (a) Applicable Construction Code: ASME Section III, Class 2, 1971 Edition, Summer 1973 Addenda; Code Case: None

(b) Applicable Edition of Section XI Utilized for Repairs or Replacements: 1989 Edition, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components:

Southern California Edison Company

Name of Component	Name Of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced or Replacement	ASME Code Stamped Yes/No
2" 1500# Y-type Globe Valve	Kerotest	MC8-3	N/A	S21208MU068	1976	****	Yes
Disc	Kerotest	ABH4-4	N/A	RSO2-P-1271-83, SA479 Tp.316	1983	Replacement	Yes

7. Description of Work:

2. Plant:

3. Work Performed by:

Replaced the valve disc to correct leak by in the valve located in plant position S21208MU068. A VT-2 examination was performed per MO 98021389001 with satisfactory results.

8. Tests Conducted: System Functional Pressure Test

Pressure: NOP

Temp: NOT

•	Applicable Manufacturer's Data Reports are available on-site)	
	CERTIFICATE OF COMPLIANCE	
We certify that the statements made in the report of the ASME Code, Section XI.	port are correct and this replacement repair or replace	
Type Code Symbol Stamp: N/A		
Certificate of Authorization No: N/A Signed: Super Owner's Designee, Title	Expiration Date: N/A ervising ASME Codes Engineer D	Pate: 4/11/98
the undersigned holding a valid commission to the Commission of California, and emp		
Waltham, Massachusetts have inspected the waltham of the Massachusetts have inspected the mass performed examinations and taken corresponding to the ASME Code, Section XI	ne components described in this Owner , and state that to the best of rective measures described in this Owner	's Report during the period ny knowledge and belief, the Owner
By signing this certificate, neither the Inspect examinations and corrective measures descri- employer shall be liable in any manner for an connected with this inspection.	bed in this Owner's Report. Furthermo	ore, neither the Inspector nor his
- Shangan	Commissions	California
Inspector's Signature	National Board, S	State, Province, and Endorsements

As Required by the Provisions of the ASME Code SectionXI

Southern California Edison Company Owner:

2244 Walnut Grove Avenue

Rosemead, California 91770

2. Plant:

San Onofre Nuclear Generating Station

San Clemente, California 92674-0128

3. Work Performed by:

Southern California Edison Company

4. Identification of System: Chemical and Volume Control

Sheet 1 of 1

Unit: 2

MO: 97081627002 97081627001

97081627000

Rspec: 262-97 R1

P&ID: 40124B (G2)

N-5: S2-1208-5 & 11

Type Code Symbol Stamp: N/A

Authorization No: Expiration Date:

N/A N/A

5. (a) Applicable Construction Code: ASME Section III, Class 1, 1974 Ed.; S '76 Add. (Replacement valve & seal weld

reinstallation); ASME Section III, Class 2, 1974 Ed.; S' 74 Add (Install); Code Case: N-

416-1

(b) Applicable Edition of Section XI Utilized for Repairs or Replacements:

1989 Edition, No Add. (Replacement); 1992

Edition, No Add (NDE & VT-2); Code Case: N-

416-1

6. Identification of Components Repaired or Replaced and Replacement Components:

Name of Component	Name Of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced or Replacement	ASME Code Stamped Yes/No
2" 2580# Check Valve	Kerotest	AJ02-21	N/A	S21208MU067	1986	Replaced	Yes
2" 1539# Y-type Check Valve	BW/IP International	881-H-0013	N/A	RSO-1131-97, SA182 Gr.316	1989	Replacement	Yes

7. Description of Work:

The Kerotest Mark 554 check valve, located in plant position S21208MU067, was replaced with a BW/IP Mark 559 check valve in accordance with FCNs F14402M, F14404M, F14405M, F14406M, F14754M, F14756M. Reinstallation of the bodyto-bonnet seal weld was performed in accordance with Repair Specification 262-97 R1 and weld record WR2-97-548. Installation of the replacement valve was performed in accordance with weld records WR2-97-544, WR2-97-545, WR2-98-073 and Repair Specification 262-97 R1. * Note: The existing Kerotest Mark 554 was removed and replaced with a 2" BW/IP Mark 559 check Valve (S/N 76667) in accordance with WR2-97-544, but the valve was damaged during installation and the resulting NDE (2RT-008-98 performed per WR2-97-544) was rejected. The new replacement BW/IP Mark 559 check valve was installed and all other NDE examinations were performed with satisfactory results. The damaged Mark 559 check valve was scrapped.

8. Tests Conducted: System Leakage Pressure Test See: AR 970700881-15

Pres: NOP

Temp: NOT

This test was performed in lieu of a hydrostatic pressure test as allowed under Code Case N-416-1.

9. Remarks: CR-3003-97 R1 reconciles the replacement valve which was certified to ASME III, Class 1, 1974 Edition, Summer 1976 Addenda. CERTIFICATE OF COMPLIANCE We certify that the statements made in the report are correct and this repair and replacement conforms to the rules of the ASME Code, Section XI. repair or replacement Type Code Symbol Stamp: N/A Certificate of Authorization No: N/A Expiration Date: N/A Supervising ASME Codes Engineer Signed: Owner or Owner's Designee, Title CERTIFICATE OF INSPECTION I, the undersigned holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of California, and employed by Arkwright Mutual Insurance Company of Waltham, Massachusetts have inspected the components described in this Owner's Report during the period 8/11/98, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI. By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection. _Commissions __ California Inspector's Signature National Board, State, Province, and Endorsements Date august 11, 1998

As Required by the Provisions of the ASME Code SectionXI

1. Owner:

Southern California Edison Company

2244 Walnut Grove Avenue

Rosemead, California 91770

Unit: N

MO:

97100646000 97120530000 (mach),

97110607000 (weld)

2. Plant:

San Onofre Nuclear Generating Station

San Clemente, California 92674-0128

Rspec: 205-97 P&ID: N/A

N-5: N/A

3. Work Performed by:

Southern California Edison Company

Type Code Symbol Stamp: N/A

Authorization No: **Expiration Date:**

N/A

Identification of System: Reactor Coolant

5. (a) Applicable Construction Code: ASME Section III, Class 1, 1971 Edition, Summer 1972 Add. (design & fab); ASME III,

Class 1, 1989 Edition, No Add. (material); Code Case: N-474-1

(b) Applicable Edition of Section XI Utilized for Repairs or Replacements: 1989 Edition, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components:

Name of Component	Name Of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced or Replacement	ASME Code Stamped Yes/No
RCS Loop Pressure Measurement Nozzle- Type 2; Mat. Code 027-79890	SCE	205-97	N/A	RSO-1665-97, Ht.# NX0643HG1, Lot# 136502; RSO- 1711-97, Ht.# 435702	N/A	Replacement	No

7. Description of Work:

A spare instrument nozzle was machined from SB166-N06690 (INCONEL 690) bar stock. A stainless steel safe-end (SA312-TP316L, 3/4" NPS, schedule 160 pipe) was welded to the INCONEL section per WR2/3-97-474. PT exams were performed on all accessible machined surfaces (Ref: 2PT-002-98). RT and PT exams were performed on the weld (Ref: 2RT-001-98, 2PT-019-98 & 2PT-020-98). Ref Dwg: 41116, Sheet 1, Rev 1, DCN #2. * Pressure test will be performed on installation. The <= 1" NPS exemption (Ref: IWA-4700) applies for the nozzle fabrication.

8. Tests Conducted: N/A

Pressure: N/A

9. Remarks: None.

(Applicable Manufacturer's Data Reports are available on-site)									
CERTIFICATE OF COMPLIANCE									
We certify that the statements made in the report are correct and this of the ASME Code, Section XI. replacement conforms to the rules repair or replacement									
Type Code Symbol Stamp: N/A									
Certificate of Authorization No: N/A Expiration Date: N/A Signed: Supervising ASME Codes Engineer Date: 3/4/98 Owner or Owner's Designee, Title									
CERTIFICATE OF INSPECTION									
I, the undersigned holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of California, and employed by Arkwright Mutual Insurance Company of Waltham, Massachusetts have inspected the components described in this Owner's Report during the period									

As Required by the Provisions of the ASME Code SectionXI

1. Owner:

2. Plant:

Southern California Edison Company

2244 Walnut Grove Avenue

Rosemead, California 91770

San Onofre Nuclear Generating Station San Clemente, California 92674-0128

3. Work Performed by:

Southern California Edison Company

4. Identification of System: Reactor Coolant

UNIT: 2/3

MO: See item 6 below

Rspec: Same as Serial No. (item 6)

P&ID: N/A

N-5: N/A

Type Code Symbol Stamp: N/A

Authorization No:

N/A

ACLE

Expiration Date: N/A

5. (a) Applicable Construction Code: ASME Section III, Class 1, 1971 Edition, Summer 1972 Add. (design & fab); ASME III, Class 1, 1989 Edition, No Add. (material); Code Case: N-474-1

(b) Applicable Edition of Section XI Utilized for Repairs or Replacements: 1989 Edition, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components:

Name of Component	Name Of Manufacturer	Manufacturer Serial No.	M.O. / PT Report #	Other Identification	Repaired, Replaced or Replacement	ASME Code Stamped Yes/No
RCS Loop Temp Nozzle; Mat.Code 027-79858	SCE	168-97	97100647, 97120483, 2PT-024-98	RSO 1360-97, Ht. #NX0264JG1, Lot #135888	Replacement	No
RCS Loop Temp Nozzle, Mat.Code 027-79858	SCE	177-97	97100973, 97120492, 2PT-031-98	RSO 1360-97, Ht. #NX0264JG1, Lot #135888	Replacement	No
RCS Loop Temp Nozzle; Mat.Code 027-79858	SCE	178-97	97100974, 97120493, 2PT-040-98	RSO 1360-97, Ht. #NX0264JG1, Lot #135888	Replacement	No
RCS Loop Temp Nozzle; Mat Code 027-79858	SCE	179-97	97100975, 97120494, 2PT-032-98	RSO 1360-97, Ht. #NX0264JG1, Lot #135888	Replacement	No
RCS Loop Temp Nozzle; Mat.Code 027-79858	SCE	180-97	97100976, 97120495, 2PT-044-98	RSO 1360-97, Ht. #NX0264JG1, Lot #135888	Replacement	No
RCS Loop Temp Nozzle; Mat Code 027-79858	SCE	181-97	97100977, 97120496, 2PT-033-98	RSO 1360-97, Ht. #NX0264JG1, Lot #135888	Replacement	No
RCS Loop Temp Nozzle; Mat.Code 027-79858	SCE	184-97	97100980, 97120499, 2PT-018-98	RSO 1360-97, Ht. #NX0264JG1, Lot #135888	Replacement	No
RCS Loop Temp Nozzle; Mat Code 027-79858	SCE	195-97	97100991, 97120511, 2PT-045-98	RSO 1084-96, Ht. #ED84; Lot #133531	Replacement	No
RCS Loop Temp Nozzle; Mat.Code 027-79858	SCE	202-97	97101000, 97120519, 2PT-046-98	RSO 1084-96, Ht. #ED84; Lot #133531	Replacement	No

7. Description of Work:

(9) Spare instrument nozzles were machined from SB166-N066 90 (INCONEL 690) bar stock. Each nozzle was dimensionally verified and all accessible surfaces were PT examined. Reference Dwg: 41116, Sheet 1, Rev 1. Pressure test will be performed at installation.

8. Tests Conducted: N/A

No.

Pressure: N/A

9. Remarks: None.

(Applicable Manufacturer's Data Reports are available on-s CERTIFICATE OF COMPLIANCE We certify that the statements made in the report are correct and this replacement conforms to the rules of the ASME Code, Section XI. repair or replacement Type Code Symbol Stamp: N/A Certificate of Authorization No: N/A Expiration Date: N/A Supervising ASME Codes Engineer Date: 3/4/98 Owner or Owner's Designee, Title CERTIFICATE OF INSPECTION I, the undersigned holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of California, and employed by Arkwright Mutual Insurance Company of Waltham, Massachusetts have inspected the components described in this Owner's Report during the period to 3/5/98 _, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Commissions_ Inspector's Signature National Board, State, Province, and Endorsements

Date March 5, 1998

requirements of the ASME Code, Section XI.

As Required by the Provisions of the ASME Code SectionXI

Southern California Edison Company 1. Owner:

2244 Walnut Grove Avenue

Rosemead, California 91770

UNIT: 2/3

See item 6 below MO:

Rspec: Same as Serial No. (item 6)

P&ID: N/A N-5: N/A

2. Plant:

San Onofre Nuclear Generating Station

San Clemente, California 92674-0128

Southern California Edison Company 3. Work Performed by:

Type Code Symbol Stamp: N/A Authorization No:

N/A

Expiration Date:

N/A

Identification of System: Reactor Coolant

5. (a) Applicable Construction Code: ASME Section III. Class 1, 1971 Edition. Summer 1972 Addenda (design & fab). ASME III, Class 1, 1989 Edition. No Addenda (material); Code Case: N-474-1

(b) Applicable Edition of Section XI Utilized for Repairs or Replacements: 1989 Edition. No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components:

Name of Component	Name Of Manufacturer	Manufacturer Serial No.	M.O. / PT Report #	Other Identification	Replaced or Replacement	ASME Code Stamped Yes/No
RCS Temperaure Nozzle Plug	SCE	RS-058-98	97100741 2PT-202-98	RSO-1646-97, Ht. #NX0643HG1	Replacement	No
RCS Temperaure Nozzle Plug	SCE	RS-063-98	97101055 2PT-200-98	RSO-1646-97, Ht. #NX0643HG1	Replacement	No
RCS Temperaure Nozzle Plug	SCE	RS-064-98	97101056 2PT-205-98	RSO-1646-97, Ht. #NX0643HG1	Replacement	No
RCS Temperaure Nozzle Plug	SCE	RS-065-98	97101057 2PT-203-98	RSO-1646-97, Ht. #NX0643HG1	Replacement	No
RCS Temperaure	SCE	RS-067-98	97101059 2PT-204-98	RSO-1646-97, Ht. #NX0643HG1	Replacement	No
Nozzle Plug RCS Temperaure	SCE	RS-068-98	97101060 2PT-206-98	RSO-1646-97, Ht. #NX0643HG1	Replacement	No
Nozzle Plug RCS Temperaure	SCE	RS-069-98	97101061 2PT-199-98	RSO-1646-97, Ht. #NX0643HG1	Replacement	No
Nozzle Plug RCS Temperaure	SCE	RS-070-98	97101062 2PT-201-98	RSO-1646-97, Ht. #NX0643HG1	Replacement	No
Nozzle Plug RCS Temperaure Nozzle Plug	SCE	RS-072-98	97101064 2PT-207-98	RSO-1646-97, Ht.	Replacement	No

7. Description of Work:

8. Tests Conducted: N/A

Pressure: N/A

⁽⁹⁾ spare temperature nozzle plugs for the reactor coolant loop piping were machined from SB166-N06690 (INCONEL 690) barstock. Each nozzle plug was dimensionally verified and all accessible surfaces were PT examined. Reference Dwg: 41116, sheet 1. Pressure test will be performed after installation. The 1" and less NPS exemption (Reference IWA-4700) applies for fabrication.

	(Applicable Manufacturer's Data Reports are available on-site)
	CERTIFICATE OF COMPLIANCE
	report are correct and this replacement conforms to the rules
of the ASME Code, Section XI.	Tepair or replacement
Type Code Symbol Stamp: N/A	
Certificate of Authorization No: N/A	Expiration Date: N/A
Bulle let	halaa
	upervising ASME Codes Engineer Date: 1/22/99
Owner or Owner's Designee, Title	3
	CERTIFICATE OF INSPECTION
the undersigned holding a valid commis	ssion issued by the National Board of Boiler and Pressure Vessel Inspectors and
ic State of 1 to moe of Camornia, and c	mnioved by a risumont minimal inchrance i Connany of
	amployed by Arkwright Mutual Insurance Company of
Valtham, Massachusetts have inspected	d the components described in this Owner's Report during the period
Valtham, Massachusetts have inspected to 0/12/198 to 0/12/	d the components described in this Owner's Report during the period , and state that to the best of my knowledge and belief, the Owner
Valtham, Massachusetts have inspected O//2/198 to 0//2/ as performed examinations and taken con	d the components described in this Owner's Report during the period 199, and state that to the best of my knowledge and belief, the Corner rective measures described in this Owner's Report in accordance with the
Valtham, Massachusetts have inspected to 0/12/198 to 0/12/	d the components described in this Owner's Report during the period 199, and state that to the best of my knowledge and belief, the Owner rective measures described in this Owner's Report in accordance with the
Valtham, Massachusetts have inspected to 0/2/198 to 2/2/2/2/2/2/2/2/2/2/2/2/2/2/2/2/2/2/2/	d the components described in this Owner's Report during the period and state that to the best of my knowledge and belief, the Owner receive measures described in this Owner's Report in accordance with the
Altham, Massachusetts have inspected to	d the components described in this Owner's Report during the period and state that to the best of my knowledge and belief, the Owner receive measures described in this Owner's Report in accordance with the OWNER.
Altham, Massachusetts have inspected to to to performed examinations and taken conquirements of the ASIVIE Code, Section y signing this certificate, neither the Inspectaminations and corrective measures designed.	d the components described in this Owner's Report during the period and state that to the best of my knowledge and belief, the Owner rective measures described in this Owner's Report in accordance with the SYL. Described in this employer makes any warranty, expressed or implied, concerning the scribed in this Owner's Report. Furthermore, neither the Inspector nor his
Altham, Massachusetts have inspected to to to performed examinations and taken conquirements of the ASIVIE Code, Section y signing this certificate, neither the Inspectaminations and corrective measures designed.	d the components described in this Owner's Report during the period and state that to the best of my knowledge and belief, the Owner receive measures described in this Owner's Report in accordance with the ONE.
Altham, Massachusetts have inspected to to to as performed examinations and taken conquirements of the ASME Code, Section y signing this certificate, neither the Inspectaminations and corrective measures desimployer shall be liable in any manner for	d the components described in this Owner's Report during the period and state that to the best of my knowledge and belief, the Owner rective measures described in this Owner's Report in accordance with the SSI.
Altham, Massachusetts have inspected to to to as performed examinations and taken conquirements of the ASME Code, Section y signing this certificate, neither the Inspectaminations and corrective measures desimployer shall be liable in any manner for	d the components described in this Owner's Report during the period and state that to the best of my knowledge and belief, the Owner rective measures described in this Owner's Report in accordance with the SSI. Described in this Owner's Report, Furthermore, neither the Inspector nor his rany personal injury or property damage or a loss of any kind arising from or
as performed examinations and taken conceptions of the ASME Code, Section y signing this certificate, neither the Instruments and corrective measures design on the complex state of the ASME Code, Section of the Instrumental Code of the Instr	d the components described in this Owner's Report during the period and state that to the best of my knowledge and belief, the Owner rective measures described in this Owner's Report in accordance with the SSI.
valtham. Massachusetts have inspected to to to as performed examinations and taken concequirements of the ASME Code, Section by signing this certificate, neither the Inspectations and corrective measures design and corrective measures design on the connected with this inspection.	the components described in this Owner's Report during the period and state that to the best of my knowledge and belief, the Owner rective measures described in this Owner's Report in accordance with the operation of the concerning the scribed in this Owner's Report. Furthermore, neither the Inspector nor his rany personal injury or property damage or a loss of any kind arising from or Commissions 1862 California
waltham, Massachusetts have inspected to to to as performed examinations and taken consequirements of the ASME Code, Section by signing this certificate, neither the Inspectational transport of the ASME code, section by signing this certificate, neither the Inspectation and corrective measures design of the ASME code, section by signing this certificate, neither the Inspectation and corrective measures design of the ASME code, section by signing this certificate, neither the Inspectation and taken consequences.	d the components described in this Owner's Report during the period and state that to the best of my knowledge and belief, the Owner rective measures described in this Owner's Report in accordance with the Owner rective measures described in this Owner's Report in accordance with the Owner rective measures described in this Owner's Report. Furthermore, neither the Inspector nor his rany personal injury or property damage or a loss of any kind arising from or
waltham, Massachusetts have inspected to to to as performed examinations and taken consequirements of the ASME Code, Section by signing this certificate, neither the Inspectaminations and corrective measures desimployer shall be liable in any manner for connected with this inspection.	the components described in this Owner's Report during the period and state that to the best of my knowledge and belief, the Owner rective measures described in this Owner's Report in accordance with the operation of the concerning the scribed in this Owner's Report. Furthermore, neither the Inspector nor his rany personal injury or property damage or a loss of any kind arising from or Commissions 1862 California
as performed examinations and taken conceptions of the ASME Code, Section y signing this certificate, neither the Instruments and corrective measures design on the complex state of the ASME Code, Section of the Instrumental Code of the Instr	the components described in this Owner's Report during the period and state that to the best of my knowledge and belief, the Corner rective measures described in this Owner's Report in accordance with the extra contractive measures are described in this Owner's Report in accordance with the extra contractive measures described in this Owner's Report. Furthermore, neither the Inspector nor his rany personal injury or property damage or a loss of any kind arising from or Commissions 1862 California

As Required by the Provisions of the ASME Code SectionXI

Sheet 1 of 2

Southern California Edison Company

2244 Walnut Grove Avenue

Rosemead, California 91770

San Clemente, California 92674-0128

San Onofre Nuclear Generating Station

Southern California Edison Company

UNIT: 2/3

MO: See item 6 below

Rspec: Same as Serial No. (item 6)

P&ID: N/A N-5: N/A

Type Code Symbol Stamp: N/A

Authorization No:

N/A

Expiration Date:

N/A

4. Identification of System: Reactor Coolant

1. Owner:

2. Plant:

3. Work Performed by:

5. (a) Applicable Construction Code: ASME Section III, Class 1, 1971 Edition, Summer 1972 Add. (design & fab); ASME III,

Class 1, 1989 Edition, No Add.(material); Code Case: N-474-1

(b) Applicable Edition of Section XI Utilized for Repairs or Replacements: 1989 Edition, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components:

Name of Component	Name Of Manufacturer	Manufacturer Serial No.	M.O. / PT Report #	Other Identification	Repaired, Replaced or Replacement	ASME Code Stamped Yes/No
RCS Loop Temp Nozzle; Mat. Code 027-79858	SCE	169-97	97100965, 97120484, 2PT-025-98	RSO 1360-97, Ht. #NX0264HG1, Lot #135888	Replacement	No
RCS Loop Temp Nozzle; Mat. Code 027-79858	SCE	170-97	97100966, 97120485, 2PT-026-98	RSO 1360-97, Ht. #NX0264HG1, Lot #135888	Replacement	No
RCS Loop Temp Nozzle; Mat. Code 027-79858	SCE	172-97	97100968, 97120487, 2PT-027-98	RSO 1360-97, Ht. #NX0264HG1, Lot #135888	Replacement	No
RCS Loop Temp Nozzle; Mat. Code 027-79858	SCE	173-97	97100969, 97120488, 2PT-028-97	RSO 1360-97, Ht. #NX0264HG1, Lot #135888	Replacement	No
RCS Loop Temp Nozzle; Mat. Code 027-79858	SCE	175-97	97100971, 97120490, 2PT-029-98	RSO 1360-97, Ht. #NX0264HG1, Lot #135888	Replacement	No
RCS Loop Temp Nozzle; Mat. Code 027-79858	SCE	182-97	97100978, 97120497, 2PT-034-98	RSO 1360-97, Ht. #NX0264HG1, Lot #135888	Replacement	No
RCS Loop Temp Nozzle; Mat. Code 027-79858	SCE	183-97	97100979, 97120498, 2PT-017-98	RSO 1360-97, Ht. #NX0264HG1, Lot #135888	Replacement	No

7. Description of Work:

(11) spare temperature nozzles were machined from SB166-N06690 (INCONEL 690) bar stock. Each nozzle was dimensionally verified and all accessible surfaces were PT examined. Ref Dwg: 41116, Sheet 1, Rev 1. Pressure test will be performed at installation.

8. Tests Conducted: N/A

Pres: N/A

9. Remarks: None.

(Applicable Manufacturer's Data Reports are available on-site)	
CERTIFICATE OF COMPLIANCE	
We certify that the statements made in the report are correct and this of the ASME Code, Section XI. replacement conforms to the rules repair or replacement	
Type Code Symbol Stamp: N/A	
Certificate of Authorization No: N/A Expiration Date: N/A Signed: Supervising ASME Codes Engineer Date: 3/4/98 Owner or Owner's Designee, Title	

CERTIFICATE OF INSPECTION
I, the undersigned holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of California, and employed by Arkwright Mutual Insurance Company of Waltham, Massachusetts have inspected the components described in this Owner's Report during the period and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.
By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.
Inspector's Signature Commissions 1862 California National Board, State, Province, and Endorsements
Date March 5, 1998

4.8 63 Mg . 1 Se .

MO: 97100965000

As Required by the Provisions of the ASME Code SectionXI

1. Owner: Southern California Edison Company

2244 Walnut Grove Avenue

Rosemead, California 91770

San Onofre Nuclear Generating Station

 Plant: San Onofre Nuclear Generating Station San Clemente, California 92674-0128

3. Work Performed by: Southern California Edison Company

4. Identification of System: Reactor Coolant

UNIT: 2/3

MO: See item 6 below

Rspec: Same as Serial No. (item 6)

P&ID: N/A

N-5: N/A

Type Code Symbol Stamp: N/A

Authorization No:

N/A

Expiration Date: N/A

5. (a) Applicable Construction Code: ASME Section III, Class 1, 1971 Edition, Summer 1972 Addenda; Code Case: N-474-1

(b) Applicable Edition of Section XI Utilized for Repairs or Replacements: 1989 Edition, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components:

Name of Component	Name Of Manufacturer	Manufacturer Serial No.	M.O./ PT Report#	Other Identification	Repaired. Replaced or Replacement	ASME Code Stamped Yes/No
RCS Loop Temp. Nozzle; Mat.Code 027-79858	SCE	171-97	97100967 97120486 2PT-113-98	RSO-1360-97, Ht. NX0264HG1 lot 135888	Replacement	No
RCS Loop Temp. Nozzle; Mat.Code 027-79858	SCE	174-97	97100970 97120489 2PT-114-98	RSO-1360-97, Ht. NX0264HG1 lot 135888	Replacement	No
RCS Loop Temp. Nozzle; Mat.Code 027-79858	SCE	176-97	97100972 97120491 2PT-115-98	RSO-1360-97, Ht. NX0264HG1 lot 135888	Replacement	No
RCS Loop Temp. Nozzle; Mat.Code 027-79858	SCE	187-97	97100983 97120503 2PT-116-98	RSO-1084-96, Ht. ED84 lot. 133531	Replacement	No
RCS Loop Temp. Nozzle; Mat.Code 027-79858	SCE	190-97	97100986 97120506 3PT-008-98	RSO-1360-97, Ht. NX0264HG1 lot 135888	Replacement	No
RCS Loop Temp. Nozzle; Mat.Code 027-79858	SCE	191-97	97100987 97120507 2PT-118-98	RSO-1360-97, Ht. NX0264HG1 lot 135888	Replacement	No
RCS Loop Temp. Nozzle; Mat.Code 027-79858	SCE	192-97	97100988 97120508 2PT-037-98	RSO-1084-96, Ht. ED84 lot. 133531	Replacement	No
RCS Loop Temp. Nozzle; Mat.Code 027-79858	SCE	193-97	97100989 97120509 2PT-119-98	RSO-1084-96, Ht. ED84 lot. 133531	Replacement	No
RCS Loop Temp. Nozzle; Mat.Code 027-79858	SCE	194-97	97100990 97120510 2PT-128-98	RSO-1084-96, Ht. ED84 lot. 133531	Replacement	No
RCS Loop Temp. Nozzle; Mat.Code 027-79858	SCE	196-97	97100992 97120513 2PT-120-98	RSO-1084-96, Ht. ED84 lot. 133531	Replacement	No

7. Description of Work:

(10) spare instrument nozzles were machined from SB166-N06690 (INCONEL 690) bar stock. Each nozzle was dimensionally verified and all accessible surfaces were PT examined. Ref Dwg: 41116, Sheet 1, Revision 1. Note: Pressure test will be performed at installation (IWA-7400, <= 1" NPS exemption taken for nozzle fab pressure test).

8. Tests Conducted: N/A

Pressure: N/A

9. Remarks: None.

(Applicable Manufacturer's Data Reports are available on-site)
CERTIFICATE OF COMPLIANCE
We certify that the statements made in the report are correct and this of the ASME Code, Section XI. replacement conforms to the rules repair or replacement
Type Code Symbol Stamp: N/A
Certificate of Authorization No: N/A Expiration Date: N/A Signed: Supervising ASME Codes Engineer Date: 4/11/98 Owner or Owner's Designee, Title
CERTIFICATE OF INSPECTION
I, the undersigned holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of <u>California</u> , and employed by <u>Arkwright Mutual Insurance Company</u> of <u>Waltham, Massachusetts</u> have inspected the components described in this Owner's Report during the period 1/2/97 to 04/3/98, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.
By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection. Commissions Commissions California
Inspector's Signature National Board, State, Province, and Endorsements
Anni 12 100d

Date April 13, 1998

As Required by the Provisions of the ASME Code SectionXI

1. Owner: Southern California Edison Company

2244 Walnut Grove Avenue

Rosemead, California 91770

San Onofre Nuclear Generating Station

UNIT: 2/3

MO: See item 6 below

Rspec: Same as Serial No. (item 6)

P&ID: N/A

N-5: N/A

San Clemente, California 92674-0128

3. Work Performed by: Southern California Edison Company

Type Code Symbol Stamp: N/A

Authorization No:

N/A

4. Identification of System: Reactor Coolant

Expiration Date:

N/A

2. Plant:

5. (a) Applicable Construction Code: ASME Section III, Class 1, 1971 Edition, Summer 1972 Addenda; Code Case: N-474-1

(b) Applicable Edition of Section XI Utilized for Repairs or Replacements: 1989 Edition, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components:

Name of Component	Name Of Manufacturer	Manufacturer Serial No.	M.O./ PT Report#	Other Identification	Repaired, Replaced or Replacement	ASME Code Stamped Yes/No
RCS Loop Temperature Nozzle; Mat. Code 027-79858	SCE	198-97	97100996 97120515 2PT-122-98	RSO-1360-97, Ht. NX0264HG1 Lot 135888	Replacement	No
RCS Loop Temperature Nozzle; Mat. Code 027-79858	SCE	197-97	97100995 97120514 2PT-121-98	RSO-1084-96, Ht. ED84 Lot 133531	Replacement	No
RCS Loop Temperature Nozzle; Mat. Code 027-79858	SCE	199-97	97100997 97120516 2PT-123-98	RSO-1360-97, Ht. NX0264HG1 Lot 135888	Replacement	No
RCS Loop Temperature Nozzle; Mat. Code 027-79858	SCE	200-97	97100998 97120517 2PT-124-98	RSO-1360-97, Ht. NX0264HG1 Lot 135888	Replacement	No
RCS Loop Temperature Nozzle; Mat. Code 027-79858	SCE	201-97	97100999 97120518 3PT-009-98	RSO-1084-96, Ht. ED84 Lot 133531	Replacement	No
RCS Loop Temperature Nozzle; Mat. Code 027-79858	SCE	203-97	97101001 97120520 2PT-126-98	RSO-1084-96, Ht. ED84 Lot 133531	Replacement	No
RCS Loop Temperature Nozzle; Mat. Code 027-79858	SCE	204-97	97101002 97120522 2PT-127-98	RSO-1084-96, Ht. ED84 Lot 133531	Replacement	No

7. Description of Work:

(7) spare instrument nozzles were machined from SB166-N06690 (INCONEL 690) bar stock. Each nozzle was dimensionally verified and all accessible surfaces were PT examined. Ref Dwg: 41116, Sheet 1, Revision 1. Note: Pressure test will be performed at installation (IWA-7400, <= 1" NPS exemption taken for nozzle fab pressure test).

8. Tests Conducted: N/A

Pressure: N/A

9. Remarks: None.

CERTIFICATE OF COMPLIANCE We certify that the statements made in the report are correct and this replacement conforms to the rules of the ASME Code, Section XI. repair or replacement Type Code Symbol Stamp: N/A Expiration Date: N/A Certificate of Authorization No: N/A Supervising ASME Codes Engineer Signed: Owner or Owner's Designee, Title CERTIFICATE OF INSPECTION I, the undersigned holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of California, and employed by Arkwright Mutual Insurance Company of Waltham, Massachusetts have inspected the components described in this Owner's Report during the period 11/20/97 to 04/13/98, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI. By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection. Commissions National Board, State, Province, and Endorsements Inspector's Signature

Date April 13, 1998

As Required by the Provisions of the ASME Code SectionXI

1. Owner: Southern California Edison Company

2244 Walnut Grove Avenue

Rosemead, California 91770

San Onofre Nuclear Generating Station

San Clemente, California 92674-0128

UNIT: 2/3

-Sheet 2 of 2

MO: See item 6 below

Rspec: Same as Serial No. (item 6)

P&ID: N/A

N-5: N/A

3. Work Performed by: Southern California Edison Company Type Code Symbol Stamp: N/A

Authorization No:

N/A

Expiration Date:

N/A

4. □ Identification of System: Reactor Coolant

2. Plant:

5. (a) Applicable Construction Code: ASME Section III, Class 1, 1971 Edition, Summer 1972 Add. (design & fab); ASME III,

Class 1, 1989 Edition, No Add. (material); Code Case: N-474-1
(b) Applicable Edition of Section XI Utilized for Repairs or Replacements: 1989 Edition, No Addenda

Name of Component	Name Of Manufacturer	Manufacturer Serial No.	M.O. / PT Report #	Other Identification	Repaired, Replaced or Replacement	ASME Code Stamped Yes/No
RCS Loop Temp Nozzle; Mat. Code 027-79858	SCE	185-97	97100981, 97120500, 2PT-041-98	RSO 1360-97, Ht. #NX0264HG1, Lot #135888	Replacement	No
RCS Loop Temp Nozzle; Mat. Code 027-79858	SCE	186-97	97100982, 97120502, 2PT-042-98	RSO 1360-97, Ht. #NX0264HG1, Lot #135888	Replacement	No
RCS Loop Temp Nozzle; Mat. Code 027-79858	SCE	188-97	97100984, 97120504, 2PT-036-98	RSO 1360-97, Ht. #NX0264HG1, Lot #135888	Replacement	No
RCS Loop Temp Nozzle; Mat. Code 027-79858	SCE	189-97	97100985, 97120505, 2PT-035-98	RSO 1360-97, Ht. #NX0264HG1, Lot #135888	Replacement	No

As Required by the Provisions of the ASME Code SectionXI

2. Plant:

3. Work Performed by:

Southern California Edison Company

2244 Walnut Grove Avenue

Rosemead, California 91770

San Clemente, California 92674-0128

San Onofre Nuclear Generating Station

Southern California Edison Company

Identification of System: Reactor Coolant

UNIT: 2/3

See item 6 below MO:

Rspec: Same as Serial No. (item 6)

P&ID: N/A

N-5: N/A

Type Code Symbol Stamp: N/A

Authorization No:

N/A

Expiration Date: N/A

5. (a) Applicable Construction Code: ASME Section III, Class 1, 1971 Edition, Summer 1972 Add. (design & fab); ASME III, Class 1, 1989 Edition, No Add. (material); Code Case: N-474-1

(b) Applicable Edition of Section XI Utilized for Repairs or Replacements: 1989 Edition, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components:

Name of Component	Name Of Manufacturer	Manufacturer Serial No.	M.O. / PT Report #	Other Identification	Repaired, Replaced or Replacement	ASME Code Stamped Yes/No
RCS Loop Thermowell; Mat. Code 027-79882	SCE	132-97	97101007, 2PT-094-97	RSO-1360-97, Ht# NX0264HG1, Lot# 135888	Replacement	No
RCS Loop Thermowell; Mat. Code 027-79882	SCE	135-97	97101010, 2PT-005-98	RSO-1360-97, Ht# NX0264HG1, Lot# 135888	Replacement	No
RCS Loop Thermowell; Mat. Code 027-79882	SCE	140-97	97101015, 2PT-101-97	RSO-1360-97, Ht# NX0264HG1, Lot# 135888	Replacement	No
RCS Loop Thermowell; Mat. Code 027-79882	SCE	141-97	97101016, 2PT-097-97	RSO-1360-97, Ht# NX0264HG1, Lot# 135888	Replacement	No
RCS Loop Thermowell; Mat. Code 027-79882	SCE	142-97	97101017, 2PT-006-98	RSO-1360-97, Ht# NX0264HG1, Lot# 135888	Replacement	No
RCS Loop Thermowell; Mat. Code 027-79882	SCE	143-97	97101018, 2PT-007-98	RSO-1360-97, Ht# NX0264HG1, Lot# 135888	Replacement	No
RCS Loop Thermowell; Mat. Code 027-79882	SCE	144-97	97101019, 2PT-095-97	RSO-1360-97, Ht# NX0264HG1, Lot# 135888	Replacement	No
RCS Loop Thermowell; Mat. Code 027-79882	SCE	148-97	97101023, 2PT-008-98	RSO-1360-97, Ht# NX0264HG1, Lot# 135888	Replacement	No
RCS Loop Thermowell; Mat. Code 027-79882	SCE	150-97	97101026, 2PT-009-98	RSO-1360-97, Ht# NX0264HG1, Lot# 135888	Replacement	No
RCS Loop Thermowell; Mat. Code 027-79882	SCE	151-97	97101027, 2PT-010-98	RSO-1360-97, Ht# NX0264HG1, Lot# 135888	Replacement	No

7. Description of Work:

(10) spare thermowells were machined from SB166-N06690 (INCONEL 690) bar stock. Each thermowell was dimensionally verified and hydrotested. APT exam was performed on all accessible surfaces of each thermowell. Ref Dwgs: SO23-924-282 (DCN# 5,6,7) & SO23-924-287 (DCN# 1,2,3).

8. Tests Conducted: System Hydrostatic Pressure Test

Pressure: >3900 psig

Temp: AMBIENT

9. Remarks: None.

(Applicable Manufacturer's Data Reports are available on-site) CERTIFICATE OF COMPLIANCE We certify that the statements made in the report are correct and this replacement conforms to the rules of the ASME Code, Section XI. repair or replacement Type Code Symbol Stamp: N/A Certificate of Authorization No: N/A Expiration Date: N/A Signed: Supervising ASME Codes Engineer Owner or Owner's Designee, Title CERTIFICATE OF INSPECTION I, the undersigned holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of California, and employed by Arkwright Mutual Insurance Company of Waltham, Massachusetts have inspected the components described in this Owner's Report during the period _to_*03/05/98* __, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection. Commissions

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the

California

National Board, State, Province, and Endorsements

Date March 5 1994

As Required by the Provisions of the ASME Code SectionXI

1. Owner: Southern California Edison Company

2. Plant:

2244 Walnut Grove Avenue

Rosemead, California 91770

San Onofre Nuclear Generating Station

San Clemente, California 92674-0128

3. Work Performed by: Southern California Edison Company

4. Identification of System: Reactor Coolant

UNIT: 2/3

MO: See item 6 below

Rspec: Same as Serial No. (item 6)

P&ID: N/A

N-5: N/A

Type Code Symbol Stamp: N/A

Authorization No:

N/A

Expiration Date:

N/A

5. (a) Applicable Construction Code: ASME Section III, Class 1, 1971 Edition, Summer 1972 Addenda; Code Case: N-474-1

(b) Applicable Edition of Section XI Utilized for Repairs or Replacements: 1989 Edition, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components:

Name of Grant	Name Of Manufacturer	Manufacturer Serial No.	M.O./ PT Report#	Other Identification	Repaired, Replaced or Replacement	ASME Code Stamped
RCS Loop Thermowell Mat. Code-027-79882	SCE	146-97	97101021 2PT-099-97	RSO-1360-97, Ht.# NX0264HG1, Lot# 135888	Replacement	Yes/No No
RCS Loop Thermowell Mat. Code-027-79882	SCE	161-97	97101040 2PT-098-97	RSO-1360-97, Ht.# NX0264HG1, Lot# 135888	Replacement	No
RCS Loop Thermowell Mat. Code-027-79882	SCE	131-97	97100648 2PT-070-98	RSO-1665-97, Ht.# NX0643HG1, Lot# 136502	Replacement	. No
RCS Loop Thermowell Mat. Code-027-79882	SCE	134-97	97101009 3PT-003-98	RSO-1665-97, HL# NX0643HG1, Lot# 136502	Replacement	No
RCS Loop Thermowell Mat. Code-027-79882	SCE	136-97	97101011 3PT-012-98	RSO-1665-97, Ht.# NX0643HG1, Lot# 136502	Replacement	No
RCS Loop Thermowell Mat. Code-027-79882	SCE	137-97	97101012 3PT-015-98	RSO-1665-97, HL# NX0643HG1, Lot# 136502	Replacement	No
RCS Loop Thermowell Mat. Code-027-79882	SCE	138-97	97101013 3PT-007-98	RSO-1665-97, Ht.# NX0643HG1, Lot# 136502	Replacement	No
RCS Loop Thermowell Mat. Code-027-79882	SCE	145-97	97101020 2PT-071-98	RSO-1665-97, Ht.# NX0643HG1, Lot# 136502	Replacement	No
RCS Loop Thermowell Mat. Code-027-79882	SCE	157-97	97101035 2PT-073-98	RSO-1360-97, Ht.# NX0264HG1, Lot# 135888	Replacement	No
RCS Loop Thermowell Mat. Code-027-79882	SCE	158-97	97101036 2PT-074-98	RSO-1665-97. Ht.# NX0643HG1. Lot# 136502	Replacement	No

7. Description of Work:

(10) spare thermowells were machined from SB166-N06690 (INCONEL 690) bar stock. Each thermowell was dimensionally verified and hydrotested. A PT examination was performed on all accessible surfaces of each thermowell. Reference Dwgs: SO23-924-282 (DCN # 5.6.7) & SO23-924-287 (DCN # 1.2.3).

8. Tests Conducted: Hydrostatic Pressure Test

Pressure: >3900 psig

Temp: AMBIENT

9. Remarks: None.

(Applicable Manufacturers Data Reports are available on-site)
CERTIFICATE OF COMPLIANCE
We certify that the statements made in the report are correct and this of the ASME Code, Section XI. replacement conforms to the rules repair or replacement
Type Code Symbol Stamp: N/A
Certificate of Authorization No: N/A Expiration Date: N/A
Signed: Supervising ASME Codes Engineer Date: 3/27/58 Owner or Owner's Designee, Title
CERTIFICATE OF INSPECTION
I, the undersigned holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of <u>California</u> , and employed by <u>Arkwright Mutual Insurance Company</u> of <u>Waltham. Massachusetts</u> have inspected the components described in this Owner's Report during the period nature of the Company of to <u>3/30/98</u> , and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.
By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this imprection.
Commissions 1862 California
Inspector's Signature National Board, State, Province, and Endorsements
Date Mulh 30, 1998

As Required by the Provisions of the ASME Code SectionXI

1. Owner: Southern California Edison Company

2244 Walnut Grove Avenue

Rosemead, California 91770

UNIT: 2/3

MO: See item 6 below

Rspec: Same as Serial No. (item 6)

P&ID: N/A N-5: N/A

2. Plant:

San Onofre Nuclear Generating Station

San Clemente, California 92674-0128

3. Work Performed by: S

Southern California Edison Company

Type Code Symbol Stamp: N/A

Authorization No:

N/A

4. Identification of System: Reactor Coolant

Expiration Date:

N/A

5. (a) Applicable Construction Code: ASME Section III, Class 1, 1971 Edition, Summer 1972 Add. (design & fab); ASME III, Class 1, 1989 Edition, No Add. (material); Code Case: N-474-1

(b) Applicable Edition of Section XI Utilized for Repairs or Replacements: 1989 Edition. No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components:

Name of Component	Name Of Manufacturer	Manufacturer Serial No.	M.O./ PT Report#	Other Identification	Repaired, Replaced or Replacement	ASME Code Stamped Yes/No
RCS Loop Thermowell; Mat. Code 027-79882	SCE	153-97	97101029, 2PT-014-98	RSO-1360-97, Ht.# NX0264HG1, Lot# 135888	Replacement	No
RCS Loop Thermowell; Mat. Code 027-79882	SCE	154-97	97101031, 2PT-015-98	RSO-1360-97, Ht.# NX0264HG1, Lot# 135888	Replacement	No
RCS Loop Thermowell; Mat. Code 027-79882	SCE	156-97	97101034, 2PT-016-98	RSO-1360-97, Ht.# NX0264HG1, Lot# 135888	Replacement	No
RCS Loop Thermowell; Mat. Code 027-79882	SCE	159-97	97101038, 2PT-100-97	RSO-1360-97, Ht.# NX0264HG1, Lot# 135888	Replacement	No
RCS Loop Thermowell; Mat. Code 027-79882	SCE	160-97	97101039, 2PT-048-98	RSO-1360-97, Ht.# NX0264HG1, Lot# 135888	Replacement	No
RCS Loop Thermowell; Mat. Code 027-79882	SCE	162-97	97101041, 2PT-011-98	RSO-1360-97, Ht.# NX0264HG1, Lot# 135888	Replacement	No
RCS Loop Thermowell; Mat. Code 027-79882	SCE	163-97	97101043, 2PT-012-98	RSO-1360-97, Ht.# NX0264HG1, Lot# 135888	Replacement	No
RCS Loop Thermowell; Mat. Code 027-79882	SCE	164-97	97101044, 2PT-013-98	RSO-1665-97, Ht.# NX0643HG1, Lot# 136502	Replacement	No

7. Description of Work:

(8) spare thermowells were machined from SB166-N06690 (INCONEL 690) bar stock. Each thermowell was dimensionally verified and hydrotested. A PT exam was performed on all accessible surfaces of each thermowell. Ref Dwgs: SO23-924-282 (DCN# 5,6,7) & SO23-924-287 (DCN# 1,2,3).

8. Tests Conducted: System Hydrostatic Pressure Test

Pressure: >3900 psig

Temp: AMBIENT

9. Remarks: None. Applicable Manufacturer's Data Reports are available on-site) CERTIFICATE OF COMPLIANCE We certify that the statements made in the report are correct and this replacement conforms to the rules of the ASME Code, Section XI. repair or replacement Type Code Symbol Stamp: N/A Certificate of Authorization No: N/A Expiration Date: N/A Supervising ASME Codes Engineer Signed: Owner or Owner's Designee, Title CERTIFICATE OF INSPECTION I, the undersigned holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of California, and employed by Arkwright Mutual Insurance Company of Waltham, Massachusetts have inspected the components described in this Owner's Report during the period to 3/2/198 , and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI. By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection. Commissions National Board, State, Province, and Endorsements Inspector's Signature

Date March 21, 1998

As Required by the Provisions of the ASME Code SectionXI

Southern California Edison Company 1. Owner:

2244 Walnut Grove Avenue

Rosemead, California 91770

2. Plant:

San Onofre Nuclear Generating Station

San Clemente, California 92674-0128

3. Work Performed by: Southern California Edison Company

4. Identification of System: Reactor Coolant

UNIT: 2/3

MO: See item 6 below

Rspec: Same as Serial No. (item 6)

P&ID: N/A

N-5: N/A

Type Code Symbol Stamp: N/A

Authorization No:

N/A

Expiration Date:

N/A

5. (a) Applicable Construction Code: ASME Section III, Class 1, 1971 Edition, Summer 1972 Addenda; Code Case: N-474-1

(b) Applicable Edition of Section XI Utilized for Repairs or Replacements: 1989 Edition, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components:

Name of Component	Name Of Manufacturer	Manufacturer Serial No.	M.O. / PT Report #	Other Identification	Repaired. Replaced or Replacement	ASME Code Stamped Yes/No
RCS Loop Thermowell Mat. Code-027-79882	SCE	165-97	97101045 2PT-075-98	RSO-1665-97, Ht.# NX0643HG1, Lot # 136502	Replacement	Nọ
RCS Loop Thermowell Mat. Code-027-79882	SCE	166-97	97101046 2PT-076-98	RSO-1665-97, Ht.# NX0643HG1, Lot # 136502	Replacement	No
RCS Loop Thermowell Mat. Code-027-79882	SCE	249-97	97120795 3PT-004-98	RSO-1665-97, Ht.# NX0643HG1, Lot # 136502	Replacement	No
RCS Loop Thermowell Mat. Code-027-79882	SCE	250-97	97120796 3PT-013-98	RSO-1665-97, Ht.# NX0643HG1, Lot # 136502	Replacement	No
RCS Loop Thermowell Mat. Code-027-79882	SCE	251-97	97120797 3PT-006-98	RSO-1685-97, Ht.# NX0643HG1, Lot # 136518	Replacement	No
RCS Loop Thermowell Mat. Code-027-79882	SCE	253-97	97120799 3PT-014-98	RSO-1665-97. Ht.# NX0643HG1, Lot # 136502	Replacement	No
RCS Loop Thermowell Mat. Code-027-79882	SCE	255-97	97120801 3PT-010-98	RSO-1665-97, Ht.# NX0643HG1, Lot # 136502	Replacement	No
RCS Loop Thermowell Mat. Code-027-79882	SCE	256-97	97120802 3PT-002-98	RSO-1665-97, Ht.# NX0643HG1, Lot # 136502	Replacement	No
RCS Loop Thermowell Mat. Code-027-79882	SCE	257-97	97120803 2PT-077-98	RSO-1665-97, HL# NX0643HG1, Lot # 136502	Replacement	No
RCS Loop Thermowell Mat. Code-027-79882	SCE	260-97	97120808 3PT-011-98	RSO-1665-97. Ht.# NX0643HG1. Lot # 136502	Replacement	No

7. Description of Work:

(10) spare thermowells were machined from SB166-N06690 (INCONEL 690) bar stock. Each thermowell was dimensionally verified and hydrotested. A PT examination was performed on all accessible surfaces of each thermowell. Reference Dwgs: SO23-924-282 (DCN # 5.6.7) & SO23-924-287 (DCN # 1.2.3).

8. Tests Conducted: Hydrostatic Pressure Test

Pressure: >3900 psig

Temp: AMBIENT

(Applicable Manufacturer's Data Reports are available on-site)
CERTIFICATE OF COMPLIANCE
We certify that the statements made in the report are correct and this of the ASME Code, Section XI. replacement conforms to the rules repair or replacement
Type Code Symbol Stamp: N/A
Certificate of Authorization No: N/A Expiration Date: N/A
Signed: Supervising ASME Codes Engineer Date: 3/27/98 Owner or Owner's Designee, Title
CERTIFICATE OF INSPECTION
I, the undersigned holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of <u>California</u> , and employed by <u>Arkwright Mutual Insurance Company</u> of <u>Waltham, Massachusetts</u> have inspected the components described in this Owner's Report during the period
By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.
Inspector's Signature Commissions / B62 California National Board, State, Province, and Endorsements
Inspector's Signature National Board, State, Province, and Endorsements Date Mule 30, 1998

As Required by the Provisions of the ASME Code SectionXI

1. Owner:

2. Plant:

Southern California Edison Company

2244 Walnut Grove Avenue

Rosemead, California 91770

San Onofre Nuclear Generating Station

San Clemente, California 92674-0128

UNIT: 2/3

See item 6 below MO:

Rspec: Same as Serial No. (item 6)

P&ID: N/A

N-5: N/A

3. Work Performed by:

Southern California Edison Company

Type Code Symbol Stamp: N/A Authorization No:

Identification of System: Reactor Coolant

Expiration Date:

N/A

5. (a) Applicable Construction Code: ASME Section III, Class 1, 1971 Edition, Summer 1972 Addenda (design & fab), ASME III. Class 1, 1989 Edition. No Addenda (material); Code Case: N-474-1

(b) Applicable Edition of Section XI Utilized for Repairs or Replacements: 1989 Edition, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components:

Name of Component	Name Of Manufacturer	Manufacturer Serial No.	M.O. / PT Report #	Other Identification	Replaced or Replacement	ASME Code Stamped Yes/No
RCS Temperature Nozzle Plug	SCE	RS-059-98	97101049 2PT-222-98	RSO-1646-97, Ht. #NX0643HG1 Lot#136503	Replacement	No
RCS Temperature Nozzle Plug	SCE	RS-060-98	97101050 2PT-225-98	RSO-1646-97, Ht. #NX0643HG1 Lot#136503	Replacement	No
RCS Temperature Nozzie Plug	SCE	RS-061-98	97101051 2PT-223-98	RSO-1646-97, Ht. #NX0643HG1 Lot#136503	Replacement	No
RCS Temperature Nozzle Plug	SCE	RS-062-98	97101053 2PT-221-98	RSO-1646-97, Ht. #NX0643HG1 Lot#136503	Replacement	No
RCS Temperature Nozzle Plug	SCE	RS-066-98	97101058 2PT-226-98	RSO-1646-97, Ht. #NX0643HG1 Lot#136503	Replacement	No
RCS Temperature Nozzle Plug	SCE	RS-071-98	97101063 2PT-224-98	RSO-1646-97, Ht. #NX0643HG1 Lot#136503	Replacement	No

7. Description of Work:

(6) spare temperature nozzle plugs for the reactor coolant loop piping were machined from SB166-N06690 (INCONEL 690) barstock. Each nozzle plug was dimensionally verified and all accessible surfaces were PT examined. Reference Dwg: 41116, sheet 1. Pressure test will be performed after installation. The 1" and less NPS exemption (Reference IWA-4700) applies for fabrication.

8. Tests Conducted: N/A

Pressure: N/A

9. Remarks: None.

(Applicable Manufacturers Data Reports are available on-site)

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this replacement conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp: N/A

Certificate of Authorization No: N/A

Signed:

Supervising ASME Codes Engineer

Owner or Owner's Designee, Title

CERTIFICATE OF	FINSPECTION
I, the undersigned holding a valid commission issued by the National the State or Province of California, and employed by Arkwright Waltham. Massachusetts have inspected the components described to OHO 99, and state has performed examinations and taken corrective measures described to the ASME Code, Section XI.	t Mutual Insurance Company of ibed in this Owner's Report during the period that to the best of my knowledge and belief, the Owner
By signing this certificate, neither the Inspector nor his employer examinations and corrective measures described in this Owner's employer shall be liable in any manner for any personal injury or connected with this inspection.	Report. Furthermore, neither the Inspector nor his property damage or a loss of any kind arising from or
Commissions Commissions	
Inspector's Signature	National Board, State, Province, and Endorsements
Date <u>April 20, 1999</u>	

As Required by the Provisions of the ASME Code SectionXI

1. Owner:

2. Plant:

Southern California Edison Company

2244 Walnut Grove Avenue

Rosemead, California 91770

Unit: N

MO:

97101066000 (mach) 97110609000 (weld),

97120531000 (mach)

San Onofre Nuclear Generating Station

San Clemente, California 92674-0128

Rspec: 206-97

P&ID: N/A

N-5: N/A

3. Work Performed by:

Southern California Edison Company

Type Code Symbol Stamp: N/A

Authorization No:

N/A

4. Identification of System: Reactor Coolant

Expiration Date:

N/A

5. (a) Applicable Construction Code: ASME Section III. Class 1, 1971 Edition, Summer 1972 Add. (design & fab); ASME III. Class 1, 1989 Edition, No Add.(material); Code Case: N-474-1

(b) Applicable Edition of Section XI Utilized for Repairs or Replacements: 1989 Edition. No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components:

Name of Component	Name Of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced or Replacement	ASME Code Stamped Yes/No
RCS Loop Pressure Measurement Nozzle- Type 2; Mat. Code 027-79890	SCE	206-97	N/A	RSO-1646-97, Ht.# NX0643HG1, Lot #136503; RSO- 1711-97, Ht.# 435702, Lot #92411	N/A	Replacement	No

7. Description of Work:

A spare instrument nozzle was machined from SB166-N06690 (INCONEL 690) bar stock. A stainless steel safe-end (SA312-TP316L, 3/4" NPS, schedule 160 pipe) was welded to the INCONEL section per WR2/3-97-475. PT exam was performed on all accessible machined surfaces (Ref: 2PT-166-98). RT and PT exams were performed on the weld (Ref: 2RT-038-98, 2PT-217-98 & 2PT-219-98). Ref Dwg: 41116, Sheet 1, Rev 1, DCN #2. * Pressure test will be performed on installation. The 1" & less NPS exemption (Ref: IWA-4700) applies for the nozzle fabrication.

8. Tests Conducted: N/A

Pressure: N/A

9. Remarks: None. (Applicable Manufacturer's Data Reports are available on-site) CERTIFICATE OF COMPLIANCE We certify that the statements made in the report are correct and this repair and replacement conforms to the rules of the ASME Code, Section XI. Tepair or replacement Type Code Symbol Stamp: N/A Certificate of Authorization No N/A Expiration Date: N/A Signed: Supervising ASME Codes Engineer Owner or Owner's Designee. Title CERTIFICATE OF INSPECTION I, the undersigned holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of California, and employed by Arkwighti Mutual Lisurance Company of Waltham, Massachusetts have inspected the corr ponents described in this Owner's Report during the period 1/6/99 , and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI. By signing this certificate, neither the Inspector no: his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection. Commissions 1862 Inspector's Signature National Board. State, Province, and Endorsements

As Required by the Provisions of the ASME Code SectionXI

1. Owner: Southern California Edison Company

2244 Walnut Grove Avenue

Rosemead, California 91770

Unit: N

MO: 97101067000 97120532000 (mach),

97110610000 (weld)

2. Plant:

San Onofre Nuclear Generating Station

San Clemente, California 92674-0128

Rspec: 207-97 P&ID: N/A

N-5: N/A

3. Work Performed by:

Southern California Edison Company

Type Code Symbol Stamp: N/A

Authorization No:

N/A

Expiration Date:

N/A

4. Identification of System: Reactor Coolant

5. (a) Applicable Construction Code: ASME Section III, Class 1, 1971 Edition, Summer 1972 Add. (design & fab); ASME III, Class 1, 1989 Edition, No Add. (material); Code Case: N-474-1

(b) Applicable Edition of Section XI Utilized for Repairs or Replacements: 1989 Edition, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components:

Name of Component	Name Of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced or Replacement	ASME Code Stamped Yes/No
RCS Loop Pressure Measurement Nozzle- Type 2; Mat. Code 027-79890	SCE	207-97	N/A	RSO-1665-97, Ht.# NX0643HG1, Lot# 136502; RSO- 1711-97, Ht.# 435702	N/A	Replacement	No

7. Description of Work:

A spare instrument nozzle was machined from SB166-N06690 (INCONEL 690) bar stock. A stainless steel safe-end (SA312-TP316L, 3/4" NPS, schedule 160 pipe) was welded to the INCONEL section per WR2/3-97-476. PT exams were performed on all accessible machined surfaces (Ref: 2PT-003-98 & 2PT-021-98). RT and PT exams were performed on the weld (Ref: 2RT-003-98, 2PT-043-98. Ref Dwg: 41116, Sheet 1, Rev 1, DCN #2. * Pressure test will be performed on installation. The </= 1" NPS exemption (Ref: IWA-4700) applies for the nozzle fabrication.

8. Tests Conducted: N/A

Pressure: N/A

9. Remarks: None.

(Applicable Manufacturer's Data Reports are available on-site)
CERTIFICATE OF COMPLIANCE
We certify that the statements made in the report are correct and this of the ASME Code, Section XI. repair and replacement conforms to the rules repair or replacement
Type Code Symbol Stamp: N/A
Certificate of Authorization No: N/A Expiration Date: N/A
Signed:
CERTIFICATE OF INSPECTION -
I, the undersigned holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of <u>California</u> , and employed by <u>Arkwright Mutual Insurance Company</u> of <u>Waltham. Massachusetts</u> have inspected the components described in this Owner's Report during the period of to <u>03,07,98</u> , and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.
By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this his pection.
Commissions 1862 California
Inspector's Signature National Board, State, Province, and Endorsements
Date Work 27, 1998

As Required by the Provisions of the ASME Code SectionXI

1. Owner:

Southern California Edison Company

2244 Walnut Grove Avenue

Rosemead, California 91770

Unit: N

MO: 97101068000 97120533000 (mach),

97110611000 (weld)

2. Plant:

San Onofre Nuclear Generating Station

San Clemente, California 92674-0128

Rspec: 208-97 P&ID: N/A

N-5: N/A

3. Work Performed by:

Southern California Edison Company

Type Code Symbol Stamp: N/A

Authorization No: Expiration Date:

N/A

Identification of System: Reactor Coolant

5. (a) Applicable Construction Code: ASME Section III, Class 1, 1971 Edition, Summer 1972 Add. (design & fab); ASME III,

Class 1, 1989 Edition, No Add.(material); Code Case: N-474-1

(b) Applicable Edition of Section XI Utilized for Repairs or Replacements: 1989 Edition, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components:

Name of Component	Name Of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced or Replacement	ASME Code Stamped Yes/No
RCS Loop Pressure Measurement Nozzle- Type 2; Mat. Code 027-79890	SCE	208-97	N/A	RSO-1665-97, Ht.# NX0643HG1, Lot# 136502; RSO- 1711-97, Ht.# 435702	N/A	Replacement	No

7. Description of Work:

A spare instrument nozzle was machined from SB166-N06690 (INCONEL 690) bar stock. A stainless steel safe-end (SA312-TP316L, 3/4" NPS, schedule 160 pipe) was welded to the INCONEL section per WR2/3-97-477. PT exams were performed on all accessible machined surfaces (Ref: 2PT-039-98 & 2PT-087-98). RT and PT exams were performed on the weld (Ref: 2RT-017-98, 2PT-093-98 & 2PT-106-98). Ref Dwg: 41116, Sheet 1, Rev 1, DCN #2. * Pressure test will be performed on installation. The <= 1" NPS exemption (Ref: IWA-4700) applies for the nozzle fabrication.

8. Tests Conducted: N/A

Pressure: N/A

	CERTIFICATE OF COMPLIANCE
	certify that the statements made in the report are correct and this e ASME Code, Section XI. replacement conforms to the rules repair or replacement
Тур	e Code Symbol Stamp: N/A
Cert	ificate of Authorization No: N/A Expiration Date: N/A Supervising A SME Codes Engineer Date: 3/4/98
Sign	Owner or Owner's Designee, Title
	CERTIFICATE OF INSPECTION
I, th	e undersigned holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and
the	State or Province of <u>California</u> , and employed by <u>Arkwright Mutual Insurance Company</u> of <u>Itham, Massachusetts</u> have inspected the components described in this Owner's Report during the period
	70/5/97 to $3/5/9%$, and state that to the best of my knowledge and belief, the Owner
has requ	performed examinations and taken corrective measures described in this Owner's Report in accordance with the nirements of the ASME Code, Section XI.
exa	signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the minations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his
emp	ployer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or nected with this inspection.
	Commissions 1862 California
· —	Inspector's Signature National Board, State, Province, and Endorsements

As Required by the Provisions of the ASME Code SectionXI

1. Owner: Southern California Edison Company

2244 Walnut Grove Avenue

Rosemead, California 91770

Unit:

MO: 97101069000 97120534000 (mach),

97110612000, 001 (weld)

2. Plant:

San Onofre Nuclear Generating Station

San Clemente, California 92674-0128

Rspec: 209-97 P&ID: N/A N-5: N/A

3. Work Performed by:

Southern California Edison Company

Type Code Symbol Stamp: N/A

Authorization No:

4. Identification of System: Reactor Coolant

Expiration Date: N/A

5. (a) Applicable Construction Code: ASME Section III, Class 1, 1971 Edition, Summer 1972 Add. (design & fab); ASME III,

Class 1, 1989 Edition, No Add.(material); Code Case: N-474-1

(b) Applicable Edition of Section XI Utilized for Repairs or Replacements: 1989 Edition, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components:

Name of Component	Name Of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced or Replacement	ASME Code Stamped Yes/No
RCS Loop Pressure Measurement Nozzle- Type 2; Mat. Code 027-79890	SCE	209-97	N/A	RSO-1665-97, Ht.# NX0643HG1, Lot# 136502; RSO- 1711-97, Ht.# 435702	N/A	Replacement	No

7. Description of Work:

A spare instrument nozzle was machined from SB166-N06690 (INCONEL 690) bar stock. A stainless steel safe-end (\$A312-TP316L, 3/4" NPS, schedule 160 pipe) was initially welded to the INCONEL section per WR2/3-97-478, but failed the RT examination. The defective weld was cut-out and rewelded per WR2/3-98-033. PT exams were performed on all accessible machined surfaces (Ref: 2PT-090-98 & 2PT-094-98). RT and PT exams were performed on the weld (Ref: 2RT-018-98, 2PT-105-98). Ref Dwg: 41116, Sheet 1, Rev 1, DCN #2. * Pressure test will be performed on installation. The </= 1" NPS exemption (Ref: IWA-4700) applies for the nozzle fabrication.

8. Tests Conducted: N/A

Pressure: N/A

P. Remarks: None.					
(Applicable Manufacturer's Data Report	s are available on-site)				
CERTIFICATE OF COMPLIANCE					
We certify that the statements made in the report are correct and this of the ASME Code, Section XI.	repair and replacement conforms to the rules repair or replacement				
Type Code Symbol Stamp: N/A					
Certificate of Authorization No: N/A Expiration Date Signed: Supervising ASME Codes Exports Owner or Owner's Designee, Title	1010				
CERTIFICATE OF INSP	PECTION -				
I, the undersigned holding a valid commission issued by the National the State or Province of California, and employed by Arkwright M. Waltham, Massachusetts have inspected the components described to California, and state that has performed examinations and taken corrective measures described requirements of the ASME Code, Section XI.	(utual Insurance Company of d in this Owner's Report during the period to the best of my knowledge and belief, the Owner				

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or

Commissions 1862

National Board, State, Province, and Endorsements

Inspector's Signature

Date MML 27, 1998

connected with this inspection.

As Required by the Provisions of the ASME Code SectionXI

1. Owner: Southern California Edison Company

2244 Walnut Grove Avenue

Rosemead, California 91770

Unit: N

97101070000 (mach) 97110613000 (weld), MO:

97120535000 (mach)

2. Plant: San Onofre Nuclear Generating Station

San Clemente, California 92674-0128

Rspec: 210-97 P&ID: N/A

N-5: N/A

3. Work Performed by: Southern California Edison Company

Type Code Symbol Stamp: N/A

Authorization No:

N/A

4. Identification of System: Reactor Coolant

Expiration Date:

N/A

5. (a) Applicable Construction Code: ASME Section III. Class 1. 1971 Edition, Summer 1972 Add. (design & fab); ASME III.

Class 1, 1989 Edition, No Add (material); Code Case: N-474-1

(b) Applicable Edition of Section XI Utilized for Repairs or Replacements: 1989 Edition, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components:

Name of Component	Name Of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced or Replacement	ASME Code Stamped Yes/No
RCS Loop Pressure Measurement Nozzle- Type 2; Mat. Code 027-79890	SCE	210-97	N/A	RSO-1646-97, Ht.# NX0643HG1, Lot #136503; RSO- 1711-97, Ht.# 435702, Lot #92411	N/A	Replacement	No

7. Description of Work:

A spare instrument nozzle was machined from SB166-N06690 (INCONEL 690) bar stock. A stainless steel safe-end (SA312-TP316L, 3/4" NPS, schedule 160 pipe) was welded to the INCONEL section per WR2/3-97-479. PT exam was performed on all accessible machined surfaces (Ref: 2PT-165-98). RT and PT exams were performed on the weld (Ref: 2RT-036-98, 2PT-213-98 & 2PT-215-98). Ref Dwg: 41116, Sheet 1, Rev 1, DCN #2. * Pressure test will be performed on installation. The 1" & less NPS exemption (Ref: IWA-4700) applies for the nozzle fabrication.

8. Tests Conducted: N/A

Pressure: N/A

. Remarks: None.	
(Applicable Manufacturer's Data Reports are available on-site)	
CERTIFICATE OF COMPLIANCE	
We certify that the statements made in the report are correct and this repair and replacement conforms to the rule of the ASME Code, Section XI.	les
Type Code Symbol Stamp: N/A	
Certificate of Authorization No: N/A Expiration Date: N/A Signed: Supervising ASME Codes Engineer Date: 1/25/99 Owner or Owner's Designee, Title	
CERTIFICATE OF INSPECTION	
, the undersigned holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspector	s and
to	Owner
By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerexaminations and conrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from connected with this jaspection.	
Commissions 1862 California	4-
Inspector's Signature National Board, State, Province, and Endorsemen	is

As Required by the Provisions of the ASME Code SectionXI

1. Owner:

2. Plant:

Southern California Edison Company

2244 Walnut Grove Avenue

Rosemead, California 91770

San Onofre Nuclear Generating Station

San Clemente, California 92674-0128

Southern California Edison Company 3. Work Performed by:

4. Identification of System: Reactor Coolant

N Unit:

97101071000 (mach) 97110614000 (weld), MO:

97120536000 (mach)

Rspec: 211-97

P&ID: N/A

N-5: N/A

Type Code Symbol Stamp: N/A

Authorization No:

N/A N/A

Expiration Date:

5. (a) Applicable Construction Code: ASME Section III, Class 1, 1971 Edition, Summer 1972 Add. (design & fab); ASME III.

Class 1. 1989 Edition. No Add.(material); Code Case: N-474-1 (b) Applicable Edition of Section XI Utilized for Repairs or Replacements: 1989 Edition. No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components:

Name of Component	Name Of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced or Replacement	ASME Code Stamped Yes/No
RCS Loop Pressure Measurement Nozzle- Type 2; Mat. Code 027-79890	SCE	211-97	N/A	RSO-1646-97, Ht.# NX0643HG1, Lot #136503; RSO- 1711-97, Ht.# 435702, Lot #92411	N/A	Replacement	No

7. Description of Work:

A spare instrument nozzle was machined from SB166-N06690 (INCONEL 690) bar stock. A stainless steel safe-end (SA312-TP316L, 3/4" NPS, schedule 160 pipe) was welded to the INCONEL section per WR2/3-97-480. PT exam was performed on all accessible machined surfaces (Ref: 2PT-198-98). RT and PT exams were performed on the weld (Ref: 2RT-039-98, 2PT-214-98 & 2PT-216-98). Ref Dwg: 41116, Sheet 1, Rev 1, DCN #2. * Pressure test will be performed on installation. The 1" & less NPS exemption (Ref: IWA-4700) applies for the nozzle fabrication.

8. Tests Conducted: N/A

Pressure: N/A

9. Remarks: None.

(Angloodia Manufacture Day Person and Angloodia
(Applicable Manufacturer's Data Reports are available on-site)
CERTIFICATE OF COMPLIANCE
We certify that the statements made in the report are correct and this of the ASME Code, Section XI. repair and replacement conforms to the rules repair or replacement
Type Code Symbol Stamp: N/A
Certificate of Authorization No: N/A Expiration Date: N/A
Signed: Supervising ASME Codes Engineer Date: 1/25/99 Owner or Owner's Designee, Title
CERTIFICATE OF INSPECTION
I, the undersigned holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of California, and employed by Arking and English and En
By signing this certificate, neither the Inspector nor his empk yer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.
Inspector's Signature Commissions 1862 California National Board, State, Province, and Endorsements
Date (Jan. 26, 1999

As Required by the Provisions of the ASME Code SectionXI

1. Owner:

Southern California Edison Company

2244 Walnut Grove Avenue

Rosemead, California 91770

MO:

Unit: N

97101072000 97120537000 (mach),

97110615000, 001,002 (weld)

Rspec: 212-97, 090-98

2. Plant:

San Onofre Nuclear Generating Station

San Clemente, California 92674-0128

P&ID: N/A

N-5: N/A

3. Work Performed by:

Southern California Edison Company

Type Code Symbol Stamp: N/A

Authorization No:

N/A

4. Identification of System: Reactor Coolant

Expiration Date:

N/A

5. (a) Applicable Construction Code: ASME Section III, Class 1, 1971 Edition, Summer 1972 Addenda; Code Case: N-474-1

(b) Applicable Edition of Section XI Utilized for Repairs or Replacements: 1989 Edition, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components:

Name of Component	Name Of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced or Replacement	ASME Code Stamped Yes/No
RCS Loop PDT type 2 Nozzle	SCE	212-97	SB166- N06690 SA312- 316L	Mat. Code 027- 79890	N/A	Replacement	No

7. Description of Work:

A spare PDT type 2 nozzle was fabricated. The INCONEL 690 piece was machined from SB166 alloy N06690 bar stock (RSO 1646-97, Ht. NX0643HG1, Lot 136503). After machining, all accessible surfaces were PT examined (3PT-071-98). A stainless steel safe-end, SA312 type 316L, 3/4" NPS, schedule 160 pipe (RSO 1711-97, Ht. 435702) was welded to the INCONEL per *WR2/3-98-124. The final weld was PT examined (2PT-156-98) and RT examined (2RT-022-98). The hydrotest exemption (1" NPS and less) of IWA-4700 was taken for fabrication of this part.

8. Tests Conducted: N/A

Pressure: N/A

^{*}Initial welding was performed on WR2/3-97-484, but the weld was cut-out due to a failed RT examination.

CERTIFICATE (OF COMPLIANCE
e certify that the statements made in the report are correct and the ASME Code, Section XI.	d this repair and replacement conforms to the rules
pe Code Symbol Stamp: N/A	
gned: Owner or Owner's Designee, Title	on Date: N/A odes Engineer Date: /D 27/98
CERTIFICATE	OF INSPECTION
the undersigned holding a valid commission issued by the Nee State or Province of <u>California</u> , and employed by <u>Arkwrialtham</u> , <u>Massachusetts</u> have inspected the components de <u>19/5/97</u> to <u>10/27/98</u> , and state performed examinations and taken corrective measures dequirements of the ASME Code, Section XI.	ght Mutual Insurance Company of scribed in this Owner's Report during the period tate that to the best of my knowledge and belief, the Owner.
y signing this certificate, neither the Inspector nor his employaminations and corrective measures described in this Owner apployer shall be liable in any manner for any personal injuryonnected with this inspection.	or property damage or a loss of any kind arising from or
	National Board, State, Province, and Endorsements
Inspector's Signature	Nanonal Board, State, Province, and Endorsements

As Required by the Provisions of the ASME Code SectionXI

1. Owner:

Southern California Edison Company

2244 Walnut Grove Avenue

Rosemead, California 91770

Unit:

97101073000 (mach) 97110616000 (weld), MO:

97120538000 (mach)

2. Plant:

San Onofre Nuclear Generating Station

San Clemente, California 92674-0128

Rspec: 213-97 P&ID: N/A

N/A N-5:

3. Work Performed by:

Southern California Edison Company

Type Code Symbol Stamp: N/A

Authorization No:

4. Identification of System: Reactor Coolant

Expiration Date:

N/A

5. (a) Applicable Construction Code: ASME Section III. Class 1, 1971 Edition. Summer 1972 Add. (design & fab): ASME III. Class 1, 1989 Edition. No Add.(material): Code Case: N-474-1

(b) Applicable Edition of Section XI Utilized for Repairs or Replacements: 1989 Edition. No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components:

Name of Component	Name Of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced or Replacement	ASME Code Stamped Yes/No
RCS Loop Pressure Measurement Nozzle- Type 2; Mat. Code 027-79890	SCE	213-97		RSO-1646-97, Ht.# NX0643HG1, Lot #136503; RSO- 1711-97, Ht.# 435702, Lot #92411	N/A	Replacement	No

7. Description of Work:

A spare instrument nozzle was machined from SB166-N06690 (INCONEL 690) bar stock. A stainless steel safe-end (SA312-TP316L, 3/4" NPS, schedule 160 pipe) was welded to the INCONEL section per WR2/3-97-485. PT exam was performed on all accessible machined surfaces (Ref: 2PT-164-98). RT and PT exams were performed on the weld (Ref: 2RT-040-98, 2PT-218-98 & 2PT-220-98). Ref Dwg: 41116, Sheet 1, Rev 1, DCN #2. * Pressure test will be performed on installation. The 1" & less NPS exemption (Ref: IWA-4700) applies for the nozzle fabrication.

8. Tests Conducted: N/A

Pressure: N/A

9. Remarks: None. (Applicable Manufacturer's Data Reports are available on-site) CERTIFICATE OF COMPLIANCE We certify that the statements made in the report are correct and this repair and replacement conforms to the rules Tepair or replacement of the ASME Code, Section XI. Type Code Symbol Stamp: N/A Expiration Date: N/A Certificate of Authorization No: N/A 1/25/99 Supervising ASME Codes Engineer Signed: Owner or Owner's Designee, Title CERTIFICATE OF INSPECTION I, the undersigned holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of California, and employed by Arkwright Mutual Insurance Company of Waltham, Massachusetts have inspected the components described in this Owner's Report during the period and state that to the best of my knowledge and belief, the Owner to has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI. By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection. Commissions 1862 National Board, State, Province, and Endorsements Inspector's Signature

As Required by the Provisions of the ASME Code SectionXI

Southern California Edison Company 1. Owner:

2244 Walnut Grove Avenue

MO:

97110617000 (weld)

Rosemead, California 91770

Rspec: 214-97

N

San Onofre Nuclear Generating Station 2. Plant:

P&ID: N/A

Unit:

San Clemente, California 92674-0128

N-5: N/A

Southern California Edison Company 3. Work Performed by:

Type Code Symbol Stamp: N/A

Authorization No: Expiration Date:

N/A N/A

97101074000 97120539000 (mach),

4. Identification of System: Reactor Coolant

5. (a) Applicable Construction Code: ASME Section III, Class 1, 1971 Edition, Summer 1972 Addenda; Code Case: N-474-1

(b) Applicable Edition of Section XI Utilized for Repairs or Replacements: 1989 Edition, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components:

Name of Component	Name Of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced or Replacement	ASME Code Stamped Yes/No
RCS Loop PDT type 2 Nozzle	SCE	214-97	SB166 N06690, SA312- 316L		N/A	Replacement	No

7. Description of Work:

A spare PDT type 2 nozzle was fabricated. The INCONEL 690 piece was machined from SB-166, alloy N06690 bar stock (RSO 1646-97, Ht. NX0643HG1, Lot 136503). After machining, all accessible surfaces were PT examined (3PT-070-98). A stainless steel safe-end, SA312, type 316L, 3/4" NPS schedule 160 pipe (RSO 1711-97, Ht. 435702 was welded to the INCONEL per WR2/3-97-486. The final weld was PT examined (2PT-137-98) and RT examined (2RT-021-98). The hydrotest exemption (</= 1" NPS) of IWA-4700 was taken for fabrication of this part.

8. Tests Conducted: N/A

Pressure: N/A

9. Remarks: None.

(Applicable Manufacturers Data Reports are available on-site)
· · · · · · · · · · · · · · · · · · ·
CERTIFICATE OF COMPLIANCE
We certify that the statements made in the report are correct and this of the ASME Code, Section XI. repair and replacement conforms to the rules repair or replacement
Type Code Symbol Stamp: N/A
Certificate of Authorization No: N/A Expiration Date: N/A
Signed: Supervising ASME Codes Engineer Date: 4/20/98 Owner or Owner's Designee, Title
CERTIFICATE OF INSPECTION
I, the undersigned holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of <u>California</u> , and employed by <u>Arkwright Mutual Insurance Company</u> of <u>Waltham, Massachusetts</u> have inspected the components described in this Owner's Report during the period
By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.
Inspector's Signature Commissions 1862 California National Board, State, Province, and Endorsements
Date April 22, 1998

As Required by the Provisions of the ASME Code Section XI

Owner:

Plant:

2.

3.

Southern California Edison Company

2244 Walnut Grove Avenue, Rosemead, CA 91770

San Onofre Nuclear Generating Station

San Clemente, CA 92674-0128

Work Performed by: Southern California Edison

Sheet 1 of 1 Unit: CWO:

97101538000

FCN(S):

F13928M, F13933M,

F13948M, F13953M

Repair Spec:

221-97, Rev. 0

P&ID:

40111A

S2-1201-3

N-5:

Type Code Symbol Stamp:

N/A

4. Identification of System: **REACTOR COOLANT (1201)**

Authorization No:

N/A

Expiration Date:

N/A

5. (a)

Applicable Construction Code: ASME Section III, Class 1, 1971 Edition, S'72 Addenda, Code Cases: N-474-1

Applicable Edition of Section XI Utilized for Repairs or Replacements: 1989 Edition, No Addenda (b)

6. Identification of Components Repaired or Replaced and Replacement Components:

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped Yes/No
INCONEL 690 Half Nozzle	SCE	175-97	N/A	2TW0138A	N/A	Replacement	No
INCONEL 690 Half Nozzle	SCE	169-97	N/A	2TW0138D	N/A	Replacement	No
INCONEL 690 Half Nozzle	SCE	172-97	N/A	2TE0112-2	N/A	Replacement	No
INCONEL 690 Half Nozzle	SCE	182-97	N/A	2TE0112-3	N/A	Replacement	No
INCONEL 690 Thermowell	SCE	143-97	N/A	2TW0138A	N/A	Replacement	No
INCONEL 690 Thermowell	SCE	161-97	N/A	2TW0138D	N/A	Replacement	No
INCONEL 690 Thermowell	SCE	140-97	N/A	2TE0112-2	N/A	Replacement	No
INCONEL 690 Thermowell	SCE	132-97	N/A	2TE0112-3	N/A	Replacement	No

7. Description of Work:

As a leak prevention measure, the INCONEL 600 nozzles in instrument locations 2TW0138-A. 2TW0138-D, 2TE0112-2, 2TE0112-3 were replaced with INCONEL 690 half nozzles. The existing thermowells in those instrument locations were also replaced using INCONEL 690 thermowells. Cutting, milling, pre-heat and installation of the nozzles was performed in accordance with Repair Spec. 221-97, Rev. 0 and weld records WR2-97-510 and WR2-97-511. Instrument nozzles are located on C.E. Spool 503-01 (E-089 Hot Leg).

8. Tests Conducted: System Leakage [X] System Functional [] System Inservice [] Hydrostatic [] Pneumatic [] Other []

Pressure: NOP Temp: N/A (Reference: AR #980100396-08 for VT-2)

	(Applicable Manufacturer's Data Reports to be attached)
	CERTIFICATE OF COMPLIANCE
We certify that the statements made in the re	eport are correct and this <u>replacement</u> conforms to the rules of the ASME Code, Section XI.
Type Code Symbol Stamp: N/A	
Certificate of Authorization No: N/A	Expiration Date: N/A
Signed: <u>Oll Mei</u> Owner or Owner's Designee, Title	Supervising ASME Codes Engineer Date: 5/29, 19 98
	CERTIFICATE OF INSPECTION
<u>California</u> , and employed by <u>Arkwright</u> in this Owner's Report during the period	on issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of Mutual Insurance Company of Waltham, Massachusetts have inspected the components describe
corrective measures described in this Owner	ctor nor his employer makes any warranty, expressed or implied, concerning the examinations and s Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any of any kind arising from or connected with this inspection.
1 Sillion	Commissions <u>/862</u> California (National Board, State, Province, and Endorsements)
Inspector's Signature	(valional board, state, Flovince, and Endorsements)

As Required by the Provisions of the ASME Code Section XI

Owner:

2.

4.

Southern California Edison Company

2244 Walnut Grove Avenue, Rosemead, CA 91770

Plant:

San Onofre Nuclear Generating Station

3.

Identification of System:

San Clemente, CA 92674-0128

Work Performed by: Southern California Edison

Sheet 1 of 1

Unit:

CWO:

97101554000

FCN(S):

F13938M, F13943M,

Repair Spec:

F13958M, F13963M

222-97, Rev. 0 40111A

P&ID:

N-5:

S2-1201-3

Type Code Symbol Stamp:

Authorization No:

N/A N/A

Expiration Date:

N/A

5. (a) Applicable Construction Code: ASME Section III, Class 1, 1971 Edition, S'72 Addenda, Code Cases: N-474-1

(b)

Applicable Edition of Section XI Utilized for Repairs or Replacements: 1989 Edition, No Addenda

REACTOR COOLANT (1201)

6. Identification of Components Repaired or Replaced and Replacement Components:

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped Yes/No
INCONEL 690 Half Nozzle	SCE	170-97	N/A	2TW0139-A	N/A	Replacement	No
INCONEL 690 Half Nozzle	SCE	188-97	N/A	2TW0139-D	N/A	Replacement	No
INCONEL 690 Half Nozzle	SCE	183-97	N/A	2TE0122-2	N/A	Replacement	No
INCONEL 690 Half Nozzle	SCE	173-97	N/A	2TE0122-3	N/A	Replacement	No
INCONEL 690 Thermowell	SCE	146-97	N/A	2TW0139-A	N/A	Replacement	No
INCONEL 690 Thermowell	SCE	159-97	N/A	2TW0139-D	N/A	Replacement	No
INCONEL 690 Thermowell	SCE	162-97	N/A	2TE0122-2	N/A	Replacement	No
INCONEL 690 Thermowell	SCE	156-97	N/A	2TE0122-3	N/A	Replacement	No

7. Description of Work:

As a leak prevention measure, the INCONEL 600 nozzles in instrument locations 2TW0139-A, 2TW0139-D, 2TE0122-2, 2TE0122-3 were replaced with INCONEL 690 half nozzles. The existing thermowells in those instrument locations were also replaced using INCONEL 690 thermowells. Cutting, milling, pre-heat and installation of the nozzles was performed in accordance with Repair Spec. 222-97, Rev. 0 and weld records WR2-97-512 and WR2-97-513. Instrument nozzles are located on C.E. Spool 503-03 (E-088 Hot Leg).

8. Tests Conducted: System Leakage [X] System Functional [] System Inservice [] Hydrostatic [] Pneumatic [] Other [] Pressure: NOP Temp: N/A

(Reference: AR #980100396-07 for VT-2)

	(Applicable Manufacturer's Data Reports to be attached)
	CERTIFICATE OF COMPLIANCE
We certify	that the statements made in the report are correct and this <u>replacement</u> conforms to the rules of the ASME Code, Section XI.
Type Code	Symbol Stamp: N/A
Certificate	of Authorization No: N/A Expiration Date: N/A
Signed: Ow	Muleral Supervising ASME Codes Engineer Date: 4/11, 1998
•	
	CERTIFICATE OF INSPECTION
California in this Ow belief, the	rsigned holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province at an an employed by <u>Arkwright Mutual Insurance Company</u> of <u>Waltham, Massachusetts</u> have inspected the components describer's Report during the period <u>O//5/9</u> to <u>O/4/3/9</u> , and state that to the best of my knowledge and Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirement Code, Section XI.
corrective	this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any nigrry or property damage or a loss of any kind arising from or connected with this inspection.
	Commissions /862 California (National Board, State, Province, and Endorsements)
Ins	

As Required by the Provisions of the ASME Code SectionXI

1. Owner:

2. Plant:

Southern California Edison Company

2244 Walnut Grove Avenue

Rosemead, California 91770

San Onofre Nuclear Generating Station

San Clemente, California 92674-0128

3. Work Performed by:

Southern California Edison Company

4. Identification of System: Chemical and Volume Control

Unit:

97101664000 98061176000 MO:

Rspec: ASME SECTION XI DATA-0244, 106-98

P&ID: 40123A (G2)

N-5: S2-1208-3

Type Code Symbol Stamp: N/A Authorization No:

Expiration Date:

N/A

5. (a) Applicable Construction Code: ASME Section III. Class 2. 1971 Edition. Summer 1973 Addenda: Code Case: None

(b) Applicable Edition of Section XI Utilized for Repairs or Replacements:

1989 Edition. No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components:

Name of Component	Name Of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced or Replacement	ASME Code Stamped Yes/No
2" 1500# SS Y-Globe Valve	Kerotest	ABR12-10	N/A	S21208MU164	1984	Repaired	Yes
Stem & Disc Assembly	Kerotest	ALH3/AKJ-3	N/A	RSO-5821-85, SA479, 316 Stellite Hardface	1985	Replacement	Yes

7. Description of Work:

The valve in plant location S21208MU164 was found difficult to open or close throughout its entire travel. The bonnet seal weld was cut to gain access to the valve internals. The stem and disc assembly was replaced with an in-kind replacement in accordance with MO 97101664. The seal weld was reapplied in accordance with MO 98061176, weld record WR2-98-189 and Repair Specification 106-98. NDE examination (2PT-194-98) of the completed seal weld was performed with satisfactory results. Reference: AR 971000817

8. Tests Conducted: System Inservice Pressure Test

See: AR 91000817-2

Pressure: NOP

Temp: NOT

	(Applicable Manufacturer's Dat	a Reports are available on-site)	
	CERTIFICATE O	F COMPLIANCE	
We certify that the statements made in the refit the ASME Code, Section XI.	eport are correct and	this repair and representation replacement	
ype Code Symbol Stamp: N/A			
Gertificate of Authorization No: N/A Gigned: Sur Owner or Owner's Designee, Title	Expiration	n Date: N/A les Engineer Dat	re:
	CERTIFICATE C	F INSPECTION	
the undersigned holding a valid commission he State or Province of <u>California</u> , and em <u>Waltham. Massachusetts</u> have inspected to <u>////98</u> to <u>////99</u> to <u>////99</u> to <u>////99</u> to requirements of the ASME Code, Section X	ployed by <u>Arkwrig</u> the components desc , and stat ective measures desc	ht Mutual Insurance ribed in this Owner's e that to the best of m	e Company of Report during the period y knowledge and belief the Owner
By signing this certificate, neither the Inspective measures descriptions and corrective measures descriptions are the liable in any manner for a connected with this inspection.	ribed in this Owner's	Report. Furthermore	e, neither the Inspector nor his
Inspector's Signature	Commissions		California tte, Province, and Endorsements
Date /// 1999		i vacional Doard, Da	, 110 moo, and 1 moors month

As Required by the Provisions of the ASME Code Section XI

1. Owner:

Plant:

2.

Southern California Edison Company

San Onofre Nuclear Generating Station San Clemente, CA 92674-0128

2244 Wainut Grove Avenue, Rosemead, CA 91770

Sheet 1 of 1

Unit:

CWO: 97101957001

DCP: N/A

Repair Spec:

232-97, REV. 3 P&ID: 40111B (E5)

N-5:

S2-1201-2

Work Performed by: Southern California Edison 3.

Type Code Symbol Stamp:

N/A

Authorization No:

N/A

Identification of System: 4.

REACTOR COOLANT (1201)

Expiration Date:

N/A

Applicable Construction Code: ASME Section III, Class 1, 1971 Edition, S'71 Addenda, Code Cases: 1588 & 1820 5. (a)

Applicable Edition of Section XI Utilized for Repairs or Replacements: 1989 Edition, No Addenda (b)

Identification of Components Repaired or Replaced and Replacement Components: 6.

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped Yes/No
PRESSURIZER HEATER	C.E.	S/N 1, Code # J6421	N/A	S21201ME605	1983	Replaced	Yes
PRESSURIZER HEATER	C.E.	S/N 10, Code # J-7032-10	N/A	RSO-0365-93/4723- 85, SA213 Tp.316 & SA479 Tp.316	1986	Replacement	Yes

7. Description of Work:

A replacement shot-preened pressurizer heater was installed in location \$21201ME605 per Repair Spec. 232-97 Rev. 3 and Weld Record WR2-98-028, weld "A".

Tests Conducted: System Leakage [X] System Functional [] System Inservice [] Hydrostatic [] Pneumatic [] Other [] 8.

Temp: NOT Pressure: NOP (Ref: AR#970300715-13 for VT-2)

this form, and (4) each sheet is initialed and dated by the Owner or Owner's Designee and the AIA.

CERTIFICATE OF COMPLIANCE We certify that the statements made in the report are correct and this repair and replacement conforms to the rules of the ASME Code, Section of Type Code Symbol Stamp: N/A Certificate of Authorization No: N/A		(Applicable Manufacturer's Data Reports to be attached)
Certificate of Authorization No: N/A Expiration Date: N/A Signed: Supervising ASME Codes Engineer Date: 5/9, 19 58 CERTIFICATE OF INSPECTION I, the undersigned holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of California, and employed by Arkwright Mutual Insurance Company of Waltham, Massachusetts have inspected the components describin this Owner's Report during the period to and state that to the best of my knowledge and belief, the Owner has performed examinations and taken confective measures described in this Owner's Report in accordance with the requirement the ASME Code, Section XI. By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.		CERTIFICATE OF COMPLIANCE
Certificate of Authorization No: N/A Expiration Date: N/A Signed: Supervising ASME Codes Engineer Date: 5/9, 19 58 CERTIFICATE OF INSPECTION I, the undersigned holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of California, and employed by Arkwright Mutual Insurance Company of Waltham, Massachusetts have inspected the components describin this Owner's Report during the period to an adstate that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirement the ASME Code, Section XI. By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.	We certify that the statements made in the	report are correct and this repair and replacement conforms to the rules of the ASME Code, Section X
Signed:	Type Code Symbol Stamp: N/A	
CERTIFICATE OF INSPECTION I, the undersigned holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of California, and employed by Arkwright Mutual Insurance Company of Waltham, Massachusetts have inspected the components describe in this Owner's Report during the period for any knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirementhe ASME Code, Section XI. By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.	Certificate of Authorization No: N/A	Expiration Date: N/A
I, the undersigned holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of California, and employed by Arkwright Mutual Insurance Company of Waltham, Massachusetts have inspected the components describe in this Owner's Report during the period to Assachusetts have inspected the components described in this Owner's Report during the period to Assachusetts have inspected the components described in this Owner's Report in accordance with the requirement he ASME Code, Section XI. By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.		Supervising ASME Codes Engineer Date: 5/29, 19 98
I, the undersigned holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of California, and employed by Arkwright Mutual Insurance Company of Waltham, Massachusetts have inspected the components describe in this Owner's Report during the period Insurance Company of Waltham, Massachusetts have inspected the components described in this Owner's Report during the period Insurance Company of Waltham, Massachusetts have inspected the components described in this Owner's Report in accordance with the requirement the ASME Code, Section XI. By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property samage or a loss of any kind arising from or connected with this inspection.		
California, and employed by Arkwright Mutual Insurance Company of Waltham, Massachusetts have inspected the components described in this Owner's Report during the period to and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirement he ASME Code, Section XI. By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.		CERTIFICATE OF INSPECTION
corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury of property damage or a loss of any kind arising from or connected with this inspection.	<u>California</u> , and employed by <u>Arkwrig</u> in this Owner's Report during the period _ belief, the Owner has performed examinat	th Mutual Insurance Company of Waltham, Massachusetts have inspected the components describe and state that to the best of my knowledge and
Inspector's Signature Commissions	corrective measures described in this Own	ner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any
	Inspector's Signature	Commissions / SL2 California (National Board, State, Province, and Endorsements)
Dac flac 2, 19 58		4/

As Required by the Provisions of the ASME Code SectionXI

1. Owner: Southern California Edison Company

2244 Walnut Grove Avenue

Rosemead, California 91770

2. Plant: San Onofre Nuclear Generating Station

San Clemente, California 92674-0128

3. Work Performed by: Bechtel Construction Company

P.O. Box 450

San Clemente, CA. 92674-0128

Unit: 2

MO: 97110434000

FCN: F13931M, F13932M

Rspec: 231-97

P&ID: 40111B (E5)

N-5: \$2-1201-2

Type Code Symbol Stamp: N/A

Authorization No:

N/A

Expiration Date:

N/A

4. Identification of System: Reactor Coolant

5. (a) Applicable Construction Code: ASME Section III, Class 1, 1971 Edition, Summer 1971 Addenda; Code Case: None

(b) Applicable Edition of Section XI Utilized for Repairs or Replacements: 1989 Edition, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components:

Name of Component	Name Of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced or Replacement	ASME Code Stamped Yes/No
Pressurizer	ABB Combustion Engineering	CE70602	21495	S21201ME087	1971	Repaired	Yes
Lower Flange	ABB Combustion Engineering	Ht.# 93150, E-MNSA- 228-004-1	N/A	RSO-1118-97, SA479 Tp.304	N/A	Replacement	No
Upper Flange-Top	ABB Combustion Engineering	Ht.# 93150, E-MNSA- 228-004-5	N/A	RSO-1118-97, SA479 Tp.304	N/A	Replacement	No .
Upper Flange-Bottom	ABB Combustion Engineering	Ht.# 93150, E-MNSA- 228-004-29	N/A	RSO-1118-97, SA479 Tp.304	N/A	Replacement	No
Seal Retainer	ABB Combustion Engineering	Ht.# 602675, E-MNSA- 228-004-2	N/A	RSO-1118-97, SA479 Tp.304	N/A	Replacement	No
Compression Collar	ABB Combustion Engineering	Ht.# 602675, E-MNSA- 228-004-3	N/A	RSO-1118-97, SA479 Tp.304	N/A	Replacement	No
Top Plate	ABB Combustion Engineering	Ht.# Y0817, E-MNSA- 228-004-6	N/A	RSO-1118-97, SA479 Tp.304	N/A	Replacement	No
Tie Rods (4 per assembly)	ABB Combustion Engineering	Ht.# 516097, E-MNSA- 228-004-15	N/A	RSO-1118-97, SA453 Gr.660	N/A	Replacement	No
Socket Head Screws (2 per assembly)	ABB Combustion Engineering	Ht.# 516560, E-MNSA- 228-004-23	N/A	RSO-1118-97, SA453 Gr.660	N/A	Replacement	No
Hex Head Bolts (1 per assembly)	ABB Combustion Engineering	Ht.# 517742, E-MNSA- 228-004-24	N/A	RSO-0113-98, SA453 Gr.660	N/A	Replacement	No
Hex Head Bolts (1 per assembly)	ABB Combustion Engineering	Ht.# 516560, E-MNSA- 228-004-24	N/A	RSO-1118-97, SA453 Gr.660	N/A	Replacement	No
Hex Head Bolts (1 per assembly)	ABB Combustion Engineering	Ht.# 6L9727, E-MNSA- 228-004-25	N/A	RSO-0113-98, SA453 Gr.660	N/A	Replacement	No
Hex Head Bolts (1 per assembly)	ABB Combustion Engineering	Ht.# 516560, E-MNSA- 228-004-25	N/A	RSO-1118-97, SA453 Gr.660	N/A	Replacement	No
Hex Nuts (12 per assembly)	ABB Combustion Engineering	Ht.# 516560, E-MNSA- 228-004-27	N/A	RSO-1118-97, SA453 Gr.660	N/A	Replacement	No

7. Description of Work:

Mechanical Nozzle Seal Assemblies (MNSAs) Part No. E-MNSA-228-001-1, were installed on the Bottom Pressurizer (S21201ME087) Level Nozzles for instruments 2LT0110-1 and 2LT0110-2 in accordance with Repair Specification 231-97 and per FCNs F13931M and F13932M. A VT-1 examination was performed on the replacement bolting and tie rods with satisfactory results. (Reference: NCR 980200400)

8. Tests Conducted: System Leakage Pressure Test

See: AR 980100396-13

Pres: NOP

Temp: NOT

9. Remarks: None.

(Applicable Manufacturer's Data Reports are available on-site CERTIFICATE OF COMPLIANCE We certify that the statements made in the report are correct and this repair and replacement conforms to the rules of the ASME Code, Section XI. repair or replacement Type Code Symbol Stamp: N/A Certificate of Authorization No: N/A Expiration Date: N/A Date: 3/17/98 Supervising ASME Codes Engineer Signed: CERTIFICATE OF INSPECTION I, the undersigned holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of California, and employed by Arkwright Mutual Insurance Company of Waltham, Massachusetts have inspected the components described in this Owner's Report during the period _, and state that to the best of my knowledge and belief, the Owner has pefformed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI. By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection Commissions __ National Board, State, Province, and Endorsements Inspector's Signature

As Required by the Provisions of the ASME Code Section XI

Owner:

2.

Plant:

Southern California Edison Company

San Onofre Nuclear Generating Station

2244 Walnut Grove Avenue, Rosemead, CA 91770

Sheet 1 of 1

Unit

CWO: 97110639000

FCN(S):

F14124M, F14134M, F14129M

Repair Spec:

223-97, Rev. 0

P&ID:

40111A

N-5:

S2-1201-3

Work Performed by: Southern California Edison

San Clemente, CA 92674-0128

Type Code Symbol Stamp:

N/A

Authorization No:

N/A

4. Identification of System: **REACTOR COOLANT (1201)**

Expiration Date:

N/A

Applicable Construction Code: ASME Section III, Class 1, 1971 Edition, S'72 Addenda, Code Cases: N-474-1 5. (a)

(b) Applicable Edition of Section XI Utilized for Repairs or Replacements: 1989 Edition, No Addenda

Identification of Components Repaired or Replaced and Replacement Components: 6.

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped Yes/No
INCONEL 690 Half Nozzle	SCE	180-97	N/A	2TE9178-1	N/A	Replacement	No
INCONEL 690 Half Nozzle	SCE	178-97	N/A	2TE9178-3	N/A	Replacement	No
INCONEL 690 Half Nozzle	SCE	179-97	N/A	2TE0111-Y1	N/A	Replacement	No
INCONEL 690 Thermowell	SCE	151-97	N/A	2TE9178-1	N/A	Replacement	No
INCONEL 690 Thermowell	SCE	160-97	N/A	2TE9178-3	N/A	Replacement	No
INCONEL 690 Thermowell	SCE	164-97	N/A	2TE0111-Y1	N/A	Replacement	No

7. Description of Work:

As a leak prevention measure, the INCONEL 600 nozzles in instrument locations 2TE9178-1, 2TE9178-3, 2TE0111-Y1 were replaced with INCONEL 690 half nozzles. The existing thermowells in those instrument locations were also replaced using INCONEL 690 thermowells. Cutting, milling, pre-heat and installation of the nozzles was performed in accordance with Repair Spec. 223-97, Rev. 0 and weld records WR2-97-514 and WR2-97-515. Instrument nozzles are located on C.E. Spool 504-01 (P-001 Cold Leg).

Tests Conducted: System Leakage [X] System Functional [] System Inservice [] Hydrostatic [] Pneumatic [] Other [] 8.

Pressure: NOP Temp:

(Reference: AR #980100396-09 for VT-2)

	(Applicable Manufacturer's Data Reports to be attached)	
	CERTIFICATE OF COMPLIANCE	
We certify that the stateme	ts made in the report are correct and this <u>replacement</u> conforms to the rules of the ASME Code, Section X	α.
Type Code Symbol Stamp	N/A	
Certificate of Authorizatio	No: N/A Expiration Date: N/A	
Signed: Mulic Owner or Owner's I	Supervising ASME Codes Engineer Date: 5/29, 1998	
California, and employed in this Owner's Report dur	CERTIFICATE OF INSPECTION valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Property Arkwright Mutual Insurance Company of Waltham, Massachusetts have inspected the componer of the period 1/2/1/2 to 1/2/2 and state that to the best of my knowledge.	nts describe
belief, the Owner has perfethe ASME Code, Section 2	med examinations and taken corrective measures described in this Owner's Report in accordance with the relations.	equirements
corrective measures descri	either the Inspector nor his employer makes any warranty, expressed or implied, concerning the examination of in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner tamage or a loss of any kind arising from or connected with this inspection.	ons and or for any
Insperior's Signatur	(National Board, State, Province, and Endorsements)	
Date Flace D,	1998	

As Required by the Provisions of the ASME Code Section XI

Owner:

Plant:

2.

3.

Southern California Edison Company

San Clemente, CA 92674-0128

San Onofre Nuclear Generating Station

2244 Walnut Grove Avenue, Rosemead, CA 91770

Sheet 1 of 1 Unit:

CWO:

97110641000

FCN(S):

F14149M, F14139M, F14144M

Repair Spec:

224-97, Rev. 1

P&ID: N-5:

40111A

Work Performed by: Southern California Edison

S2-1201-3

Type Code Symbol Stamp: Authorization No:

N/A

N/A

Expiration Date:

N/A

4. Identification of System: **REACTOR COOLANT (1201)**

- Applicable Construction Code: ASME Section III, Class 1, 1971 Edition, S'72 Addenda, Code Cases: N-474-1 5. (a)
 - Applicable Edition of Section XI Utilized for Repairs or Replacements: 1989 Edition, No Addenda (b)
- 6. Identification of Components Repaired or Replaced and Replacement Components:

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped Yes/No
INCONEL 690 Half Nozzle	SCE	202-97	N/A	2TE9179-2	N/A	Replacement	No
INCONEL 690 Half Nozzle	SCE	189-97	N/A	2TE9179-4	N/A	Replacement	No
INCONEL 690 Half Nozzle	SCE	186-97	N/A	2TE0121-Y2	N/A	Replacement	No
INCONEL 690 Thermowell	SCE	148-97	N/A	2TE9179-2	N/A	Replacement	No
INCONEL 690 Thermowell	SCE	135-97	N/A	2TE9179-4	N/A	Replacement	No
INCONEL 690 Thermowell	SCE	154-97	N/A	2TE0121-Y2	N/A	Replacement	No

7. Description of Work:

As a leak prevention measure, the INCONEL 600 nozzles in instrument locations 2TE9179-2, 2TE9179-4, 2TE0121-Y2 were replaced with INCONEL 690 half nozzles. The existing thermowells in those instrument locations were also replaced using INCONEL 690 thermowells. Cutting, milling, pre-heat and installation of the nozzles was performed in accordance with Repair Spec. 224-97, Rev. 1 and weld records WR2-97-516 and WR2-97-517. Instrument nozzles are located on C.E. Spool 505-04 (P-002 Cold Leg).

Tests Conducted: System Leakage [X] System Functional [] System Inservice [] Hydrostatic [] Pneumatic [] Other [] 8. Pressure: NOP Temp:

(Reference: AR #980100396-10 for VT-2)

CERTIFICATE OF COMPLIANCE We certify that the statements made in the report are correct and this replacement conforms to the rules of the ASME Code, Section XI. Type Code Symbol Stamp: N/A Certificate of Authorization No: N/A Expiration Date: N/A Signed:		(A ₁	pplicable Manufa	cturer's Data Reports	to be attached)	
Certificate of Authorization No: N/A Expiration Date: N/A Signed: Supervising ASME Codes Engineer Date: 5/29 19 98 CERTIFICATE OF INSPECTION I, the undersigned holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of California, and employed by Arkwright Mutual Insurance Company of Waltham Massachusetts have inspected the components described in this Owner's Report during the period in this Owner's Report during the period and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report of in accordance with the requirement the ASME Code, Section XI. By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property strange or a loss of any kind arising from or connected with this inspection. Commissions California			CERTIFIC	ATE OF COMPL	IANCE	
Certificate of Authorization No: N/A Expiration Date: N/A Signed:	We certify that the stateme	nts made in the repor	rt are correct and	this <u>replacement</u> co	onforms to the rules of th	e ASME Code, Section XI.
CERTIFICATE OF INSPECTION I, the undersigned holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of California, and employed by Arkwright Mutual Insurance Company of Waltham Massachusetts have inspected the components described in this Owner's Report during the period to and taken corrective measures described in this Owner's Report in accordance with the requirement the ASME Code, Section XI. By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report in accordance with the requirement of the ASME Code, Section XI. By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property agrage or a loss of any kind arising from or connected with this inspection. Commissions California	Type Code Symbol Stamp	N/A				
CERTIFICATE OF INSPECTION I, the undersigned holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of California, and employed by Arkwright Mutual Insurance Company of Waltham Massachusetts have inspected the components description in this Owner's Report during the period to and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirement the ASME Code, Section XI. By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection. Commissions 1862 California	Certificate of Authorizatio	n No: N/A	Expiration 1	Date: N/A		
I, the undersigned holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of California, and employed by Arkwright Mutual Insurance Company of Waltham Massachusetts have inspected the components description this Owner's Report during the period			Supervising ASM	E Codes Engineer	Date: 5/29	19_98
I, the undersigned holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of California, and employed by Arkwright Mutual Insurance Company of Waltham Massachusetts have inspected the components description in this Owner's Report during the period						
I, the undersigned holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of California, and employed by Arkwright Mutual Insurance Company of Waltham Massachusetts have inspected the components description in this Owner's Report during the period to and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirement the ASME Code, Section XI. By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property duringe or a loss of any kind arising from or connected with this inspection. Commissions 1862 California					,	
I, the undersigned holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of California, and employed by Arkwright Mutual Insurance Company of Waltham Massachusetts have inspected the components description in this Owner's Report during the period to and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirement the ASME Code, Section XI. By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property duringe or a loss of any kind arising from or connected with this inspection. Commissions 1862 California						
California, and employed by Arkwright Mutual Insurance Company of Waltham Massachusetts have inspected the components descriped in this Owner's Report during the period			CERTIFIC	CATE OF INSPEC	TION	
to, and state that to the best of my knowledge and belief, the Owner's Report in accordance with the requirement the ASME Code, Section XI. By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property daylage or a loss of any kind arising from or connected with this inspection. Commissions	I, the undersigned holding	a valid commission i	ssued by the Nati	ional Board of Boiler	and Pressure Vessel Ins	pectors and the State or Province of
By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection. Commissions California	in this Owner's Report dur	ing the period //	WWW V	to 10/1/10	2 and state that t	a the hest of my knowledge and
corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property change or a loss of any kind arising from or connected with this inspection. Commissions 1862 California	the ASME Code, Section	твео ехапшанов з И.	ind taken correct	ive measures describ	ed in this Owner's Repor	t in accordance with the requirement
personal injury or property diprage or a loss of any kind arising from or connected with this inspection. Commissions 1862 California	By signing this certificate,	neither the Inspector	nor his employe	r makes any warranty	, expressed or implied, o	concerning the examinations and
	personal injury or property	dappage or a loss of	any kind arising:	ore, neither the Inspe from or connected w	ctor nor his employer sh th this inspection.	all be liable in any manner for any
		mase		Commiss	ions 1862	California
	Inspector's Signatur					
		,				

As Required by the Provisions of the ASME Code Section XI

Owner:

2.

3.

Plant:

Southern California Edison Company

2244 Walnut Grove Avenue, Rosemead, CA 91770

San Onofre Nuclear Generating Station San Clemente, CA 92674-0128

G III

Work Performed by: Southern California Edison

4. Identification of System:

REACTOR COOLANT (1201)

Sheet I of 1

Unit:

CWO: 97110642000

FCN(S): F14

F14154M, F14164M, F14159M

Repair Spec: P&ID: 225-97, Rev. 1 40111A

P&ID: N-5:

S2-1201-3

Type Code Symbol Stamp:

N/A

Authorization No: Expiration Date: N/A

N/A

5. (a) Applicable Construction Code: ASME Section III, Class 1, 1971 Edition, S'72 Addenda, Code Cases: N-474-1

(b) Applicable Edition of Section XI Utilized for Repairs or Replacements: 1989 Edition, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components:

							ASME
						Repaired,	Code
N 6	Name of	Manufacturer	National	Other	Year	Replaced, or	Stamped
Name of Component	Manufacturer	Serial No.	Board No.	Identification	Built	Replacement	Yes/No
	SCE	185-97	N/A	2TE9178-2	N/A	Replacement	No
INCONEL 690 Half Nozzie	SCE	184-97	N/A	2TE9178-4	N/A	Replacement	No
INCONEL 690 Half Nozzle		177-97	N/A	2TE0115-2	N/A	Replacement	No
INCONEL 690 Half Nozzle	SCE			2TE9178-2	N/A	Replacement	No
INCONEL 690 Thermowell	SCE	144-97	N/A		N/A	Replacement	No
INCONEL 690 Thermowell	SCE	163-97	N/A	2TE9178-4			No
INCONEL 690 Thermowell	SCE	142-97	N/A	2TE0115-2	N/A	Replacement	1 100

Description of Work:

As a leak prevention measure, the INCONEL 600 nozzles in instrument locations 2TE9178-2, 2TE9178-4, 2TE0115-2 were replaced with INCONEL 690 half nozzles. The existing thermowells in those instrument locations were also replaced using INCONEL 690 thermowells. Cutting, milling, pre-heat and installation of the nozzles was performed in accordance with Repair Spec. 225-97, Rev. 1 and weld records WR2-97-518 and WR2-97-519. Instrument nozzles are located on C.E. Spool 505-01 (P-003 Cold Leg).

8. Tests Conducted: System Leakage [X] System Functional [] System Inservice [] Hydrostatic [] Pneumatic [] Other []

Pressure: NOP Temp: N/A

Pressure: NOP Temp: N/A (Reference: AR #980100396-11 for VT-2)

	(Applicable Manufacturer's Data Reports to be attached)
	CERTIFICATE OF COMPLIANCE
We certify that the stateme	ents made in the report are correct and this <u>replacement</u> conforms to the rules of the ASME Code, Section XI.
Type Code Symbol Stamp	: N/A
Certificate of Authorization	on No: N/A Expiration Date: N/A
Signed: Money's Owner's	Supervising ASME Codes Engineer Date: 5/29, 1998 Designee, Title
	CERTIFICATE OF INSPECTION
California, and employed	a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of by Arkwright Mutual Insurance Company of Waltham, Massachusetts have inspected the components describeding the period
corrective measures descr	neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and ibed in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any samage or a loss of any kind arising from or connected with this inspection.
Inspector's Signatu	Commissions 1862 California (National Board, State, Province, and Endorsements)
Date Jul 2,	19 <i>G8</i>

Remarks: None.

As Required by the Provisions of the ASME Code Section XI

Owner: 1.

Southern California Edison Company

2244 Walnut Grove Avenue, Rosemead, CA 91770

Unit:

97110643000

CWO: FCN:

Sheet 1 of 1

F14169M, F14179M, F14174M

2. Plant:

San Onofre Nuclear Generating Station

P&ID:

Repair Spec:

226-97, REV. 1

San Clemente, CA 92674-0128

40111A

N-5:

S2-1201-3

3.

Work Performed by: Southern California Edison

Type Code Symbol Stamp:

N/A

Identification of System: 4.

REACTOR COOLANT (1201)

Authorization No: Expiration Date:

N/A

N/A

Applicable Construction Code: ASME Section III, Class 1, 1971 Edition, S'72 Addenda, Code Cases: N-474-1 5. (a)

Applicable Edition of Section XI Utilized for Repairs or Replacements: 1989 Edition, No Addenda (b)

Identification of Components Repaired or Replaced and Replacement Components: 6.

Name of	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired. Replaced, or Replacement	ASME Code Stamped Yes/No
Component		168-97	N/A	2TE9179-1	N/A	Replacement	No
INCONEL 690 Half Nozzle	SCE	195-97	N/A	2TE9179-3	N/A	Replacement	No
INCONEL 690 Half Nozzle	SCE	181-97	N/A	2TE0125-1	N/A	Replacement	No
INCONEL 690 Half Nozzle	SCE	141-97	N/A	2TE9179-1	N/A	Replacement	No
INCONEL 690 Thermowell	SCE		N/A	2TE9179-3	N/A	Replacement	No
INCONEL 690 Thermowell	SCE SCE	153-97 150-97	N/A	2TE0125-1	N/A	Replacement	No

Description of Work:

As a leak prevention measure the INCONEL 600 nozzles in instrument locations 2TE9179-1, 2TE9179-3, 2TE0125-1 were replaced with INCONEL 690 half nozzles. The existing thermowells in those instrument locations were also replaced using INCONEL 690 thermowells. Cutting, milling, pre-heat and installation of the nozzles was performed in accordance with Repair Spec. 226-97 Rev. 1 and weld records WR2-97-520 and WR2-97-521. Instrument nozzles are located on C.E. Spool 504-04 (P-004 Cold Leg).

Tests Conducted: System Leakage [X] System Functional [] System In-service [] Hydrostatic [] Pneumatic [] Other [] 8.

Temp: N/A Pressure: NOP

(Reference: AR #980100396-12 for VT2)

	(Applicable Manufacturer's Data Reports to be attached)
	CERTIFICATE OF COMPLIANCE
We certify that the statements made in the re	eport are correct and this <u>replacement</u> conforms to the rules of the ASME Code, Section XI.
Type Code Symbol Stamp: N/A	and a section Al.
Certificate of Authorization No: N/A	Expiration Date: N/A
Signed:Owner's Designee, Title	
	CERTIFICATE OF INSPECTION
in this Owner's Report during the period	CERTIFICATE OF INSPECTION on issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province Mutual Insurance Company of Waitham, Massachusetts have inspected the components described to, and state that to the best of my knowledge and his and taken corrective measures described in this Owner's Report in accordance with the requirement.
in this Owner's Report during the period belief, the Owner has performed examination the ASME Code, Section XI. By signing this certificate, neither the Inspector corrective measures described in this Owner.	on issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province Mutual Insurance Company of Waltham, Massachusetts have inspected the components described by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province

As Required by the Provisions of the ASME Code SectionXI

1. Owner: Southern California Edison Company

2244 Walnut Grove Avenue

Rosemead, California 91770

Unit: 2

MO: 97111283000

Rspec: ASME SECTION XI DATA-0398

P&ID: 40124BSO2 (D3)

N-5: \$2-1208-5

San Onofre Nuclear Generating Station

San Clemente, California 92674-0128

Type Code Symbol Stamp: N/A

Authorization No:

N/A

4. Identification of System: Chemical and Volume Control

Expiration Date:

N/A

4. Identification of System. Chemical and volume Control

5. (a) Applicable Construction Code: ASME Section III, Class 2, 1974 Edition, Summer 1975 Addenda; Code Case: None

(b) Applicable Edition of Section XI Utilized for Repairs or Replacements: 1989 Edition, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components:

Southern California Edison Company

Name of Component	Name Of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced or Replacement	ASME Code Stamped Yes/No
Discharge Stablizer	Greer Hydraulics	GHI-2981	234	S21208MW219	1978		Yes
Bladder Assembly Valve Stem	ABB Combustion Engineering	Ht.# 32638, Lot 25729	N/A	RSO-0074-96, SA479 Gr.304	1995	Replacement	No

7. Description of Work:

2. Plant:

3. Work Performed by:

The valve stem, an integral attachment to the valve bladder assembly, was replaced due to bladder leakage.

8. Tests Conducted: <u>System Functional Pressure Test</u>

Pressure: NOP

Temp: N/A

9. Remarks: None.

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this replacement conforms to the rules of the ASME Code, Section XI. repair or replacement

Type Code Symbol Stamp: N/A

Certificate of Authorization No: N/A Expiration Date: N/A

Signed: Supervising ASME Codes Engineer Date: 4/1/98

Owner or Owner's Designee, Title

CERTIFICATE OF INSPECTION
I, the undersigned holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of California, and employed by Arkwright Mutual Insurance Company of Waltham, Massachusetts have inspected the components described in this Owner's Report during the period to OHIS/95, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.
By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection. Commissions California
Inspector's Signature National Board, State, Province, and Endorsements
Date (1918) 1978

As Required by the Provisions of the ASME Code SectionXI

Southern California Edison Company 1. Owner:

2244 Walnut Grove Avenue

Rosemead, California 91770

2. Plant:

3. Work Performed by:

San Clemente, California 92674-0128

San Onofre Nuclear Generating Station

Southern California Edison Company

4. Identification of System: Reactor Coolant

UNIT: 2/3

MO: See item 6 below

Rspec: Same as Serial No. (item 6)

P&ID: N/A

N-5: N/A

Type Code Symbol Stamp: N/A

Authorization No:

N/A

N/A Expiration Date:

5. (a) Applicable Construction Code: ASME Section III, Class 1, 1971 Edition. Summer 1972 Add. (design & fab): ASME III. Class 1, 1989 Edition, No Add.(material); Code Case: N-474-1

(b) Applicable Edition of Section XI Utilized for Repairs or Replacements: 1989 Edition, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components:

Name of Component	Name Of Manufacturer	Manufacturer Serial No.	M.O. / PT Report #	Other Identification	Replaced or Replacement	ASME Code Stamped Yes/No
RCS Loop Temperature Nozzle; Mat. Code 027-79858	SCE	236-97	97120525 97120732 2PT-138-98	RSO-1360-97, Ht. NX0264HG1 Lot 135888	Replacement	No
RCS Loop Temperature Nozzle; Mat. Code 027-79858	SCE	237-97	97120733 98012461 2PT-139-98	RSO-1360-97, Ht. NX0264HG1 Lot 135888	Replacement	No
RCS Loop Temperature Nozzle; Mat. Code 027-79858	SCE	238-97	97120735 98012462 2PT-140-98	RSO-1360-97, Ht. NX0264HG1 Lot 135888	Replacement	No
RCS Loop Temperature Nozzle; Mat. Code 027-79858	SCE	239-97	97120736 98012463 2PT-141-98	RSO-1360-97, Ht. NX0264HG1 Lot 135888	Replacement	No
RCS Loop Temperature Nozzle; Mat. Code 027-79858	SCE	240-97	97120737 98012464 2PT-142-98 2PT-197-98	RSO-1360-97, Ht. NX0264HG1 Lot 135888	Replacement	No
RCS Loop Temperature Nozzle; Mat. Code 027-79858	SCE	241-97	97120739 98012465 2PT-150-98	RSO-1360-97, Ht. NX0264HG1 Lot 135888	Replacement	No
RCS Loop Temperature Nozzle; Mat. Code 027-79858	SCE	242-97	97120740 98012466 2PT-143-98	RSO-1360-97, Ht. NX0264HG1 Lot 135888	Replacement	No

Description of Work:

(7) spare instrument nozzles were machined from SB166-N06690 (INCONEL 690) bar stock. Each nozzle was dimensionally verified and all accessible surfaces were PT examined. Ref Dwg: 41116, Sheet 1, Revision 1. Note: Pressure test will be performed at installation (IWA-7400, 1" and less NPS exemption taken for nozzle fab pressure test).

8. Tests Conducted: N/A

Pressure: N/A

Temp: N/A

9. Remarks: None.

(Applicable Manufacturer's Data Reports are available on-site)

•
CERTIFICATE OF COMPLIANCE
We certify that the statements made in the report are correct and this of the ASME Code, Section XI. replacement conforms to the rules repair or replacement
Type Code Symbol Stamp: N/A
Certificate of Authorization No: N/A Expiration Date: N/A Signed: Supervising ASME Codes Engineer Date: //28/99 Owner or Owner's Designee, Title
CERTIFICATE OF INSPECTION
I, the undersigned holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of California, and employed by Arkwright Mutual Insurance Company of Waltham, Massachusetts have inspected the components described in this Owner's Report during the period

As Required by the Provisions of the ASME Code SectionXI

1. Owner:

3. Work Performed by:

Southern California Edison Company

2244 Walnut Grove Avenue

Rosemead, California 91770

2. Plant:

San Clemente, California 92674-0128

San Onofre Nuclear Generating Station

Southern California Edison Company

4. Identification of System: Reactor Coolant

UNIT: 2/3

See item 6 below MO:

Rspec: Same as Serial No. (item 6)

P&ID: N/A

N/A N-5:

Type Code Symbol Stamp: N/A

Authorization No:

Expiration Date: N/A

5. (a) Applicable Construction Code: ASME Section III, Class 1, 1971 Edition, Summer 1972 Add. (design & fab); ASME III. Class 1, 1989 Edition, No Add.(material); Code Case: N-474-1

(b) Applicable Edition of Section XI Utilized for Repairs or Replacements: 1989 Edition, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components:

Name of Component	Name Of Manufacturer	Manufacturer Serial No.	M.O. / PT Report #	Other Identification	Repaired, Replaced or Replacement	ASME Code Stamped Yes/No
RCS Loop Temperature Nozzle; Mat. Code 027-79858	SCE	243-97	97120741 98012467 2PT-151-98	RSO-1360-97, Ht. NX0264HG1 Lot 135888	Replacement	No .
RCS Loop Temperature Nozzle; Mat. Code 027-79858	SCE	244-97	97120742 98012468 2PT-152-98	RSO-1360-97, Ht. NX0264HG1 Lot 135888	Replacement	No
RCS Loop Temperature Nozzle; Mat. Code 027-79858	SCE	245-97	97120743 98012469 2PT-144-98	RSO-1360-97, Ht. NX0264HG1 Lot 135888	Replacement	No
RCS Loop Temperature Nozzie; Mat. Code 027-79858	SCE	246-97	97120744 98012470 2PT-145-98	RSO-1360-97, Ht. NX0264HG1 Lot 135888	Replacement	No
RCS Loop Temperature Nozzle; Mat. Code 027-79858	SCE	247-97	97120746 98012471 2PT-146-98	RSO-1360-97, Ht. NX0264HG1 Lot 135888	Replacement	No
RCS Loop Temperature Nozzle; Mat. Code 027-79858	SCE	248-97	97120747 98012472 2PT-153-98	RSO-1360-97, Ht. NX0264HG1 Lot 135888	Replacement	No

^{7.} Description of Work:

8. Tests Conducted: N/A

Pressure: N/A

Temp: N/A

⁽⁶⁾ spare instrument nozzles were machined from SB166-N06690 (INCONEL 690) bar stock. Each nozzle was dimensionally verified and all accessible surfaces were PT examined. Ref Dwg: 41116, Sheet 1, Revision 1. Note: Pressure test will be performed at installation (IWA-7400, 1" and less NPS exemption taken for nozzle fab pressure test).

9. Remarks: None. (Applicable Manufacturer's Data Reports are available on-site) CERTIFICATE OF COMPLIANCE We certify that the statements made in the report are correct and this replacement conforms to the rules of the ASME Code, Section XI. Tepair or replacement Type Code Symbol Stamp: N/A Certificate of Authorization No: N/A Expiration Date: N/A Date: 1/28/99 Signed: Supervising ASME Codes Engineer Owner or Owner's Designee, Title CERTIFICATE OF INSPECTION I, the undersigned holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of California, and employed by Arkwright Mutual Insurance Company of Waltham, Massachusetts have inspected the components described in this Owner's Report during the period to 01/29/99 _, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI. By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection. Inspector's Signature Commissions National Board, State, Province, and Endorsements

As Required by the Provisions of the ASME Code SectionXI

Southern California Edison Company

2244 Walnut Grove Avenue

Rosemead, California 91770

Unit: 2

AR: 98010178200

Rspec: N/A

2. Plant:

San Onofre Nuclear Generating Station

San Clemente, California 92674-0128

P&ID: 40114D

N-5: S2-1204-37

3. Work Performed by:

Southern California Edison Company

Type Code Symbol Stamp: N/A

Authorization No:

4. Identification of System: Safety Injection and Shutdown Cooling

Expiration Date:

N/A

5. (a) Applicable Construction Code: ASME Section III, Class 2, 1974 Edition, Summer 1974 Addenda; Code Case: None

(b) Applicable Edition of Section XI Utilized for Repairs or Replacements: 1989 Edition, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components:

Name of Component	Name Of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced or Replacement	ASME Code Stamped Yes/No
Flued Head of Piping Containment Penetration #6	Ametek	141	N/A	S21204ML111	1976		Yes

7. Description of Work:

The flued head of penetration #6, marked with serial number 141, had the design parameters rerated. Previous design pressure was 1600 psig @ 200 deg. F and has been rerated to a design pressure of 1900 psig @ 400 deg. F per AR 980101782.

8. Tests Conducted: N/A

Pressure: N/A

Temp: N/A

(Ap	pphoable Manufacturer's Data Reports are available on-site)

C	CERTIFICATE OF COMPLIANCE
We certify that the statements made in the report the ASME Code, Section XI.	ort are correct and this replacement conforms to the rules
if the Abivil Code, booton 12.	sopra de supramental
Type Code Symbol Stamp: N/A	
Certificate of Authorization No: N/A	Expiration Date: N/A
Signed: Meill Super	vising ASME Codes Engineer Date: 8/28/98
Owner or Owner's Designee, Title	VEHIC PROPERTY DATE: DAT
	CERTIFICATE OF INSPECTION
	' 11 4 37 4' 10 1 00 " 10 T 17 4 1
	issued by the National Board of Boiler and Pressure Vessel Inspectors and
	oyed by Arkwright Mutual Insurance Company of
Waltham, Massachusetts have inspected the	components described in this Owner's Report during the period
	, and state that to the best of my knowledge and belief, the Owner
	tive measures described in this Owner's Report in accordance with the
requirements of the ASME Code, Section XI.	
Or cioning this certificate neither the Inspector	or nor his employer makes any warranty, expressed or implied, concerning the
	bed in this Owner's Report. Furthermore, neither the Inspector nor his
	y personal injury or property damage or a loss of any kind arising from or
connected with this inspection.	, posterior juny or proposty annuals or a total or injuny in injuny in injuny in injuny in injuny in injuny in
(6.11)	.015
Linomhom	Commissions 1862 California
Inspector's Signature	National Board, State, Province, and Endorsements
1	
Date <u>August 31, 149</u> 8	
Date <u>(CMMW) (O), 197</u> (S	

As Required by the Provisions of the ASME Code SectionXI

1. Owner:

Southern California Edison Company

2244 Walnut Grove Avenue

Rosemead, California 91770

2. Plant:

San Onofre Nuclear Generating Station

San Clemente, California 92674-0128

Work Performed by:

Southern California Edison Company

4. Identification of System: Reactor Coolant

2 Unit:

MO: 98010376000

Rspec: ASME SECTION XI DATA-0173

P&ID: 40111B (G7)

S2-1201-2 N-5:

Type Code Symbol Stamp: N/A

Authorization No: Expiration Date:

N/A N/A

5. (a) Applicable Construction Code: ASME Section III. Class 1, 1974 Edition, No Addenda; Code Case: None

(b) Applicable Edition of Section XI Utilized for Repairs or Replacements:

1989 Edition. No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components:

Name of Component	Name Of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced or Replacement	ASME Code Stamped Yes/No
6" x 8" Pressurizer	Dresser	BS-03210	N/A	2PSV0200	1978	Replaced	Yes
Safety Valve 6" x 8" Pressurizer Safety Valve	Dresser	BS-03212	N/A	RSO-0239-98	1978	Replacement	Yes

7. Description of Work:

The pressurizer safety valve was replaced for preventative maintenance action with a set-point tested spare valve. A VT-1 examination was performed on the existing inlet flange bolting with satisfactory results. The replacement valve body's internal surface was visually examined (VT-3) with satisfactory results. The removed valve was placed into the rebuild program.

8. Tests Conducted: System Leakage Pressure Test

See: AR 980701362-40

Pressure: NOP

Temp: NOT

	(Applicable Manufacturer's Data Reports are available on-site)
	CERTIFICATE OF COMPLIANCE
We certify that the statements made in the f the ASME Code, Section XI.	report are correct and this replacement conforms to the rules repair or replacement
Type Code Symbol Stamp: N/A	
Certificate of Authorization No: N/A Signed: Owner or Owner's Designee, Title	Expiration Date: N/A Supervising ASME Codes Engineer Date: 4/14/99 le
	CERTIFICATE OF INSPECTION
the State or Province of <u>California</u> , and twice the Mattham, Massachusetts have inspected to <u>041/5</u> has performed examinations and taken of requirements of the ASME Code, Section	
	spector nor his employer makes any warranty, expressed or implied, concerning the escribed in this Owner's Report. Furthermore, neither the Inspector nor his for any personal injury or property damage or a loss of any kind arising from or
connected with any mapped don.	
Inspector's Signature	Commissions 1862 California National Board, State, Province, and Endorsements

As Required by the Provisions of the ASME Code SectionXI

Southern California Edison Company 1. Owner:

2. Plant:

2244 Walnut Grove Avenue

Rosemead, California 91770

San Onofre Nuclear Generating Station

San Clemente, California 92674-0128

Southern California Edison Company 3. Work Performed by:

4. Identification of System: Reactor Coolant

Unit:

MO: 98010393000

Rspec: GEN-140 R2 P&ID: 40111B (G6)

N-5: S2-1201-2

Type Code Symbol Stamp: N/A

Authorization No:

N/A N/A

Expiration Date:

5. (a) Applicable Construction Code: ASME Section III, Class 1, 1971 Edition, Summer 1971 Addenda; Code Case: None

(b) Applicable Edition of Section XI Utilized for Repairs or Replacements: 1989 Edition. No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components:

Name of Component	Name Of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced or Replacement	Code Stamped Yes/No
Pressurizer	CE	70602	21495	S21201ME087	1976		Yes
1 1/2"-8N Manway Heavy Hex Nuts (20)	ABB Combustion	Ht.#M66401 H092, Ht. Code Y12		RSO-1244-98, SA193 Gr.B7	N/A	Replacement	No

7. Description of Work:

The pressurizer manway studs and nuts were removed and examined. All manway studs were acceptable for reuse, but all (20) manway nuts were replaced. The specific location of the replacement nuts was identified by etching the stud hole number onto the replacement nuts. A VT-1 examination was performed on the stude and the replacement nuts with satisfactory resuits.

8. Tests Conducted: System Leakage Pressure Test

See: AR 980701362-17

Pressure: NOP

Temp: NOT

P. Remarks: None.
(Applicable Manufacturer's Data Reports are available on-site)
CERTIFICATE OF COMPLIANCE
We certify that the statements made in the report are correct and this of the ASME Code, Section XI. replacement conforms to the rules repair or replacement
Type Code Symbol Stamp: N/A
Certificate of Authorization No: N/A Expiration Date: N/A Signed: Supervising ASME Codes Engineer Date: 4/26/99 Owner or Owner's Designee, Title
CERTIFICATE OF INSPECTION
I, the undersigned holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of California, and employed by Arkwright Mutual Insurance Company of Waltham, Massachusetts have inspected the components described in this Owner's Report during the period and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.
By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning th examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.
Inspector's Signature Commissions / L62 California National Board, State, Province, and Endorsements
Date April 21, 1999

As Required by the Provisions of the ASME Code SectionXI

1. Owner:

Southern California Edison Company

2244 Walnut Grove Avenue

Rosemead, California 91770

2. Plant:

San Onofre Nuclear Generating Station

San Clemente, California 92674-0128

3. Work Performed by:

Southern California Edison Company

4. Identification of System: Reactor Coolant

Unit: 2

98010421000 MO:

Rspec: ASME SECTION XI DATA-0173

P&ID: 40111B (G7)

S2-1201-2 N-5:

Type Code Symbol Stamp: N/A

Authorization No: Expiration Date:

N/A

5. (a) Applicable Construction Code: ASME Section III. Class 1, 1974 Edition, No Addenda; Code Case: None

(b) Applicable Edition of Section XI Utilized for Repairs or Replacements: 1989 Edition. No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components:

Name of Component	Name Of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced or Replacement	ASME Code Stamped Yes/No
6" x 8" Pressurizer Safety Valve	Dresser	BS-03211	N/A	2PSV0201 (to be rebuilt on MO 98110372)	1978	Replaced	Yes
6" x 8" Pressurizer Safety Valve	Dresser	BU-06253	N/A	RSO-0239-98	1980	Replacement	Yes

7. Description of Work:

The pressurizer safety valve was replaced for preventative maintenance action with a set-point tested spare valve. A VT-1 enterplaced on the existing flar to boilting with satisfactory results. The replacement valve body's internal surface was visually examine. When with satisfactory results. The removed value was placed into the rebuild program.

8. Tests Conducted: System Leakage Pressure Test

See: AR 980701362-40

Pressure: NOP

Temp: NOT

9. Remarks: None. (Applicable Manufacturer's Data Reports are available on-site) CERTIFICATE OF COMPLIANCE We certify that the statements made in the report are correct and this replacement conforms to the rules Tepair or replacement of the ASME Code, Section XI. Type Code Symbol Stamp: N/A Certificate of Authorization No: N/A Expiration Date: N/A 4/21/99 Supervising ASME Codes Engineer Signed: 6 Owner or Owner's Designee, Title CERTIFICATE OF INSPECTION I, the undersigned holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of California, and employed by Arkwright Mutual Insurance Company of Waltham, Massachusetts have inspected the components described in this Owner's Report during the period 12/3/38 to 11/21/99, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI. By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection. Commissions 1862 National Board, State, Province, and Endorsements Inspector's Signature Date (April 2) 1999

As Required by the Provisions of the ASME Code SectionXI

1. Owner:

2. Plant:

3. Work Performed by:

Southern California Edison Company

2244 Walnut Grove Avenue

Rosemead, California 91770

San Clemente, California 92674-0128

San Onofre Nuclear Generating Station

Southern California Edison Company

4. Identification of System: Main Steam

Unit: 2

98010466000 MO:

Rspec: ASME SECTION XI DATA-0189

P&ID: 40141D

S2-1301-1 N-5:

Type Code Symbol Stamp: N/A Authorization No:

Expiration Date:

N/A

5. (a) Applicable Construction Code: ASME Section III, Class 2. 1974 Edition, Summer 1974 Addenda: Code Case: None

(b) Applicable Edition of Section XI Utilized for Repairs or Replacements: 1989 Edition. No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components:

Name of Component	Name Of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced or Replacement	ASME Code Stamped Yes/No
6" x 10" Main Steam Safety Valve	Crosby Valve & Gage	N58737-00-0035	N/A	2PSV8405	1977	Replaced	Yes
6" x 10" Main Steam Safety Valve	Crosby Valve & Gage	N58737-01-0010	N/A	RSO-0007-98-01	1976	Replacement	Yes
1 3/8" x 9" Inlet Studs (12)	Nova Machine Products	Ht.#97138	N/A	RSO-1584-98, SA193 Gr.B7 (CR- 3005-96)	N/A	Replacement	No
1 3/8" Heavy Hex Inlet Nuts (12)	Nova Machine Products	Ht.#83633, Ht. Code FGS	N/A	RSO-1212-97, SA194 Gr.7 (CR- 3004-96), (SEE 92- 0065)	N/A	Replacement	No

7. Description of Work:

The main steam safety valve (2PSV8405) was replaced for preventative maintenance action with a set-point tested spare valve. During installation 12 inlet studs and nuts were also replaced. The removed valve was placed into the rebuild program to be rebuilt under MO 98120080.

8. Tests Conducted: System Inservice Pressure Test

See: AR 980701362-24

Pressure: NOP

Temp: N/A

9. Remarks: CR-3004-96 (nuts) and CR-3005-96 (studs) reconciles the replacement bolting which was certified to ASME III-2, 1989 Ed., No Add. SEE No. 92-0065 allows for the replacement of Gr.2H with Gr.7 (nuts).

(Applicable Manufacturer's Data Reports are available on-site)

CERTIFICATE OF COMPLIANCE
We certify that the statements made in the report are correct and this of the ASME Code, Section XI. replacement conforms to the rules repair or replacement
Type Code Symbol Stamp: N/A
Certificate of Authorization No: N/A Expiration Date: N/A
Signed: Supervising ASME Codes Engineer Date: 4/24/69 Owner or Owner's Designee, Title
CERTIFICATE OF INSPECTION
I, the undersigned holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of <u>California</u> and employed by <u>Arkwright Mutual Insurance Company</u> of
Waltham, Massachusetts have inspected the components described in this Owner's Report during the period 11/10/98 to 4/30/99, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.
By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.
California Commissions 1862 California
Inspector's Signature National Board, State, Province, and Endorsements
Date (20130, 1999)

As Required by the Provisions of the ASME Code SectionXI

1. Owner:

Southern California Edison Company

2244 Walnut Grove Avenue

Rosemead, California 91770

2. Plant:

3. Work Performed by:

San Onofre Nuclear Generating Station

San Clemente, California 92674-0128

Southern California Edison Company

4. Identification of System: Main Steam

Unit: 2

MO: 98010485000

Rspec: ASME SECTION XI DATA-0192

P&ID: 40141D S2-1301-1 N-5:

Type Code Symbol Stamp: N/A Authorization No:

N/A

Expiration Date:

N/A

5. (a) Applicable Construction Code: ASME Section III, Class 2, 1974 Edition. Summer 1974 Addenda: Code Case: None

(b) Applicable Edition of Section XI Utilized for Repairs or Replacements:

1989 Edition. No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components:

Name of Component	Name Of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced or Replacement	ASME Code Stamped Yes/No
6" x 10" Main Steam Safety Valve	Crosby Valve & Gage	N58737-00-0040	N/A	2PSV8408	1984	Replaced	Yes
6" x 10" Main Steam Safety Valve	Crosby Valve & Gage	N58737-01-0015	N/A	RSO-0007-98-01	1976	Replacement	Yes
1 3/8" x 9" Inlet Studs (12)	Nova Machine Products	Ht.#97138	N/A	RSO-1584-98, SA193 Gr.B7 (CR- 3005-96)	N/A	Replacement	No
1 3/8" Heavy Hex Inlet Nuts (12)	Nova Machine Products	Ht.#83633, Ht. Code FGS	N/A	RSO-1212-97, SA194 Gr.7 (CR- 3004-96), (SEE 92- 0065)	N/A	Replacement	No

Description of Work:

The main steam safety valve (2PSV8408) was replaced for preventative maintenance action with a set-point tested spare valve. During installation 12 inlet studs and nuts were also replaced. The removed valve was placed into the rebuild program to be rebuilt under MO 98120093.

8. Tests Conducted: System Inservice Pressure Test

See: AR 980701362-24

Pressure: NOP

Temp: N/A

9. Remarks: CR-3004-96 (nuts) and CR-3005-96 (studs) reconciles the replacement bolting which was certified to ASME III-2, 1989 Ed., No Add. SEE No. 92-0065 allows for the replacement of Gr.2H with Gr.7 (nuts).

(Applicable Mamifacturer's Data Reports are available on-site)

CERTIFICATE OF COMPLIANCE
We certify that the statements made in the report are correct and this of the ASME Code, Section XI. replacement conforms to the rules repair or replacement
Type Code Symbol Stamp: N/A
Certificate of Authorization No: N/A Expiration Date: N/A Signed: Supervising ASME Codes Engineer Date: 2/29/99 Owner or Owner's Designee, Title
CERTIFICATE OF INSPECTION
I, the undersigned holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of California, and employed by Arkwright Mutual Insurance Company of Waltham, Massachusetts have inspected the components described in this Owner's Report during the period
Inspector's Signature Commissions 1802 California National Board, State, Province, and Endorsements
Date affile 1999

As Required by the Provisions of the ASME Code SectionXI

1. Owner:

Southern California Edison Company

2244 Walnut Grove Avenue

Rosemead, California 91770

Unit:

98010494000 MO:

Rspec: ASME SECTION XI DATA-0186

P&ID: 40141C

2. Plant:

San Onofre Nuclear Generating Station

San Clemente, California 92674-0128

N-5: S2-1301-2

3. Work Performed by:

Southern California Edison Company

Type Code Symbol Stamp: N/A Authorization No:

4. Identification of System: Main Steam

Expiration Date:

N/A

5. (a) Applicable Construction Code: ASME Section III. Class 2. 1974 Edition, Summer 1974 Addenda: Code Case: None

(b) Applicable Edition of Section XI Utilized for Repairs or Replacements:

1989 Edition. No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components:

Name of Component	Name Of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced or Replacement	ASME Code Stamped Yes/No
6" x 10" Main Steam	Crosby Valve &	N58737-00-0026	N/A	2PSV8411	1977	Replaced	Yes
Safety Valve 6" x 10" Main Steam	Gage Crosby Valve &	N58737-01-0017	N/A	RSO-0007-98-01	1976	Replacement	Yes
Safety Valve	Gage	Ht.#97138	N/A	RSO-1584-98,	N/A	Replacement	No
1 3/8" x 9" Inlet Studs (12)	Nova Machine Products	HL#9/130	IWA	SA193 Gr.B7 (CR- 3005-96)			
1 3/8" Heavy Hex Inlet Nuts (12)	Nova Machine Products	Ht.#83633, Ht. Code FGS	N/A	RSO-1212-97, SA194 Gr.7 (CR- 3004-96), (SEE 92- 0065)	N/A	Replacement	No

7. Description of Work:

The main steam safety valve (2PSV8411) was replaced for preventative maintenance action with a set-point tested spare valve. During installation 12 inlet studs and nuts were also replaced. The removed valve was placed into the rebuild program to be rebuilt under MO 98120095.

8. Tests Conducted: System Inservice Pressure Test

See: AR 980701362-25

Pressure: NOP

9. Remarks: CR-3004-96 (nuts) and CR-3005-96 (studs) reconciles the replacement bolting which was certified to

ASME III-2, 1989 Ed., No Add. SEE No. 92-0065 allows for the replacement of Gr.2H with Gr.7 (nuts). (Applicable Manufacturer's Data Reports are available on-site) CERTIFICATE OF COMPLIANCE We certify that the statements made in the report are correct and this replacement conforms to the rules of the ASME Code, Section XI. Tepair or replacement Type Code Symbol Stamp: N/A Certificate of Authorization No: N/A Expiration Date: N/A 4/29/99 Supervising ASME Codes Engineer Signed: Date: Owner or Owner's Designee, Title CERTIFICATE OF INSPECTION I, the undersigned holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of California and employed by Arkwright Mutual Insurance Company of Waltham, Massachusetts have inspected the components described in this Owner's Report during the period 4/30/49, and state that to the best of my knowledge and belief, the Owner to has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI. By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Commissions

National Board, State, Province, and Endorsements

Date <u>april 30, 1999</u>

As Required by the Provisions of the ASME Code SectionXI

Southern California Edison Company Owner:

2244 Walnut Grove Avenue

Rosemead, California 91770

San Clemente, California 92674-0128

San Onofre Nuclear Generating Station

Southern California Edison Company 3. Work Performed by:

4. Identification of System: Main Steam

2. Plant:

Unit:

98010501000 MO:

Rspec: ASME SECTION XI DATA-0188

P&ID: 40141C

N-5: S2-1301-2

Type Code Symbol Stamp: N/A

Authorization No:

N/A

Expiration Date:

N/A

5. (a) Applicable Construction Code: ASME Section III. Class 2, 1974 Edition, Summer 1974 Addenda; Code Case: None

(b) Applicable Edition of Section XI Utilized for Repairs or Replacements: 1989 Edition. No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components:

Name of Component	Name Of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced or Replacement	ASME Code Stamped Yes/No
6" x 10" Main Steam Safety Valve	Crosby Valve & Gage	N58737-00-0039	N/A	2PSV8413	1984	Replaced	Yes
6" x 10" Main Steam Safety Valve	Crosby Valve & Gage	N58737-01-0027	N/A	RSO-0007-98-01	1977	Replacement	Yes
1 3/8" x 9" Inlet Studs (12)	Nova Machine Products	Ht.#97138	N/A	RSO-1584-98, SA193 Gr.B7 (CR- 3005-96)	N/A	Replacement	No
1 3/8" Heavy Hex Inlet Nuts (12)	Nova Machine Products	Ht.#83633, Ht. Code FGS	N/A	RSO-1212-97, SA194 Gr.7 (CR- 3004-96), (SEE 92- 0065)	N/A	Replacement	Ño

7. Description of Work:

The main steam safety valve (2PSV8413) was replaced for preventative maintenance action with a set-point tested spare valve. During installation 12 inlet studs and nuts were also replaced. The removed valve was placed into the rebuild program to be rebuilt under MO 98120101.

8. Tests Conducted: System Inservice Pressure Test

See: AR 980701362-25

Pressure: NOP

9. Remarks: CR-3004-96 (nuts) and CR-3005-96 (studs) reconciles the replacement bolting which was certified to ASME III-2, 1989 Ed., No Add. SEE No. 92-0065 allows for the replacement of Gr.2H with Gr.7 (nuts).

(Applicable Manufacturer's Data Reports are available on-site)

CERTIFICATE OF COMPLIANCE
We certify that the statements made in the report are correct and this of the ASME Code, Section XI. replacement conforms to the rules repair or replacement
Type Code Symbol Stamp: N/A
Certificate of Authorization No: N/A Expiration Date: N/A Signed: Supervising ASME Codes Engineer Date: 4/29/99 Owner or Owner's Designee, Title
CERTIFICATE OF INSPECTION
I, the undersigned holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of California, and employed by Arkwright Mutual Insurance Company of Waltham, Massachusetts have inspected the components described in this Owner's Report during the period nature of the Components of the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.
By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.
Inspector's Signature Commissions Real California National Board, State, Province, and Endorsements
Date April 30, 1999

As Required by the Provisions of the ASME Code SectionXI

1. Owner:

Southern California Edison Company

2244 Walnut Grove Avenue

Rosemead, California 91770

2. Plant:

San Onofre Nuclear Generating Station

San Clemente, California 92674-0128

Southern California Edison Company 3. Work Performed by:

4. Identification of System: Main Steam

Unit: 2

98010509000 MO:

Rspec: ASME SECTION XI DATA-0189

P&ID: 40141C

S2-1301-2 N-5:

Type Code Symbol Stamp: N/A

Authorization No: Expiration Date:

N/A N/A

5. (a) Applicable Construction Code: ASME Section III, Class 2, 1974 Edition, Summer 1974 Addenda: Code Case: None

(b) Applicable Edition of Section XI Utilized for Repairs or Replacements:

1989 Edition. No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components:

Name of Component	Name Of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced or Replacement	ASME Code Stamped Yes/No
6" x 10" Main Steam Safety Valve	Crosby Valve & Gage	N58737-00-0042	N/A	2PSV8414	1993	Replaced	Yes
6" x 10" Main Steam Safety Valve	Crosby Valve & Gage	N58737-01-0016	N/A	RSO-0007-98-01	1976	Replacement	Yes
1 3/8" x 9" Inlet Studs (12)	Nova Machine Products	Ht.#97138	N/A	RSO-1584-98, SA193 Gr.B7 (CR- 3005-96)	N/A	Replacement	No
1 3/8" Heavy Hex Inlet Nuts (12)	Nova Machine Products	Ht.#83633, Ht. Code FGS	N/A	RSO-1212-97, SA194 Gr.7 (CR- 3004-96), (SEE 92- 0065)	N/A	Replacement	No

7. Description of Work:

The main steam safety valve (2PSV8414) was replaced for preventative maintenance action with a set-point tested spare valve. During installation 12 inlet studs and nuts were also replaced. The removed valve was placed into the rebuild program to be rebuilt under MO 98120104.

8. Tests Conducted: System Inservice Pressure Test

See: AR 980701362-25

Pressure: NOP

9. Remarks: CR-3004-96 (nuts) and CR-3005-96 (studs) reconciles the replacement bolting which was certified to ASME III-2, 1989 Ed., No Add. SEE No. 92-0065 allows for the replacement of Gr.2H with Gr.7 (nuts).

(Applicable Manufacturer's Data Reports are available on-site) CERTIFICATE OF COMPLIANCE We certify that the statements made in the report are correct and this replacement conforms to the rules of the ASME Code, Section XI. Tepair or replacement Type Code Symbol Stamp: N/A Certificate of Authorization No: N/A Expiration Date: N/A 4/29/99 Supervising ASME Codes Engineer Date: Signed: A Owner or Owner's Designee, Title CERTIFICATE OF INSPECTION I, the undersigned holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of California, and employed by Arkwright Mutual Insurance Company of Waltham, Massachusetts have inspected the components described in this Owner's Report during the period to 4/30/99 and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI. By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection. Commissions California National Board, State, Province, and Endorsements

As Required by the Provisions of the ASME Code SectionXI

Southern California Edison Company 1. Owner:

2244 Walnut Grove Avenue

Rosemead, California 91770

Unit: 2

98010514000 MO:

Rspec: ASME SECTION XI DATA-0190

P&ID: 40141C S2-1201-2 N-5:

2. Plant:

San Onofre Nuclear Generating Station

San Clemente, California 92674-0128

3. Work Performed by:

Southern California Edison Company

Type Code Symbol Stamp: N/A Authorization No:

N/A

4. Identification of System: Main Steam

Expiration Date:

N/A

5. (a) Applicable Construction Code: ASME Section III, Class 2, 1974 Edition, Summer 1974 Addenda; Code Case: None

(b) Applicable Edition of Section XI Utilized for Repairs or Replacements: 1989 Edition, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components:

Name of Component	Name Of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced or Replacement	ASME Code Stamped Yes/No
6" x 10" Main Steam	Crosby Valve &	N58737-00-0041	N/A	2PSV8415	1984	Replaced	Yes
Safety Valve 6" x 10" Main Steam Safety Valve	Gage Crosby Valve & Gage	N58737-01-0009	N/A	RSO-0007-98-01	1976	Replacement	Yes
1 3/8" x 9" Inlet Studs (12)	Nova Machine Products	Ht.#97138	N/A	RSO-1584-98, SA193 Gr.B7 (CR- 3005-96)	N/A	Replacement	No
1 3/8" Heavy Hex Inlet Nuts (12)	Nova Machine Products	Ht.#83633, Ht. Code FGS	N/A	RSO-1212-97, SA194 Gr.7 (CR- 3004-96), (SEE 92- 0065)	N/A	Replacement	No

Description of Work:

The main steam safety valve (2PSV8415) was replaced for preventative maintenance action with a set-point tested spare valve. During installation 12 inlet studs and nuts were also replaced. The removed valve was placed into the rebuild program to be rebuilt under MO 98120105.

8. Tests Conducted: System Inservice Pressure Test

See: AR 980701362-25

Pressure: NOP

9. Remarks: CR-3004-96 (nuts) and CR-3005-96 (studs) reconciles the replacement bolting which was certified to ASME III-2, 1989 Ed., No Add. SEE No. 92-0065 allows for the replacement of Gr.2H with Gr.7 (nuts).

(Applicable Manufacturer's Data Reports are available on-site)

CERTIFICATE OF C	COMPLIANCE
We certify that the statements made in the report are correct and the of the ASME Code, Section XI.	is <u>replacement</u> conforms to the rules repair or replacement
Type Code Symbol Stamp: N/A	
Certificate of Authorization No: N/A Expiration I Signed: Supervising ASME Codes	1 hocks
Signed: Supervising ASME Codes Owner or Owner's Designee, Title	Engineer Date: 7/01/19
CERTIFICATE OF	INSPECTION
I, the undersigned holding a valid commission issued by the Nation the State or Province of <u>California</u> , and employed by <u>Arkwright Waltham</u> , <u>Massachusetts</u> have inspected the components describ to <u>Jaly 99</u> , and state thas performed examinations and taken corrective measures describ requirements of the ASME Code, Section XI.	Mutual Insurance Company of seed in this Owner's Report during the period shat to the best of my knowledge and belief, the Owner
By signing this certificate, neither the Inspector nor his employer rexaminations and corrective measures described in this Owner's R employer shall be liable in any manner for any personal injury or pronnected with this inspection.	eport. Furthermore, neither the Inspector nor his
Inspector's Signature Commissions	National Board, State, Province, and Endorsements
Date april 30, 1999	

As Required by the Provisions of the ASME Code SectionXI

1. Owner:

Southern California Edison Company

2244 Walnut Grove Avenue

Rosemead, California 91770

2. Plant:

San Onofre Nuclear Generating Station

San Clemente, California 92674-0128

Unit: 2

MO:

98010565000

Rspec: ASME SECTION XI DATA-0205 P&ID: 40124A (C6)

S2-1208-8 N-5:

3. Work Performed by:

Southern California Edison Company

Type Code Symbol Stamp: N/A Authorization No:

Expiration Date:

N/A

4. Identification of System: Chemical and Volume Control

5. (a) Applicable Construction Code: ASME Section III, Class 2, 1974 Edition, Summer 1974 Addenda; Code Case: None

(b) Applicable Edition of Section XI Utilized for Repairs or Replacements:

1989 Edition, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components:

Name of Component	Name Of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced or Replacement	ASME Code Stamped Yes/No
3"x 4" Relief Valve	Crosby Valve & Gage	N59379-00-0001	N/A	2PSV9220 (to be rebuilt on MO 99011047)	1978	Replaced	Yes
3"x 4" Relief Valve	Crosby Valve & Gage	N59379-00-0003	N/A	RSO-1306-93	1993	Replacement	Yes

7. Description of Work:

The relief valve in plant position 2PSV9220 was replaced with a tested spare as a preventative maintenance action. The removed valve was placed into the rebuild program (to be rebuilt under MO 99011047).

8. Tests Conducted: System Inservice Pressure Test

See: AR 980701362-41

Pressure: NOP

Temp: NOT

9. Remarks: None.

(Applicable Manufacturer's Data Reports are available on-site)

CERTIFICATE OF COMPLIANCE We certify that the statements made in the report are correct and this replacement conforms to the rules of the ASME Code, Section XI. Tepair or replacement Type Code Symbol Stamp: N/A Certificate of Authorization No: N/A Expiration Date: N/A Date: 5/5/99 Signed: Supervising ASME Codes Engineer Owner or Owner's Designee, Title CERTIFICATE OF INSPECTION I, the undersigned holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of California, and employed by Arkwright Mutual Insurance Company of Waltham, Massachusetts have inspected the components described in this Owner's Report during the period 1/5/99 to 5/6/99 ____, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI. By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection. Commissions 1862 California Inspector's Signature National Board, State, Province, and Endorsements Date May 6, 1999

MO: 98010565000

As Required by the Provisions of the ASME Code SectionXI

Owner:

2. Plant:

Southern California Edison Company

2244 Walnut Grove Avenue

Rosemead, California 91770

San Onofre Nuclear Generating Station

San Clemente, California 92674-0128

Southern California Edison Company 3. Work Performed by:

4. Identification of System: Reactor Coolant

Unit:

98012729000 (mach) 98012733000 (weld), MO:

98013012000 (mach)

Rspec: 004-98

P&ID: N/A

N-5: N/A

Type Code Symbol Stamp: N/A

Authorization No:

N/A

Expiration Date:

N/A

5. (a) Applicable Construction Code: ASME Section III. Class 1. 1971 Edition, Summer 1972 Add. (design & fab); ASME

Section III. Class 1, 1989 Edition. No Add. (material); Code Case: N-474-1

(b) Applicable Edition of Section XI Utilized for Repairs or Replacements: 1989 Edition. No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components:

Name of Component	Name Of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced or Replacement	ASME Code Stamped Yes/No
RCS Hot Leg Sample Nozzle; Mat. Code 027-79874	SCE	004-98		RSO-1646-97, Ht.# NX0643HG1, Lot #136503; RSO- 1711-97, Ht.# 435702, Lot #92411	N/A	Replacement	No

7. Description of Work:

A spare sample nozzle was machined from SB166-N06690 (INCONEL 690) bar stock. A stainless steel safe-end (SA312-TP316L, 3/4 NPS schedule 160 pipe) was welded to the INCONEL section per WR2/3-98-030. PT examinations were performed on all accessible machined surfaces (Ref: 2PT-148-98). RT and PT examinations were performed on the weld (Ref: 2RT-030-98 and 2PT-189-98 and 2PT-192-98). Ref Dwg: 41116, Revision 1, Sheet 1 & DCN #3. Note: Pressure test will be performed after installation (IWA-7400, less than 1" NPS exemption taken for nozzle fab pressure test).

8. Tests Conducted: N/A

Pressure: N/A

9. Remarks: None. (Applicable Manufacturer's Data Reports are available on-site) CERTIFICATE OF COMPLIANCE We certify that the statements made in the report are correct and this repair and replacement conforms to the rules of the ASME Code, Section XI. Tepair or replacement Type Code Symbol Stamp: N/A Expiration Date: N/A Certificate of Authorization Supervising ASME Codes Engineer Signed: Owner or Owner's Designee, Title CERTIFICATE OF INSPECTION I, the undersigned holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of California, and employed by Arkwright Mutual Insurance Company of Waltham, Massachusetts have inspected the components described in this Owner's Report during the period to 1/6/99 , and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI. By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection. Commissions 1862 California National Board, State, Province, and Endorsements Inspector's Signature

As Required by the Provisions of the ASME Code SectionXI

1. Owner:

Southern California Edison Company

2244 Walnut Grove Avenue

Rosemead, California 91770

2. Plant:

San Onofre Nuclear Generating Station

San Clemente, California 92674-0128

3. Work Performed by:

Southern California Edison Company

4. Identification of System: Reactor Coolant

Unit: N

98012730000 (mach) 98012734000 (weld), MO:

98013015000 (mach)

Rspec: 005-98

P&ID: N/A

N/A N-5:

Type Code Symbol Stamp: N/A

Authorization No: Expiration Date:

N/A

N/A

5. (a) Applicable Construction Code: ASME Section III. Class 1. 1971 Edition, Summer 1972 Add. (design & fab): ASME

Section III. Class 1. 1989 Edition. No Add. (material): Code Case: N-474-1

(b) Applicable Edition of Section XI Utilized for Repairs or Replacements: 1989 Edition. No Addenda

Name of Component	Name Of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced or Replacement	ASME Code Stamped Yes/No
RCS Hot Leg Sample Nozzle; Mat. Code 027-79874	SCE	005-98		RSO-1646-97, Ht.# NX0643HG1, Lot #136503; RSO- 1711-97, Ht.# 435702, Lot #92411	N/A	Replacement	No

7. Description of Work:

A spare sample nozzle was machined from SB166-N06690 (INCONEL 690) bar stock. A stainless steel safe-end (SA312-TP316L, 3/4 NPS schedule 160 pipe) was welded to the INCONEL section per WR2/3-98-030. PT examinations were performed on all accessible machined surfaces (Ref: 2PT-163-98). RT and PT examinations were performed on the weld (Ref: 2RT-031-98 and 2PT-190-98 and 2PT-193-98). Ref Dwg: 41116, Revision 1, Sheet 1 & DCN #3. Note: Pressure test will be performed after installation (IWA-7400, less than 1" NPS exemption taken for nozzle fab pressure test).

8. Tests Conducted: N/A

Pressure: N/A

(Applicable Manufacturer's Data Re	ports are available on-site)	
	CERTIFICATE OF C	COMPLIANCE	
	CERTIFICATE OF C	JOIN DE L'ICE	
We certify that the statements made in the report of the ASME Code, Section XI.	ort are correct and the	is <u>repair and re</u> Tepair or replacer	placement conforms to the rules
Type Code Symbol Stamp: N/A			
Certificate of Authorization No: N/A Signed: Super Owner or Owner's Designee, Title	Expiration I		ate: 1/6/99
I, the undersigned holding a valid commission	CERTIFICATE OF		r and Pressure Vessel Inspectors and
the State or Province of <u>California</u> , and emp <u>Waltham</u> , <u>Massachusetts</u> have inspected the	oloyed by <u>Arkwright</u> ne components describ	Mutual Insurance oed in this Owner's	ce Company of
has performed examinations and taken correct requirements of the ASME Code, Section X	ctive measures descri	bed in this Owner's	s Report in accordance with the
By signing this certificate, neither the Inspective measures described examinations and corrective measures described employer shall be liable in any manner for a connected with this inspection.	ibed in this Owner's R	leport. Furthermo	re, neither the inspector nor his
Innoon	Commissions	1862	California
Inspector's Signature		National Board, S	tate, Province, and Endorsements
1 1000	•		

As Required by the Provisions of the ASME Code SectionXI

1. Owner:

2. Plant:

Southern California Edison Company

2244 Walnut Grove Avenue

Rosemead, California 91770

San Clemente, California 92674-0128

3. Work Performed by:

San Onofre Nuclear Generating Station

Southern California Edison Company

Authorization No:

Rspec: 006-98

P&ID: N/A

Unit: N

MO:

N-5:

N/A

Expiration Date:

N/A

98012731000 98013016000 (mach),

N/A

4. Identification of System: Reactor Coolant

5. (a) Applicable Construction Code: ASME Section III, Class 1, 1971 Edition, Summer 1972 Addenda; Code Case: N-474-1

(b) Applicable Edition of Section XI Utilized for Repairs or Replacements: 1989 Edition, No Addenda

98012735000 (weld)

Type Code Symbol Stamp: N/A

Identification of Components Repaired or Replaced and Replacement Components:

Name of Component	Name Of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced or Replacement	ASME Code Stamped Yes/No
RCS Hot Leg Sample Nozzle Mat Code 027-79874	SCE	006-98		RSO-1646-97, Ht.# NX0643HG1, Lot #136503; RSO- 1711-97, Ht. #435702 lot # 92411	N/A	Replacement	No

7. Description of Work:

A spare sample nozzle was machined from SB166-N06690 (INCONEL 690) bar stock. A stainless steel safe-end (SA312-TP316L, 3/4 NPS schedule 160 pipe) was welded to the INCONEL section per WR2/3-98-031. PT examinations were performed on all accessible machined surfaces (Ref: 2PT-147-98 and 2PT-159-98). RT and PT examinations were performed on the weld (Ref: 2RT-025-98 and 2PT-160-98). Ref Dwg: 41116, Revision 1, Sheet 1 & DCN #3. Note: Pressure test will be performed after installation (IWA-7400, less than 1" NPS exemption taken for nozzle fab pressure test).

8. Tests Conducted: N/A

Pressure: N/A

9. Remarks: None. CERTIFICATE OF COMPLIANCE We certify that the statements made in the report are correct and this repair and replacement conforms to the rules of the ASME Code, Section XI. repair or replacement Type Code Symbol Stamp: N/A

Expiration Date: N/A 4/19/99 Signed: Supervising ASME Codes Engineer Owner or Owner's Designee, Title

Certificate of Authorization No: N/A

CERTIFICATE OF INSPECTION I, the undersigned holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of California, and employed by Arkwright Mutual Insurance Company of Waltham, Massachusetts have inspected the components described in this Owner's Report during the period to *OH/20/99* ____, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI. By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection. _Commissions _ Inspector's Signature National Board, State, Province, and Endorsements

As Required by the Provisions of the ASME Code SectionXI

1. Owner:

Southern California Edison Company

2244 Walnut Grove Avenue

Rosemead, California 91770

Unit:

98012736000 98013019000 (mach), MO:

98012737002 (weld)

Rspec: 007-98 R2

P&ID: N/A

N/A N-5:

2. Plant:

San Onofre Nuclear Generating Station

San Clemente, California 92674-0128

Southern California Edison Company

Type Code Symbol Stamp: N/A

Authorization No:

3. Work Performed by:

4. Identification of System: Reactor Coolant

Expiration Date:

N/A

5. (a) Applicable Construction Code: ASME Section III, Class 1, 1971 Edition, Summer 1972 Add. (design & fab); ASME Section III. Class 1. 1989 Edition. No Add. (material); Code Case: N-474-1

(b) Applicable Edition of Section XI Utilized for Repairs or Replacements: 1989 Edition, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components:

Name of Component	Name Of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced or Replacement	ASME Code Stamped Yes/No
RCS Hot Leg Sample Nozzle; Mat. Code 027-79874	SCE	007-98	N/A	RSO-1646-97, Ht.# NX0643HG1, Lot #136503; RSO- 1711-97, Ht. #435702 lot # 92411	N/A	Replacement .	No

7. Description of Work:

A spare sample nozzle was machined from SB166-N06690 (INCONEL 690) bar stock. A stainless steel safe-end (SA312-TP316L, 3/4 NPS schedule 160 pipe) was welded to the INCONEL section per WR2/3-98-310. PT examinations were performed on all accessible machined surfaces (Ref: 2PT-149-98, 2PT-181-98 and 2PT-182-98). RT and PT examinations were performed on the weld (Ref: 2RT-029-98 and 2PT-188-98). Ref Dwg: 41116, Revision 1, Sheet 1 & DCN #3. Note: Pressure test will be performed after installation (IWA-7400, less than 1" NPS exemption taken for nozzle fab pressure test).

8. Tests Conducted: N/A

Pressure: N/A

9. Remarks: None.

(Applicable Manufacturer's Data Reports are available on-site)

•
CERTIFICATE OF COMPLIANCE
We certify that the statements made in the report are correct and this of the ASME Code, Section XI. repair and replacement conforms to the rules repair or replacement.
Type Code Symbol Stamp: N/A
Certificate of Authorization No: N/A Expiration Date: N/A Signed: Supervising ASME Codes Engineer Date: 4/15/59 Owner of Owner's Designee, Title
CERTIFICATE OF INSPECTION
I, the undersigned holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of California, and employed by Arkwright Mutual Insurance Company of Waltham, Massachusetts have inspected the components described in this Owner's Report during the period and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.
By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.
Inspector's Signature Commissions / & California National Board, State, Province, and Endorsements
Date April 20, 1999

As Required by the Provisions of the ASME Code SectionXI

1. Owner: Southern California Edison Company

2244 Walnut Grove Avenue

Rosemead, California 91770

Unit:

N-5:

MO: 98013163000

Rspec: GEN-106 R2

P&ID: 40111A

San Onofre Nuclear Generating Station

San Clemente, California 92674-0128

S2-1201-3

Type Code Symbol Stamp: N/A

Authorization No: Expiration Date:

N/A N/A

Identification of System: Reactor Coolant

2. Plant:

3. Work Performed by:

5. (a) Applicable Construction Code: ASME Section III, Class 1, 1980 Edition Summer 1982 Addenda; Code Case: None

(b) Applicable Edition of Section XI Utilized for Repairs or Replacements: 1989 Edition, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components:

Southern California Edison Company

Name of Component	Name Of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced or Replacement	ASME Code Stamped Yes/No
Reactor Coolant Pump	Byron Jackson	701-N-0557	N/A	S21201MP004	1977		Yes
RCP Pump Mechanical Seal	Bingham Willamette	1659057-11	1219	RSO-2320-88, SO23-CART-#25, Rebuild MO 98013378	1986	Replaced	Yes
RCP Pump Mechanical Seal	Bingham Willamette	1714880-8	1168	RSO-2779-86, SO23-CART-#18	1986	Replacement	Yes

7. Description of Work:

The RCP seal cartridge was replaced with a spare which had been rebuilt in accordance with the SONGS rebuild program. The removed seal cartridge was placed into the rebuild program.

8. Tests Conducted: System Leakage Pressure Test

See: AR 980101416-3

Pressure: NOP

9. Remarks: None.	
(Applicable Manufacturer's Data Reports are available on-site)	
CERTIFICATE OF COMPLIANCE	A-14-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1
We certify that the statements made in the report are correct and this of the ASME Code, Section XI. replacement conforms to the rules repair or replacement	
Type Code Symbol Stamp: N/A	
Certificate of Authorization No: N/A Expiration Date: N/A Signed: Supervising ASME Codes Engineer Date: 3/16/98 Owner or Owner's Designee, Title	······································
CERTIFICATE OF INSPECTION	
I, the undersigned holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspet the State or Province of <u>California</u> , and employed by <u>Arkwright Mutual Insurance Company</u> of	ctors and
Waltham, Massachusetts have inspected the components described in this Owner's Report during the period has performed examinations and taken corrective measures described in this Owner's Report in accordance with requirements of the ASME Code, Section XI.	
By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, con examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising fit connected with this inspection.	his
Inspector's Signature Commissions 1300 California National Board, State, Province, and Endorses	ments
Date 3/17/98	

As Required by the Provisions of the ASME Code Section XI

1. Owner:

2.

3.

Southern California Edison Company

2244 Walnut Grove Avenue, Rosemead, CA 91770

Sheet 1 of 1 Unit: CWO:

98013319000,98020312000

FCN: Repair Spec: F14116M, F14705M 009-98 REV. 0

P&ID: N-5:

40111A/E3 S2-1201-3

Plant:

San Onofre Nuclear Generating Station San Clemente, CA 92674-0128

Work Performed by: Southern California Edison

Type Code Symbol Stamp:

N/A

P.O. Box 128

San Clemente, CA 92674-0128

Authorization No: Expiration Date:

N/A N/A

4. Identification of System: **REACTOR COOLANT (1201)**

Applicable Construction Code: ASME Section III, Class 1, 1971 Edition, S'72 Addenda, Code Cases: N/A 5. (a)

Applicable Edition of Section XI Utilized for Repairs or Replacements: 1989 Edition, No Addenda (b)

Identification of Components Repaired or Replaced and Replacement Components: 6.

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped Yes/No
HOT LEG TOP PLATE	ABB C.E.	HT. Y1491	N/A	RSO-1118-97, SA479 TP.304; E-MNSA- 228-004-28	N/A	REPLACEMENT	NO
UPPER FLANGE	ABB C.E.	HT. Y1491	N/A	RSO-1118-97, SA479 TP.304; E-MNSA- 228-004-16	N/A	REPLACEMENT	ИО
LOWER FLANGE	ABB C.E.	HT. Y0817	N/A	RSO-1118-97, SA479 TP.304; E-MNSA- 228-004-17	N/A	REPLACEMENT	NO
SEAL RETAINER	ABB C.E.	HT. 606054	N/A	RSO-1118-97, SA479 TP.304; E-MNSA- 228-004-19	N/A	REPLACEMENT	МО
COMPRESSION COLLAR	ABB C.E.	HT. 606054	N/A	RSO-1118-97, SA479 TP.304; E-MNSA- 228-004-18	N/A	REPLACEMENT	NO
TIE RODS (4)	ABB C.E.	HT. 516968	N/A	RSO-1118-97, SA453 GR.660; E-MNSA- 228-004-14	N/A	REPLACEMENT	NO
HEX HEAD BOLTS (4)	ABB C.E.	HT. 6L9727	N/A	RSO-0116-98, SA453 GR.660; E-MNSA- 228-004-13	N/A	REPLACEMENT	NO
HEX NUTS (12)	ABB C.E.	HT. 516560	N/A	RSO-1118-97, SA453 SA453 GR.660; E- MNSA-228-004-27	N/A	REPLACEMENT	NO

7.

Note:

A Mechanical Nozzle Seal Assembly (MNSA) was installed on RCS nozzle 2TWO139B on line S21201ML002 (E088 Hot Leg) in accordance with FCN F14116M and Repair Spec. 009-98 Rev. 0. MO 98020312000 machined the OEM RTD nozzle to facilitate installation of the MNSA in accordance with Repair Specification 041-98. Reference: FCN F14705M

Tests Conducted: System Leakage [X] System Functional [] System Inservice [] Hydrostatic [] Pneumatic [] Other [] 8. Pressure: NOP Temp:

(Ref.: AR #980100396-17 for VT-2)

(Asphicaole III	fanufacturer's Data Reports to be attached)
CERT	IFICATE OF COMPLIANCE
Ve certify that the statements made in the report are correct	et and this repair and replacement conforms to the rules of the ASME Code, Section X
Type Code Symbol Stamp: N/A	
Mann. Me	ASME Codes Engineer Date: 4/3 , 1998
CERT	TIFICATE OF INSPECTION
the undersigned holding a valid commission issued by the california, and employed by Arkwright Mutual Insurations Owner's Report during the period	e National Board of Boiler and Pressure Vessel Inspectors and the State or Province of ance Company of Waltham, Massachusetts have inspected the components described to
y signing this certificate, neither the Inspector nor his emportective measures described in this Owner's Report. Furt ersonal injury oxproperty damage or a loss of any kind ari	ployer makes any warranty, expressed or implied, concerning the examinations and thermore, neither the Inspector nor his employer shall be liable in any manner for any ising from or connected with this inspection.
Inspector's Signature	Commissions / California (National Board, State, Province, and Endorsements)

As Required by the Provisions of the ASME Code Section XI

1. Owner:

Plant:

2.

3.

Southern California Edison Company

2244 Walnut Grove Avenue, Rosemead, CA 91770

San Onofre Nuclear Generating Station

Unit: CWO:

Sheet I of I

98013356000, 98020449000

FCN:

F14191M

Repair Spec:

026-98 Rev. 0, 043-98 Rev. 0

P&ID:

40111A/E3

N-5:

S2-1201-3

Work Performed by: Southern California Edison

P.O. Box 128

San Clemente, CA 92674-0128

San Clemente, CA 92674-0128

Type Code Symbol Stamp:

N/A

Authorization No: Expiration Date:

N/A N/A

4. Identification of System: Reactor Coolant (1201)

5. (a) Applicable Construction Code: ASME Section III, Class 1, 1971 Edition, S'72 Addenda, Code Cases: N-474-1

Applicable Edition of Section XI Utilized for Repairs or Replacements: 1989 Edition, No Addenda (b)

6. Identification of Components Repaired or Replaced and Replacement Components:

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped Yes/No
MNSA CLAMP HOT LEG TOP PLATE	ABB C.E. ABB C.E.	(SEE BELOW) HT. Y2243-3B	N/A	RSO-0116-98, SA479 TP.304; E-MNSA- 228-004-28	N/A	REPLACEMENT	NO
UPPER FLANGE	ABB C.E.	HT. Y2243-3B	N/A	RSO-0116-98, SA479 TP.304; E-MNSA- 228-004-16	N/A	REPLACEMENT	МО
FLAT LOWER FLANGE	ABB C.E.	HT. 9J050-80	N/A	RSO-0116-98, SA479 TP.304; E-MNSA- 228-004-37	N/A	REPLACEMENT	NO
FLAT SEAL RETAINER	ABB C.E.	HT. 50265	N/A	RSO-0116-98, SA479 TP.304; E-MNSA- 228-004-32	N/A	REPLACEMENT	NO
COMPRESSION COLLAR	ABB C.E.	HT. 50265	N/A	RSO-0116-98, SA479 TP.304; E-MNSA- 228-004-18	N/A	REPLA CEMENT	NO
TIE RODS (4)	ABB C.E.	HT. 515422	N/A	RSO-0116-98, SA453 GR.660; E-MNSA- 228-004-14	N/A	REPLACEMENT	NO
HEX HEAD BOLTS (4)	ABB C.E.	HT. 517742	N/A	RSO-0116-98, SA453 GR.660; E-MNSA- 278-004-13	N/A	REPLACEMENT	NO
HEX NUTS (12)	ABB C.E.	HT. 518635	N/A	RSO-0116-98, SA453 GR.660; E-MNSA- 228-004-27	N/A	REPLACEMENT	NO

7. Description of Work:

Base material on pipe spool 503-03 was removed to facilitate the installation of a MNSA clamp at location 2TE0122-4 (Reference: CWO 98020449 AR/CPR 980200513, Repair Spec. 043-98).

A Mechanical Nozzle Seal Assembly (MNSA) was installed on Reactor Coolant Hot Leg RTD 2TE0122-4 (E-088 Hot Leg) in accordance with CWO 98013356000 and Repair Spec. 026-98 Rev. 0.

8. Tests Conducted: System Leakage [X] System Functional [] System Inservice [] Hydrostatic [] Pneumatic [] Other [] Pressure: NOP Temp: N/A

(Reference: AR #980300261 for VT-2 information).

	(Applicable Manufacturer's Data Reports to be attached)
	CERTIFICATE OF COMPLIANCE
We cen	ify that the statements made in the report are correct and this repair and replacement, conforms to the rules of the ASME Code, Section XI
Туре С	ode Symbol Stamp: N/A
Certific Signed:	ate of Authorization No: N/A Expiration Date: N/A All Medium Supervising ASME Codes Engineer Date: 613 1998
(Owner or Owner's Designee, Title
	CERTIFICATE OF INSPECTION
Califor in this (belief, t	indersigned holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of nia, and employed by Arkwright Mutual Insurance Company of Waltham, Massachusetts have inspected the components described Dwner's Report during the period 1999 to 1999, and state that to the best of my knowledge and the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of ME Code, Section XI.
correcti	ing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and we measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any linjury or cooperty damage or a loss of any kind arising from or connected with this inspection.
I	Commissions 1862 California Inspector's Signature (National Board, State, Province, and Endorsements)
/	Tune 4. 1998

As Required by the Provisions of the ASME Code SectionXI

1. Owner:

2. Plant:

Southern California Edison Company

2244 Walnut Grove Avenue

Rosemead, California 91770

Unit: 2

MO: 98013360000

FCN: F14493M, F14508M

Rspec: 033-98 San Onofre Nuclear Generating Station

P&ID: 40111A (E6) N-5: S2-1201-2

3. Work Performed by:

Bechtel Construction Company

P.O. Box 450

San Clemente, California 92674-0128

San Clemente, CA. 92674-0128

Type Code Symbol Stamp: N/A

Authorization No:

N/A

Expiration Date:

N/A

4. Identification of System: Reactor Coolant

5. (a) Applicable Construction Code: ASME Section III, Class 1, 1971 Edition, Summer 1971 Addenda; Code Case: None

(b) Applicable Edition of Section XI Utilized for Repairs or Replacements: 1989 Edition, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components:

Name of Component	Name Of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced or Replacement	ASME Code Stamped Yes/No
Steam Generator	ABB Combustion Engineering	71270-1	22218	S21301ME089P	1976	Repaired	Yes
Lower Flange	ABB Combustion Engineering	Ht.# Y3496-6B, E- MNSA-228-013-2	N/A	RSO-0116-98, SA479 Tp.304	N/A	Replacement	No
Upper Flange-Top	ABB Combustion Engineering	Ht.# 198930, E-MNSA- 228-013-11	N/A	RSO-0116-98, SA479 Tp.304	N/A	Replacement	No
Upper Flange-Bottom	ABB Combustion Engineering	Ht.# 198930, E-MNSA- 228-013-10	N/A	RSO-0116-98, SA479 Tp.304	N/A	Replacement	No
Seal Retainer	ABB Combustion Engineering	Ht.# 50265, E-MNSA- 228-013-3	N/A	RSO-0116-98, SA479 Tp.304	N/A	Replacement	No
Compression Collar	ABB Combustion Engineering	Ht.# 46236, E-MNSA- 228-013-4	N/A	RSO-0116-98, SA479 Tp.304	N/A	Replacement	No
Top Plate	ABB Combustion Engineering	Ht.# 9J050-80, E- MNSA-228-013-6	N/A	RSO-0116-98, SA479 Tp.304	N/A	Replacement	No
Tie Rods (4 per assembly)	ABB Combustion Engineering	Ht.# 515422, E-MNSA- 228-013-1	N/A	RSO-0116-98, SA453 Gr.660	N/A	Replacement	No
Socket Head Shoulder Screws (2 per assembly)	ABB Combustion Engineering	HL# 519162, E-MNSA- 228-013-7	N/A	RSO-0116-98, SA453 Gr.660	N/A	Replacement	No
Hex Head Bolts 3.25" Long (2 per assembly)	ABB Combustion Engineering	Ht.# 517742, E-MNSA- 228-013-8	N/A	RSO-0116-98, SA453 Gr.660	N/A	Replacement	No
Hex Head Bolts 2.56" Long (2 per assembly)	ABB Combustion Engineering	Ht.# 517742, E-MNSA- 228-013-9	N/A	RSO-0116-98, SA453 Gr.660	N/A	Replacement	No
Hex Nuts (12 per assembly)	ABB Combustion Engineering	Ht.# 518635, E-MNSA- 228-004-27	N/A	RSO-0116-98, SA453 Gr.660	N/A	Replacement	No

7. Description of Work:

Mechanical Nozzle Seal Assemblies (MNSAs) Part No. E-MNSA-228-014-1, were installed on steam generator E-089 (S21301ME089P) for 2PDT-0978-1 and 2PDT-0978-2 in accordance with Repair Specification 033-98 and per FCNs F14493M and F14508M. A VT-1 examination was performed on the replacement bolting and tie rods with satisfactory results. (Reference: NCR 980101568)

8. Tests Conducted: System Leakage Pressure Test

See: AR 980100396-14

Pres: NOP

Temp: NOT

9. Remarks: None.	(Applicable Manufacturer's Data Reports are available on-site)
	, , , , , , , , , , , , , , , , , , ,
	CERTIFICATE OF COMPLIANCE
We certify that the statements made in the of the ASME Code, Section XI.	repair and replacement conforms to the rules repair or replacement
Type Code Symbol Stamp: N/A	
Certificate of Authorization No: N/A Signed:	Expiration Date: N/A Supervising ASME Codes Engineer Date: 3/16/98
	CERTIFICATE OF INSPECTION
the State or Province of <u>California</u> , and <u>Walthams Massachusetts</u> have inspected to 316	ission issued by the National Board of Boiler and Pressure Vessel Inspectors and employed by Arkwright Mutual Insurance Company of ed the components described in this Owner's Report during the period, and state that to the best of my knowledge and belief, the Owner orrective measures described in this Owner's Report in accordance with the m XI.
examinations and corrective measures de	spector nor his employer makes any warranty, expressed or implied, concerning the escribed in this Owner's Report. Furthermore, neither the Inspector nor his or any personal injury or property damage or a loss of any kind arising from or Commissions
Inspector's Signature	National Board, State, Province, and Endorsements

As Required by the Provisions of the ASME Code Section XI

Owner:

Southern California Edison Company

2244 Walnut Grove Avenue, Rosemead, CA 91770

Sheet 1 of 1 Unit: CWO:

FCN:

98020006000 F14784M

Plant: 2.

3.

5.

San Onofre Nuclear Generating Station

Repair Spec:

040-98 REV. 0

San Clemente, CA 92674-0128

P&ID: N-5:

40111A

Work Performed by: Southern California Edison

S2-1201-2

P.O. Box 128

Type Code Symbol Stamp: Authorization No:

N/A N/A

San Clemente, CA 92674-0128

Expiration Date:

N/A

Identification of System: 4.

(a)

REACTOR COOLANT (1201)

Applicable Construction Code: ASME Section III, Class 1, 1971 Edition, S'71 Addenda, Code Cases: N/A

Applicable Edition of Section XI Utilized for Repairs or Replacements: 1989 Edition, No Addenda (b)

Identification of Components Repaired or Replaced and Replacement Components: 6.

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped Yes/No
Steam Generator	ABB C.E.	71270-1	22218	S21301ME089P	1976	REPAIRED	YES
Instrument Nozzle	ABB C.E.	N/A	N/A	Nozzle for 2PDT0978-2	N/A	•••••	NO

7. Description of Work:

The Instrument Nozzle for 2PDT-0978-2 was cut to rotate valve S21201MR182 to facilitate installation of a Mechanical Nozzle Seal Assembly (MNSA) in accordance with FCN F14784M and Repair Spec. 040-98 Rev. 0. After nozzle was cut, valve was rotated & rewelded in accordance with weld record WR2-98-071. Note: A system leakage test will be performed after MNSA clamp is installed. See CWO 98013360 (installation) and AR 980100396-14 (VT-2).

Tests Conducted: System Leakage [] System Functional [] System Inservice [] Hydrostatic [] Pneumatic [] Other [] 8. Pressure: N/A Temp: N/A

Note:

9. Remarks: None.

(Applicable Manufacturer's Data Reports are available on-site) CERTIFICATE OF COMPLIANCE We certify that the statements made in the report are correct and this repair conforms to the rules of the ASME Code, Section XI. repair or replacement Type Code Symbol Stamp: N/A Certificate of Authorization No: N/A Expiration Date: N/A Signed: Supervising ASME Codes Engineer CERTIFICATE OF INSPECTION I, the undersigned holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of California, and employed by Arkwright Mutual Insurance Company of Waltham, Massachusetts have inspected the components described in this Owner's Report during the period to <u>041/3198</u> _, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI. By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his

Commissions _1862 Inspector's Signature / National Board, State, Province, and Endorsements

employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or

connected with this inspection.

As Required by the Provisions of the ASME Code SectionXI

1. Owner: Southern California Edison Company

2244 Walnut Grove Avenue

Rosemead, California 91770

2. Plant:

San Onofre Nuclear Generating Station

San Clemente, California 92674-0128

3. Work Performed by:

Southern California Edison Company

Identification of System: Reactor Coolant

Unit: 2

MO: 98020665000

Rspec: GEN-105

P&ID: 40141A (E5)

S2-1201-3 N-5:

Type Code Symbol Stamp: N/A

Authorization No:

N/A

Expiration Date:

N/A

5. (a) Applicable Construction Code: ASME Section III, Class 1, 1971 Edition, Summer 1971 Addenda; Code Case: None

(b) Applicable Edition of Section XI Utilized for Repairs or Replacements: 1989 Edition, No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components:

Name of Component	Name Of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced or Replacement	ASME Code Stamped Yes/No
Steam Generator	CE	71270-2	22219	S21301ME088P	1976		Yes
1 1/2"x 14 1/4" Manway Stud (1)	Crosby Valve & Gage	S/N N93878-0025, Ht.# 95648, Tr. Code V46P	N/A	RSO-1887-85-01, SA540 Gr.B24	N/A	Replacement	No

7. Description of Work:

The bolting on the steam generator manway cover required that (1) stud be replaced. The specific location of the replacement stud was identified by stamping the stud hole number onto the replacement stud. A VT-1 inspection was performed on the replacement stud.

8. Tests Conducted: N/A

Pressure: N/A

9. Remarks: None.

(Applicable Manufacturer's Data Reports are available on-site)

(Application International Control of State)
CERTIFICATE OF COMPLIANCE
We certify that the statements made in the report are correct and this of the ASME Code, Section XI. replacement conforms to the rules repair or replacement
Type Code Symbol Stamp: N/A
Certificate of Authorization No: N/A Expiration Date: N/A
Signed: Supervising ASME Codes Engineer Date: 3/16/98 Owner or Owner's Designee, Title
CERTIFICATE OF INSPECTION
I, the undersigned holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of California, and employed by Arkwright Mutual Insurance Company of Waltham, Massachusetts have inspected the components described in this Owner's Report during the period, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.
By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection. Commissions California National Board, State, Province, and Endorsements
Date 3/16/98

As Required by the Provisions of the ASME Code SectionXI

1. Owner:

Southern California Edison Company

2244 Walnut Grove Avenue

Rosemead, California 91770

2. Plant:

3. Work Performed by:

San Onofre Nuclear Generating Station

San Clemente, California 92674-0128

Southern California Edison Company

4. Identification of System: Reactor Coolant

Unit: N

98021133000 98021133001, 98021269000 MO:

Rspec: 055-98 P&ID: N/A

N-5: N/A

Type Code Symbol Stamp: N/A

Authorization No:

N/A

Expiration Date:

5. (a) Applicable Construction Code: ASME Section III. Class 1, 1971 Edition, Summer 1971 Add. Code Case: N474-1

(material: 1989 Edition. No Add.).

(b) Applicable Edition of Section XI Utilized for Repairs or Replacements:

1989 Edition. No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components:

Name of Component	Name Of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced or Replacement	ASME Code Stamped Yes/No
Pressurizer Heater Sleeve M/C 027- 79932	SCE	055-98		RSO-1685-97, ht. #NX0643HG1 lot#136501A	N/A	Replacement	No

7. Description of Work:

A partial length pressurizer heater sleeve was machined from SB166-N06690 bar stock for installation into the Unit 3 Pressurizer (S31201ME087) at penetration "F1". Reference: AR 990302182. After final machining, all accessible surfaces were PT examined (see report 3PT-097-99).

Note: Pressure Test will be performed on installation.

8. Tests Conducted: N/A

Pressure: N/A

9. Remarks: None. (Applicable Manufacture's Data Reports are available on-site) CERTIFICATE OF COMPLIANCE We certify that the statements made in the report are correct and this replacement conforms to the rules of the ASME Code, Section XI. Tepair or replacement Type Code Symbol Stamp: N/A Certificate of Authorization No: N/A Expiration Date: N/A A/20/99 Supervising ASME Codes Engineer Owner or Owner's Designee, Title CERTIFICATE OF INSPECTION I, the undersigned holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of California, and employed by Arkwright Mutual Insurance Company of Waltham, Massachusetts have inspected the components described in this Owner's Report during the period to 4/21/99 ____, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI. By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection. Commissions 1862 theammen Inspector's Signature National Board, State, Province, and Endorsements

MO: 98021133000

Date April 21, 1999

As Required by the Previsions of the ASME Code Section XI

Owner:

Plant:

2.

3.

Southern California Edison Company

San Onofre Nuclear Generating Station

San Clemente, CA 92674-0128

Work Performed by: Southern California Edison

2244 Walnut Grove Avenue, Rosemead, CA 91770

Sheet 1 of 1 Unit:

CWO:

98031719000, 98041087000,

98041089000

FCN:

F13920M, F13924M

Repair Spec: P&ID:

112-98 40111A

N-5:

S2-1201-3

N/A

P.O. Box 128 San Clemente, CA 92674-0128

Type Code Symbol Stamp: Authorization No:

N/A

4. Identification of System: REACTOR COOLANT (1201)

Expiration Date:

N/A

- Applicable Construction Code: ASME Section III, Class 1, 1971 Edition, S'72 Addenda, Code Cases: N-474-1 (a) 5.
 - Applicable Edition of Section XI Utilized for Repairs or Replacements: 1989 Edition, No Addenda **(**b)
- Identification of Components Repaired or Replaced and Replacement Components: . 6.

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement Replacement	ASME Code Stamped Yes/No
Inconel 690 Nozzle	SCE	212-97	N/A	2PDT0979-1	N/A	Replacement	140
3/8 x 3/4" S160 Pipe/Tube Adapt.	Parker-Hannifin	HT.Code CENZ	N/A	RSO 1628-97, SA479 Gr.316	N/A	Replacement	No
3/4" 1500# S.S. Globe	BW/IP	97ZV1202	N/A	RSO 0424-98, S2- 1201-MR-189	1998	Replacement	Yes
Valve	SCE	206-97	N/A	2PDT0979-4	N/A	Replacement	No
Inconel 690 Nozzle 3/8 x 3/4" S160 Pipe/Tube Adapt.	Parker-Hannifin	HT. Code CENZ	N/A	RSO 1628-97, SA479 Gr.316	N/A	Replacement	No
3/4" 1500# S.S. Globe Valve	BW/IP	97ZV1208	N/A	S2-1201-MR-195 RSO 0424-98-00	1998	Replacement	Yes

Description of Work: 7.

New root valve assemblies for 2PDT0979-1 (S2-1201-MR-189) and 2PDT0979-4 (S2-1201-MR-195) were fabricated with replacement Inconei 690 haif nozzles in accordance with weld records WR2-98-180 (2PDT-0979-1 / CWO 98041087000) and WR-98-181 (2PDT0979-4 / CWO 98041089000).

The new root valve assemblies were installed in locations 2PDT0979-1 and 2PDT0979-4 in accordance with weld record WR2-98-199 and Repair Spec. 112-98 Rev. 0. The instrument nozzles are located on Hot Leg 503-03.

Tests Conducted: System Leakage [X] System Functional [] System Inservice [] Hydrostatic [] Pneumatic [] Other [] 8. Temp: NOT Pressure: NOP

(Reference: AR 980701362-12 for VT-2)

	(Applicable Manufacturer's Data Reports to be attached)
	CERTIFICATE OF COMPLIANCE
We certify that the state	ments made in the report are correct and this <u>replacement</u> conforms to the rules of the ASME Code, Section XI.
Type Code Symbol Star	np: N/A
Certificate of Authoriza	tion No; N/A Expiration Date: N/A
Signed:	Supervising ASME Codes Engineer Date: 3/30, 19/99 s Designee, Title
	CERTIFICATE OF INSPECTION
California, and employ in this Owner's Report d belief, the Owner has pe	ng a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of ed by <u>Arkwright Mutual Insurance Company</u> of Waltham, Massachusetts have inspected the components described uring the period <u>6/24/9 &</u> to <u>3/3/97</u> , and state that to the best of my knowledge and afformed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements on XI.
the ASME Code, Section	
By signing this certificate corrective measures described	te, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and cribed in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any dynage or a loss of any kind arising from or connected with this inspection.
By signing this certificate corrective measures described	cribed in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any domage or a loss of any kind arising from or connected with this inspection.

As Required by the Previsions of the ASME Code Section XI

Owner: 1.

2.

4.

Southern California Edison Company

2244 Wainut Grove Avenue, Rosemead, CA 91770

Sheet 1 of 1

I brit-

CWO:

98032390000, 98040033000, 98040033001, 98040031000,

98040031001

FCN:

F13912M, F13916M

Repair Spec: P&ID:

111-98 40111A S2-1201-3

3.

Plant:

Work Performed by: Southern California Edison

P.O. Box 128

San Clemente, CA 92674-0128

San Clemente, CA 92674-0128

Type Code Symbol Stamp:

N/A

San Onofre Nuclear Generating Station

Authorization No:

N/A

Identification of System:

REACTOR COOLANT (1201)

Expiration Date:

N/A

- Applicable Construction Code: ASME Section III, Class 1, 1971 Edition, S'72 Addenda, Code Cases: N-474-1 (a) 5.
 - Applicable Edition of Section XI Utilized for Repairs or Replacements: 1989 Edition, No Addenda **(b)**
- Identification of Components Repaired or Replaced and Replacement Components: 6.

Name of	Name of	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped Yes/No
Component	Manufacturer SCE	214-97	N/A	2PDT0978-3	N/A	Replacement	No
Inconel 690 Nozzle 3/8 x 3/4" S160 Pipe/Tube	502	HT. CENZ	N/A	RSO 1628-97, SA479 Gr.316	N/A	Replacement	No
Adapt. 3/4" 1500# S.S. Globe	BW/IP	97ZV1203	N/A	RSO 0424-98, S2- 1201-MR-185	1998	Replacement	Yes
Valve	SCE	207-97	N/A	2PDT0978-4	N/A	Replacement	No
Inconel 690 Nozzle 3/8 x 3/4" S160 Pipe/Tube	Parker-Hannifin	HT. CENZ	N/A	RSO 1628-97, SA479 Gr.316	N/A	Replacement	No
Adapt. 3/4" 1500# S.S. Globe Valve	BM / Ib	97ZV1207	N/A	RSO 0424-98, S2- 1201-MR-187	1998	Replacement	Yes

7.

New root valve assemblies for 2PDT0978-3 (S2-1201-MR-185) and 2PDT0978-4 (S2-1201-MR-187) were fabricated with replacement Incomel 690 haif nozzles in accordance with weld records WR2-98-182 (2PDT-0978-3 / CWO 98040033000/001) and WR-98-183 (2PDT0978-4 / CWO 98040031000/001).

The new root valve assemblies were installed in instrument locations 2PDT0978-3 and 2PDT0978-4 in accordance with weld record WR2-98-198 and Repair Spec. 111-98. The instrument nozzles are located on Hot Leg 503-01.

Tests Conducted: System Lenkage [X] System Functional [] System Inservice [] Hydrostatic [] Pneumatic [] Other [] 8. Pressure: NOP Temp: NOT

(Reference: AR 980701362-11 for VT-2)

	(Applicable Manufacturer's Data Reports to be attached)				
	CERTIFICATE OF COMPLIANCE				
We certify that the states	nents made in the report are correct and this replacement conforms to the rules of the ASME Code, Section XI.				
Type Code Symbol Stan	p: N/A				
Certificate of Authorizati	on No: N/A Expiration Date: N/A				
Signed: <u>Of M</u> Owner or Owner's	Designee, Title Designee, Title				
	CERTIFICATE OF INSPECTION				
California, and employe n this Owner's Report di	g a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of d by Arkwright Mutual Insurance Company of Waltham, Massachusetts have inspected the components describing the period 00005/98 to 0905/99 and state that to the best of my knowledge and formed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements XI.				
	e, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and				
corrective measures desc	ribed in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any transage or a loss of any kind arising from or connected with this inspection. Commissions Commissions California (National Board, State, Province, and Endorsements)				

As Required by the Provisions of the ASME Code SectionXI

Southern California Edison Company Owner:

2244 Walnut Grove Avenue

· Rosemead, California 91770

San Onofre Nuclear Generating Station 2. Plant:

San Clemente, California 92674-0128

3. Work Performed by:

Southern California Edison Company

4. Identification of System: Chemical and Volume Control

Shoet L of 1

Unit:

98040284001 98040284000 MO:

FCN: F15282M, F15283M

Rspec: ASME SECTION XI DATA-0176,

970200868-12

P&ID: 40124A (H6)

S2-1208-11 N-5:

Type Code Symbol Stamp: N/A

Authorization No:

Expiration Date:

N/A

5. (a) Applicable Construction Code: ASME Section III. Class 2. 1971 Ed., S'73 Add. (valve). 1974 Ed., S'74 Add. (piping & installation): Code Case: None

(b) Applicable Edition of Section XI Utilized for Repairs or Replacements: 1989 Edition, No Addenda: 1992 Edition, No

Addenda (NDE & VT-2); Code Case: N-416-1

6. Identification of Components Repaired or Replaced and Replacement Components:

Name of Component	Name Of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced or Replacement	ASME Code Stamped Yes/No
3" 150# Flow Diverting Valve	ITT Hammel- Dahl	74/5797/018	N/A	2LV0227A	1978	Replaced	Yes
3" 150# 3-way Valve	Fisher Controls	14929451	N/A	RSO-1453-98, SA351 Gr.CF8M	1998	Replacement	Yes
3" NPS Sch. 40s Seamless Pipe	Al Tech Specialty	Ht.# AH9998	N/A	RSO-1637-96, SA376 Gr.304	N/A	Replacement	No
3" Sch. 40s Pipe Elbow	Energy & Process Corp.	Ht.# 00091	N/A	RSO-1456-98, SA403 Gr.304	N/A	Replacement	No
3" 150# Pipe Flange	Tioga Pipe Supply	Ht. Code C4600	N/A	RSO-1631-98, SA182 Gr. F304	N/A	Replacement	No
3" Sch. 10 Pipe	Dubose National Energy Svcs.	Ht.# 770223, Tr. Code 12945	N/A	RSO-0173-99, SA376 Gr.TP304	N/A	Replacement	No

7. Description of Work:

Replaced the existing ITT Hammel Dahl 3-way valve in plant location 2LV0227A with a Fisher 3-way valve in accordance with FCN's F15282M, F15283M, F15279M, F15280M, F15284M, F15285M, Repair Specification 970200868-12, and ASME XI DATA-0176. All welding was performed in accordance with weld records WR2-98-388, WR2-98-389, WR2-98-390, WR2-98-391, WR2-99-125 and WR2-99-127. NDE examinations (2RT-013-99, 2RT-014-99, 2RT-015-99, 2RT-016-99, 2RT-025-99 and 2RT-026-99) were performed with satisfactory results. Note: NDE examinations (2RT-021-99 and 2RT-022-99) peformed in accordance with weld records WR2-98-382 Rev. 0 and Rev. 1 were rejected.

8. Tests Conducted: System Leakage Pressure Test

Pres: NOP

Temp: NOT

See: AR 970200868-13

This test was performed in lieu of a hydrostatic pressure test as allowed under Code Case N-416-1.

9. Remarks: None. CERTIFICATE OF COMPLIANCE We certify that the statements made in the report are correct and this repair and replacement conforms to the rules of the ASME Code, Section XI. Tepair or replacement Type Code Symbol Stamp: N/A Expiration Date: N/A Certificate of Authorization No: N/A Date: 4/24/99 Supervising ASME Codes Engineer Signed: Owner or Owner's Designee, Title CERTIFICATE OF INSPECTION I, the undersigned holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of California, and employed by Arkwright Mutual Insurance Company of Waltham. Massachusetts have inspected the components described in this Owner's Report during the period 12/22/98 to 4/26/99, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI. By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection. Commissions California Duman National Board, State, Province, and Endorsements Inspector's Signature Date April 26, 1999

As Required by the Provisions of the ASME Code Section XI

Owner: 1.

2.

Southern California Edison Company

San Onofre Nuclear Generating Station

2244 Walnut Grove Avenue, Rosemead, CA 91770

Sheet 1 of 1

Unit:

N-5:

CWO:

98040973000 F13968M, F13973M, F13978M FCN:

104-98, Rev. 1 Repair Spec:

P&ID:

40111A S2-1201-3

3.

Plant:

Work Performed by: Southern California Edison

P.O. Box 128

San Clemente, CA 92674-0128

Type Code Symbol Stamp:

N/A

San Clemente, CA 92674-0128

Authorization No: Expiration Date:

N/A N/A

4. Identification of System: **REACTOR COOLANT (1201)**

- Applicable Construction Code: ASME Section III, Class 1, 1971 Edition, S'72 Addenda, Code Cases: N-474-1 5. (a)
 - Applicable Edition of Section XI Utilized for Repairs or Replacements: 1989 Edition, No Addenda **(b)**
- Identification of Components Repaired or Replaced and Replacement Components: 6.

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped Yes/No
Inconel 690 Nozzle	SCE	238-97	N/A	2TE0112-1	N/A	Replacement	No
Inconei 690 Nozzle	SCE	245-97	N/A	2TE0112-4	N/A	Replacement	No
Inconel 690 Nozzle	SCE	248-97	N/A	2TE0111-X1	N/A	Replacement	No
Inconel 690 Thermowell	WEED	N12967	N/A	2TE0112-1	N/A	Replacement	No
Inconel 690 Thermowell	WEED	N12966	N/A	2TE0112-4	N/A	Replacement	No
Inconel 690 Thermowell	WEED	N12969	N/A	2TE0111-X1	N/A	Replacement	No

7. Description of Work:

Note:

Inconel 690 nozzles were installed (Line No. S2-1201-ML-001, Spool 503-01/717-01) at instrument locations 2TE0112-1, 2TE0112-4, and 2TE0111-X1 to replace existing Incomel 600 nozzles in accordance with weld record WR2-98-184 and Repair Spec. 104-98 Rev. 1. Replacement Inconel 690 thermowells were then installed in accordance with weld record WR2-98-185 and Repair Spec. 104-98 Rev. 1. All NDE examinations were performed in accordance with weld records WR2-98-184, WR2-98-185 and Repair Spec. 104-98 Rev.1.

Tests Conducted: System Leakage [X] System Functional [] System Inservice [] Hydrostatic [] Pneumatic [] Other [] 3. Pressure: NOP Temp:

(Reference: AR #980701362-11 for VT-2)

,	(Applicable Manufacturer's Data Reports to be attached)
ing the second s	CERTIFICATE OF COMPLIANCE
We certify that the statements ma	ade in the report are correct and this replacement conforms to the rules of the ASME Code, Section XI.
Type Code Symbol Stamp: N/A	A
Certificate of Authorization No:	N/A Expiration Date: N/A
Signed: Owner or Owner's Design	.Supervising ASME Codes Engineer Date: 4/8 1999 nee, Title
	CERTIFICATE OF INSPECTION
California, and employed by	ad commission issued by the National Board of Boiler and Pressure Vessei Inspectors and the State or Province of Arkwright Mutual Insurance Company of Waltham, Massachusetts have inspected the components described a period
account in items on account of the	age or a loss of any kind arising from or connected with this inspection.
bersonar minty of property dams	

As Required by the Provisions of the ASME Code Section XI

1. Owner:

2.

Southern California Edison Company

San Onofre Nuclear Generating Station

2244 Walnut Grove Avenue, Rosemead, CA 91770

Unit:

Sheet 1 of 1

cwo:

98040979000

FCN:

F13988M, F13993M, F13998M

Repair Spec:

105-98, Rev. 1

P&ID:

N-5:

40111A

S2-1201-3

3.

Plant:

Work Performed by: Southern California Edison

P.O. Box 128

San Clemente, CA 92674-0128

Type Code Symbol Stamp:

N/A

San Clemente, CA 92674-0128

Authorization No: Expiration Date:

N/A N/A

4. Identification of System: **REACTOR COOLANT (1201)**

Applicable Construction Code: ASME Section III, Class 1, 1971 Edition, S'72 Addenda, Code Cases: N-474-1 5. (a)

Applicable Edition of Section XI Utilized for Repairs or Replacements: 1989 Edition, No Addenda (b)

Identification of Components Repaired or Replaced and Replacement Components: 6.

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	Code Stamped Yes/No
Inconei 690 Nozzle	SCE	241-97	N/A	2TE0121-X2	N/A	Replacement	No
Inconel 690 Nozzle	SCE	247-97	N/A	2TE0122-1	N/A	Replacement	No
Inconel 690 Nozzle	SCE	001-99	N/A	2TE0122-4	N/A	Replacement	No
Inconel 690 Thermowell	WEED	N12970	N/A	2TE0121-X2	N/A	Replacement	No
Inconel 690 Thermowell	WEED	N12972	N/A	2TE0122-1	N/A	Replacement	No
Inconel 690 Thermowell	WEED	N12965	N/A	2TE0122-4	N/A	Replacement	No

7. Description of Work:

Inconel 690 nozzles were installed (Line No. S2-1201-ML-002, Spool 503-03/717-05) at instrument locations 2TE0121-X2, 2TE0122-1, and 2TE0122-4 to replace existing Inconel 600 nozzles in accordance with weld record WR2-98-186 and Repair Spec. 105-98 Rev. 1. Replacement Inconel 690 thermowells were then installed in accordance with weld record WR2-98-187. All NDE examinations were performed in accordance with weld records WR2-98-136, WR2-98-187 and Repair Spec. 105-98 Rev. 1. The MNSA clamp at location 2TE0122-4 was removed.

Tests Conducted: System Leakage [X] System Functional [] System Inservice [] Hydrostatic [] Pneumatic [] Other [] 3. Pressure: NOP Temp:

(Reference: AR #980701362-12 for VT-2)

(Applicable Manufacturer's Data Reports to be attached)					
C	CERTIFICATE OF COMPLIANCE				
We certify that the statements made in the report are c	correct and this replacement conforms to the rules of the ASME Code, Section XI.				
Type Code Symbol Stamp: N/A					
Certificate of Authorization Nov N/A	Expiration Date: N/A				
Signed:Superv Owner or Owner's Designee, Title	vising ASME Codes Engineer Date: 4/8, 1999				
	CERTIFICATE OF INSPECTION				
California and employed by Arkwright Mutual in this Owner's Report during the period ///3/	by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of Insurance Company of Waltham, Massachusetts have inspected the components described to to to the best of my knowledge and ken corrective measures described in this Owner's Report in accordance with the requirements				
By signing this certificate, neither the Inspector nor hi corrective measures described in this Owner's Report, personal injury or property damage or a loss of any k	is employer makes any warranty, expressed or implied, concerning the examinations and . Furthermore, neither the Inspector nor his employer shall be liable in any manner for any ind arising from or connected with this inspection.				
Inspector's Signature	Commissions /862 California (National Board, State, Province, and Endorsements)				
Date April 9, 1999					

As Required by the Provisions of the ASME Code Section XI

Owner: 1

Southern California Edison Company

CWO:

Sheet 1 of 1 Unit:

98041018000

2244 Walnut Grove Avenue, Rosemead, CA 91770

FCN:

F14681M, F14684M, F14687M, F14690M

Plant: 2.

San Onofre Nuclear Generating Station

Repair Spec:

107-98

San Clemente, CA 92674-0128

P&ID:

40111A

3.

Work Performed by: Southern California Edison

P.O. Box 128

N-5:

S2-1201-3

San Clemente, CA 92674-0128

Type Code Symbol Stamp:

N/A N/A

Identification of System: 4.

REACTOR COOLANT (1201)

Authorization No: Expiration Date:

N/A

Applicable Construction Code: ASME Section III, Class 1, 1971 Edition, S'72 Addenda, Code Cases: N-474-1 (a) 5.

Applicable Edition of Section XI Utilized for Repairs or Replacements: 1989 Edition, No Addenda (b)

Identification of Components Repaired or Replaced and Replacement Components: 6.

Name of	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped Yes/No
Component		065-98	N/A	2TW-0138B	N/A	Replacement	No
Inconel 690 Nozzie Plug	SCE		N/A	2TW-0138C	N/A	Replacement	No
Inconel 690 Nozzle Plug	SCE	064-98			N/A	Replacement	No
Inconel 690 Nozzle Plug	SCE	063-98	N/A	2TW-0138E	_		No
Inconel 690 Nozzle Plug	SCE	058-98	N/A_	2TW-0138F	N/A	Replacement	1 .00

Description of Work: Inconel 690 nozzle plugs were installed in plant instrument locations 2TW-0138B, 2TW-0138C, 2TW-0138E and 2TW-0138F (Line No. 7. S21201ML001 and Spool No. 503-01/717-01) to replace the existing Inconel 600 nozzles in accordance with weld record WR2-98-190 and Repair Spec. 107-98.

Tests Conducted: System Leakage [X] System Functional [] System Inservice [] Hydrostatic [] Pneumatic [] Other [] 8. Pressure: NOP Temp: NOT

(Reference: AR #980701362-11 for VT-2)

	(Applicable Manufacturer's Data Reports to be attached)
	CERTIFICATE OF COMPLIANCE
We œr	ify that the statements made in the report are correct and this replacement conforms to the rules of the ASME Code, Section XI.
Type C	ode Symbol Stamp: N/A
Certific	ate of Authorization No: N/A Expiration Date: N/A
Signed	Owner or Owner's Designee, Title Supervising ASME Codes Engineer Date: 4/9, 1999
	CERTIFICATE OF INSPECTION
<u>Califor</u>	ndersigned holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of mia, and employed by Arkwright Mutual Insurance Company of Waltham, Massachusetts have inspected the components describe Owner's Report during the period Old Told to Owner's Report during the period Old Told to Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of ME Code. Section XI.
the AS By sign correct	ting this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and ive measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any all injury opported an age or a loss of any kind arising from or connected with this inspection.
By sign correct person	ting this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and ive measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any

As Required by the Provisions of the ASME Code Section XI

Owner:

2.

3.

4.

Plant:

Southern California Edison Company

2244 Wainut Grove Avenue, Rosemead, CA 91770

Sheet 1 of 1 Unit:

CWO:

98041020000

FCN:

F14693M, F14696M, F14699M, F14702M

Repair Spec:

108-98

P&ID:

40111A

N-5:

S2-1201-3

P.O. Box 128

San Clemente, CA 92674-0128

Work Performed by: Southern California Edison

San Onofre Nuclear Generating Station

San Clemente, CA 92674-0128

Type Code Symbol Stamp:

N/A N/A

Identification of System:

100

REACTOR COOLANT (1201)

Authorization No: Expiration Date:

N/A

- Applicable Construction Code: ASME Section III, Class 1, 1971 Edition, S'72 Addenda, Code Cases: N-474-1 5. (a)
 - Applicable Edition of Section XI Utilized for Repairs or Replacements: 1989 Edition, No Addenda (b)
- Identification of Components Repaired or Replaced and Replacement Components: 6.

Name of	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired Replaced, or Replacement	ASME Code Stamped Yes/No
Component	SCE	068-98	N/A	2TW-0139B	N/A	Replacement	No
Inconel 690 Nozzle Plug	SCE	070-98	N/A	2TW-0139C	N/A	Replacement	No
Inconel 690 Nozzle Pług		070-98	N/A	2TW-0139E	N/A	Replacement	No
Inconel 690 Nozzie Plug	SCE		N/A	2TW-0139F	N/A	Replacement	No
Incomel 690 Nozzie Plug	SCE	069-98	19/A	14 1 W -V 1 J / 1			

Description of Work: Inconel 690 nozzle plugs were installed in plant instrument locations 2TW-0139B, 2TW-0139C, 2TW-0139E and 2TW-0139F (Line No. 7. S21201ML002 and Spool No. 503-03/717-05) to replace the existing Inconel 600 nozzles in accordance with weld record WR2-98-191 and Repair Spec. 108-98.

Tests Conducted: System Leakage [X] System Functional [] System Inservice [] Hydrostatic [] Pneumatic [] Other [] 8. Temp: Pressure: NOP

(Reference: AR #980701362-12 for VT-2)

Note:

9. Remarks: None.

(Applicable Manufacturer's Data Reports to be attached)

CERTIFICATE OF COMPLIANCE

We certify that the statements made in the report are correct and this replacement conforms to the rules of the ASME Code, Section XI.

Type Code Symbol Stamp: N/A

Certificate of Authorization No: N/A

Expiration Date: N/A

Signed: Supervising ASME Codes Engi

Supervising ASME Codes Engineer Date: 4/8, 1999

CERTIFICATE OF INSPECTION

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury of property damage or a loss of any kind arising from or connected with this inspection.

Inspector's Signature

Commissions 1862

California

(National Board, State, Province, and Endorsements)

Date April 9, 1999

As Required by the Provisions of the ASME Code Section XI

1. Owner:

2.

3.

4.

Plant:

Southern California Edison Company

San Onofre Nuclear Generating Station

2244 Walnut Grove Avenue, Rosemead, CA 91770

Sheet 1 of 1 I Init:

CWO:

98041092000, 98061004000

FCN:

F14103M, F14104M,

F14105M, F14106M, F14107M, F14503M, F14266M

Repair Spec:

P&ID:

110-98 40111A

N-5:

S2-1201-3

Work Performed by: Southern California Edison

P.O. Box 128

San Clemente, CA 92674-0128

San Clemente, CA 92674-0128

Type Code Symbol Stamp:

N/A

Identification of System:

REACTOR COOLANT (1201)

Authorization No:

N/A N/A

Expiration Date:

- Applicable Construction Code: ASME Section III, Class 1, 1971 Edition, S'72 Addenda, Code Cases: N-474-1 5. (a)
 - Applicable Edition of Section XI Utilized for Repairs or Replacements: 1989 Edition, No Addenda (b)
- Identification of Components Repaired or Replaced and Replacement Components: 6.

Name of Component	Name of	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped Yes/No
Sample Line Nozzle	SCE	007-98	N/A	S2-1201-ML-002	N/A	Replacement	No
3/4" Sch. 160 SS 90° Ell	Consolidated	HT. F8406	N/A	RSO 0989-98, SA403 GR 316	NA	Replacement	No
3/4" Sch. 160 SS Pipe	Tioga Pipe	HT. TRZ	N/A	RSO 0919-98, SA376 GR 316	N/A	Replacement	No
3/4" 1500# SS Globe Valve	BW IP	97ZV1209	NA	RSO 0424-98, S21201MU034	1998	Replacement	Yes
3/4" Sch. 160 SS Pipe	Sumitomo	HT. C08A029	N/A	RSO 1410-91, SA376 GR 316	N/A	Replacement	No

7. Description of Work:

Sample line S21201ML065/S21212ML167 was fabricated using a new valve and replacement Inconel 690 nozzle in accordance with weld records WR2-98-220, WR2-98-221, WR2-98-222 and WR2-98-223. (Reference: CWO 98061004000)

Sample Line S21201ML065/S21212ML167 was installed on spool 503-03 and tied into line S21212ML167 in accordance with Repair Specification 110-98 and weld records WR2-98-197 and WR2-98-224. (Reference: CWO 98041092000).

Tests Conducted: System Leakage [X] System Functional [] System Inservice [] Hydrostatic [] Pneumatic [] Other [] Temp: NOT Pressure: NOP

(Reference: AR #980701362-12 for VT-2)

(Applicable Manufacturer's Data Reports to be attached)					
	CERTIFICATE OF COMPLIANCE				
We certify that the statements made in the re	eport are correct and this <u>replacement</u> conforms to the rules of the ASME Code, Section XI.				
Type Code Symbol Stamp: N/A					
Certificate of Authorization No:/ N/A	Expiration Date: N/A				
Bul. M	Supervising ASME Codes Engineer Date: 4/8, 19.99				
Signed: Owner or Owner's Designee, Title	.Supervising ASME Codes Engineer Date: 1/0, 19/				
	CERTIFICATE OF INSPECTION				
California, and employed by Arkwright in this Owner's Report during the period belief, the Owner has performed examination the ASME Code, Section XI.	ion issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of Mutual Insurance Company of Waltham, Massachusetts have inspected the components described to, and state that to the best of my knowledge and ons and taken corrective measures described in this Owner's Report in accordance with the requirement				
California, and employed by Arkwright in this Owner's Report during the period belief, the Owner has performed examination the ASME Code, Section XI. By signing this certificate, neither the Inspection of the Country of the Countr	ion issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of Mutual Insurance Company of Waltham, Massachusetts have inspected the components described to				
California, and employed by Arkwright in this Owner's Report during the period belief, the Owner has performed examination the ASME Code, Section XI. By signing this certificate, neither the Inspection of the Country of the Countr	ion issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of Mutual Insurance Company of Waltham, Massachusetts have inspected the components described to, and state that to the best of my knowledge and ons and taken corrective measures described in this Owner's Report in accordance with the requirement of the Report Furthermore, neither the Inspector nor his employer shall be liable in any manner for any				

As Required by the Provisions of the ASME Code Section XI

Owner: 1.

2.

3.

Southern California Edison Company

San Clemente, CA 92674-0128

P.O. Box 128

Work Performed by: Southern California Edison

San Onofre Nuclear Generating Station

2244 Walnut Grove Avenue, Rosemead, CA 91770

Sheet 1 of 1 Unit:

cwo:

98041093000, 98061003000

FCN:

F13983M, F13984M, F13985M, F13986M, F13987M, F14265M

Repair Spec:

109-98

P&ID:

40111A

S2-1201-3

N-5:

Identification of System: 4.

Plant:

REACTOR COOLANT (1201)

Type Code Symbol Stamp: Authorization No:

N/A N/A

Expiration Date:

N/A

- Applicable Construction Code: ASME Section III, Class 1, 1971 Edition, S'72 Addenda, Code Cases: N-474-1 5. (a)
 - Applicable Edition of Section XI Utilized for Repairs or Replacements: 1989 Edition, No Addenda (b)
- Identification of Components Repaired or Replaced and Replacement Components: 6.

San Clemente, CA 92674-0128

Name of	Name of	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped Yes/No
Component	Manufacturer		N/A	N/A	N/A	Replacement	No
Sample Line Nozzle	SCE Consolidated	006-98 Ht. F8406	N/A	RSO 0989-98, SA403 GR 316	N/A	Replacement	No
/4" Sch. 160 SS 90° EIL		HT. TRZ	N/A	RSO 0919-98, SA376 GR 316	N/A	Replacement	No
7/4" Sch. 160 SS Pipe 7/4" 1500# SS Globe Valve	Tioga Pipe BW / IP	97ZY1201	N/A	RSO 0424-98, S21201MU006	1998	Replacement	Yes
3/4" Sch. 160 SS Pipe	Sumitomo	Hr. C08A029	N/A	RSO 1410-91, SA376 GR 316	N/A	Replacement	No

Description of Work: 7.

Sample line S21201ML023/S21212ML030 was fabricated using a new valve and replacement Inconel 690 nozzle in accordance with weld records WR2-98-215, WR2-98-216, WR2-98-217 and WR2-98-218. (Reference: CWO 98061003000)

Sample line S21201ML023/S21212ML030 was installed on spool 503-01 and tied into line S21212ML030 in accordance with Repair Specification 109-98 and weld records WR2-98-196 and WR2-98-219. (Reference: CWO 98041093000)

Tests Conducted: System Leukage [X] System Functional [] System Inservice [] Hydrostatic [] Pneumatic [] Cther [] 8. Temp: NOT Pressure: NOP

(Reference: AR #980701362-11 for VT-2)

	(Applicable Manufacturer's Data Reports to be attached)
_	CERTIFICATE OF COMPLIANCE
w	e certify that the statements made in the report are correct and this replacement conforms to the rules of the ASME Code, Section XI.
Ty	pe Code Symbol Stamp: N/A
	ertificate of Authorization No: N/A Expiration Date: N/A Supervising ASME Codes Engineer Date: 4/6 19 59
Si	Owner or owner's Designee, Title
	CERTIFICATE OF INSPECTION
in be	the undersigned holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of <u>altifornia</u> , and employed by <u>Arkwright Mutual Insurance Company</u> of <u>Waltham</u> , <u>Massachusetts</u> have inspected the components describe this Owner's Report during the period
^	by signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any ersonal injury or property damage or a loss of any kind arising from or connected with this inspection.
_	Inspector's Signature Commissions Volume California (National Board, State, Province, and Endorsements)
	Tane april 9, 1999

As Required by the Provisions of the ASME Code Section XI

Owner:

2.

Southern California Edison Company

San Onofre Nuclear Generating Station

2244 Wainut Grove Avenue, Rosemead, CA 91770

Sheet 1 of 1

Unit:

98041975000

CWO: Repair Spec.

GEN-105s

P&ID: N-5: 40141A (F5) \$2,1201-3

S2-1201-3

3. Work Performed by: Southern California Edison

Plant:

San Clemente, CA 92674-0128

P.O. Box 128

San Clemente, CA 92674-0128

Type Code Symbol Stamp:

N/A N/A

Authorization No: Expiration Date:

N/A

4. Identification of System:

Reactor Coolant (1201)

- 5. (a) Applicable Construction Code: ASME Section III, Class 1, 1971 Edition, S' 71 Addenda, Code Cases: None
 - (b) Applicable Edition of Section XI Utilized for Repairs or Replacements: 1989 Edition, No Addenda
- 6. Identification of Components Repaired or Replaced and Replacement Components:

Name of Component	Name of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced, or Replacement	ASME Code Stamped Yes/No
Steam Generator	Combustion Engineering	71270-1	22218	S21301ME089	1976	N/A	Yes
1½" Manway Stud	Combustion Engineering	HT #40545	N/A	RSO 3522-90, SA-540 Grade B24	N/A	Replacement	No
11/2" Manway Stud Nut	Combustion Engineering	Ht. Code Z17	N/A	RSO 1596-98, SA-193 Grade B7	N/A	Replacement	No

- 7. Description of Work: Removed and reinstalled east S/G secondary manway cover on S21301ME089. (1) manway cover stud (# 7) and (1) manway cover nut (# 7) were replaced with in-kind replacements.
- 8. Tests Conducted: System Leakage [] System Functional [] System Inservice [X] Hydrostatic [] Pneumatic [] Other [] Pressure: NOP Temp: NOT

(Ref.: AR #980701362-29 for VT-2)

(Applicable Manufacturer's Data Reports to be attached)					
	CERTIFICATE OF COMPLIANCE				
We certify that the statemen	its made in the report are correct and this <u>replacement</u> conforms to the rules of the ASME Code, Section XI.				
Type Code Symbol Stamp:	N/A				
Certificate of Authorization	No: N/A Expiration Date: N/A				
Signed: What or Owner's D	Supervising ASME Codes Engineer Date: 4/8, 1999 esignee, Title				
	CERTIFICATE OF INSPECTION				
California, and employed b	a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of by Arkwright Mutual Insurance Company of Waltham, Massachusetts have inspected the components described in the period 110111 to 110111 and state that to the best of my knowledge and made examinations and taken corrective measures described in this Owner's Report in accordance with the requirement				
in this Owner's Report during belief, the Owner has perfor					
in this Owner's Report during belief, the Owner has perfor the ASME Code, Section X By signing this certificate, recorrective measures describ					
in this Owner's Report during belief, the Owner has perfor the ASME Code, Section X By signing this certificate, recorrective measures described.	neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and led in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any damage or a loss of any kind arising from or connected with this inspection. Commissions Commissions California				

As Required by the Provisions of the ASME Code SectionXI

1. Owner:

Southern California Edison Company

2244 Walnut Grove Avenue

Rosemead, California 91770

2. Plant:

San Onofre Nuclear Generating Station

San Clemente, California 92674-0128

Unit: 2

98050309000 MO:

Rspec: GEN-105P R1

P&ID: 40141A

N-5: S2-1201-3

3. Work Performed by:

Southern California Edison Company

Type Code Symbol Stamp: N/A Authorization No:

N/A

4. Identification of System: Reactor Coolant

Expiration Date:

N/A

5. (a) Applicable Construction Code: ASME Section III. Class 1, 1971 Edition, Summer 1971 Addenda; Code Case: None

(b) Applicable Edition of Section XI Utilized for Repairs or Replacements: 1989 Edition. No Addenda

6. Identification of Components Repaired or Replaced and Replacement Components:

Name of Component	Name Of Manufacturer	Manufacturer Serial No.	National Board No.	Other Identification	Year Built	Repaired, Replaced or Replacement	ASME Code Stamped Yes/No
Steam Generator	CE	71270-2	22219	S21301ME088P	1976		Yes
Cold Leg Manway Hex Nuts (20)		Ht.#Y12	N/A	RSO-1244-98, SA193 Gr.B7	N/A	Replacement	No
Hot Leg Manway Hex Nuts (20)		Ht.#Y12	N/A	RSO-1244-98, SA193 Gr.B7	N/A	Replacement	No

7. Description of Work:

The steam generator manway studs and nuts were removed and examined. All manway studs were acceptable for reuse and all manway nuts (20 ea. hot leg and 20 ea. cold leg) were replaced. A VT-1 examination was performed on the replacement bolting with satisfactory results.

8. Tests Conducted: System Leakage Pressure Test

Pressure: NOP

Temp: N/A

9. Remarks: None. (Applicable Manufacturer's Data Reports are available on-site) CERTIFICATE OF COMPLIANCE We certify that the statements made in the report are correct and this replacement conforms to the rules Tepair or replacement of the ASME Code, Section XI. Type Code Symbol Stamp: N/A Expiration Date: N/A Certificate of Authorization No: N/A Date: 4/1/99 Supervising ASME Codes Engineer Signed: Owner or Owner's Designee, Title CERTIFICATE OF INSPECTION I, the undersigned holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of California, and employed by Arkwright Mutual Insurance Company of Waltham, Massachusetts have inspected the components described in this Owner's Report during the period to 04/02/99, and state that to the best of my knowledge and belief, the Owner has performed examinations and taken corrective measures described in this Owner's Report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the

California

National Board, State, Province, and Endorsements

examinations and corrective measures described in this Owner's Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or

Commissions ___

Date <u>April 2, 1999</u>

Inspector's Signature

connected with this inspection.