NRC Form 366
(9/83)

U.S. NUCLEAR REGULATORY COMMISSION
APPROVED OMB NO. 3150-0104
EXPIRES: 8/31/85

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
SAN ONOFRE NUCLEAR GENERATING STATION, UNIT 3	0 5 0 0 0 3 6 2	1 OF 0 4

TITLE (4)
REACTOR TRIP ON LOSS OF LOAD SIGNAL

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)	
MONTH	DAY	YEAR	YEAR	SEQ. NUMBER	REV. NUMBER	MONTH	DAY	YEAR	FACILITY NAMES	DOCKET NUMBER(S)
										0 5 0 0 0
0 4	0 4	8 5	8 5	0 1 2	0 0	0 5	0 6	8 5		0 5 0 0 0

OPERATING MODE (9)	1
POWER LEVEL (10)	1 0 0

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)

	20.402(b)		20.405(c)	X	50.73(a)(2)(iv)
	20.405(a)(1)(i)		50.36(c)(1)		50.73(a)(2)(v)
	20.405(a)(1)(ii)		50.36(c)(2)		50.73(a)(2)(vii)
	20.405(a)(1)(iii)	X	50.73(a)(2)(i)		50.73(a)(2)(viii)(A)
	20.405(a)(1)(iv)		50.73(a)(2)(ii)		50.73(a)(2)(viii)(B)
	20.405(a)(1)(v)		50.73(a)(2)(iii)		50.73(a)(2)(x)

	73.71(b)
	73.71(c)
X	OTHER (Specify in Abstract below and in Text, NRC Form 366A)

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER
	AREA CODE
J. G. HAYNES, STATION MANAGER	7 1 4 — 4 9 2 - 7 7 0 0

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS		CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS	

SUPPLEMENTAL REPORT EXPECTED (14)

		EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
	YES (If yes, complete EXPECTED SUBMISSION DATE)				
X	NO				

Abstract (Limit to 1400 spaces, i.e., approximately fifteen single-space typewritten lines) (16)

On 4/4/85, at 0452, with Unit 3 at steady state full load operation, the reactor tripped on Loss of Load Channels 1 and 4. Control and safety systems functioned properly, with both Emergency Feedwater System trains actuating on low Steam Generator level due to shrink. Investigation was unable to reveal any cause for the "Loss of Load" reactor trip signals.

This submittal also provides the report pursuant to Limiting Condition for Operation 3.4.7, Action Statement 'd', for RCS specific activity exceeding 1.0 microcurie/gram Dose Equivalent I-131, which was caused by iodine spiking following the shutdown.

A required 4-hour RCS sample taken at 1705 was not properly analyzed due to an instrument malfunction. The 1705 sample was discarded before the analysis was determined to be invalid. As a result, the 4-hour limit required by LCO 3.4.7, Action Statement 'd', was not met. Another sample was immediately obtained and analyzed. Chemistry technicians have been reinstructed to retain samples until analyses have been verified as valid. In addition, a precaution to retain the sample until confirmation of a valid analysis will be included in appropriate chemistry procedures.

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FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6) YEAR	SEQ. NUMBER	REV. NUMBER	PAGE (3)
SAN ONOFRE NUCLEAR GENERATING STATION, UNIT 3	0 5 0 0 0 3 6 2	8 5	- 0 1 2	- 0 0	0 2 OF 0 4

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

On April 4, 1985 at 0452, with Unit 3 at steady state full load operation, the reactor tripped on "Loss of Load" Channels 1 and 4 from the Plant Protection System (PPS) (EIIS System Code JC). Control and safety systems functioned properly with both trains of Emergency Feedwater System (EIIS System Code JB) actuating due to steam generator level shrinkage. At 0530, Emergency Operating Instruction S023-12-2, "Reactor Trip Recovery" was satisfactorily completed.

At approximately 0448 prior to the trip, a "Turbine Governor Fault" alarm came in and cleared. Operations personnel checked turbine stop and governor valve positions and the alarm status of Turbine Governor Control System (EIIS System IT) and no abnormal conditions were found. Approximately 1 minute prior to the trip, the "Turbine Governor Fault" alarm again was received.

A review of the Sequence of Events Computer (EIIS System Code IQ) records shows that the reactor trip was initiated by "Loss of Load" on Channels 1 and 4. "Loss of Load" originates from a pressure sensor on the hydraulic system of each of the four high pressure turbine stop valves, which senses a loss of the hydraulic pressure which keeps the valves open. A review of alarms received and turbine protection relays operated could not determine the cause of the stop valves closure signal. Analysis of the above data did indicate that problems with one out of the three governor computing channels was experienced, however, two of three computing channel actuations are required to initiate a "valve close signal." Surveillances of the Turbine Governor Control System were performed and no problems were found. On April 5, 1985, Unit 3 was returned to power operation, and at 27% reactor power, the governor computing channels and the high pressure turbine stop and governor valves' trip circuits again were tested satisfactorily.

There was no safety significance to this event, since all shutdown systems performed their design function.

On April 4, 1985, at 0830, with Unit 3 in Mode 3, Reactor Coolant System (RCS) (EIIS System Code AB) sample analysis indicated that RCS specific activity exceeded 1.0 microcurie/gram Dose Equivalent (DE) I-131. RCS specific activity was reduced to less than 1.0 microcurie/gram DE I-131 by purification flow at 1830 on April 4, 1985. Similar occurrences were previously reported in LER's 83-111, 84-005, 84-013, 84-015, 84-023, 84-037, 84-038, 84-039, 85-001, and 85-010.

Pursuant to Limiting Condition for Operation (LCO) 3.4.7, Action Statement 'd', this submittal also provides the required 30-day written report for the iodine spiking following the shutdown. Additional information, required by LCO 3.4.7, Action Statement 'd', is provided in the tables below. Although the unit has a degasification path which operates continuously and takes pressurizer steam, condenses it and directs it to Liquid Radwaste, degassing history is not applicable, because this system reduces the noble gas content of the RCS but has no effect on Iodine.

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQ. NUMBER	REV. NUMBER	
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TEXT (If more space is required, use additional NRC Form 366A's) (17)

The analysis of the required 4-hour sample taken at 1705 erroneously indicated zero DE I-131 activity due to an instrumentation malfunction. Before this result was determined to be invalid, the 1705 sample was discarded. As a result, the 4-hour limit required by LCO 3.4.7, Action Statement 'd', was not met. Another RCS sample was taken and analyzed at 1830 which indicated a DE I-131 activity of 0.72 microcuries/gram. As corrective action, all Chemistry Technicians have been reinstructed on the necessity of retaining samples until analyses have been reviewed and determined to be valid. In addition, a precaution to retain the sample until confirmation of a valid analysis will be included in appropriate Chemistry procedures.

CLEANUP FLOW HISTORY

Period	Average Cleanup Flow (gpm)
4/2/85, 0800 to 4/4/85, 0400	77.7
4/4/85, 0400 to 4/4/85, 0500	45.9
4/4/85, 0500 to 4/4/85, 1900	120.7

REACTOR POWER HISTORY

4/2/85, 0800 to 4/4/85, 0451	100% Rated Power
4/4/85, 0451 to 4/4/85, 1830	0%

REACTOR COOLANT SYSTEM SPECIFIC ACTIVITY

Date/Time of Sample	DE I-131 (uCi/gm)
4/4/85, 0843	2.14
4/4/85, 1305	1.28
4/4/85, 1705	Sample analysis error
4/4/85, 1830	0.72

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
SAN ONOFRE NUCLEAR GENERATING STATION, UNIT 3	0 5 0 0 0 3 6 2	8 5	— 0 1 2	— 0 0	0 4 OF 0 4

TEXT *(If more space is required, use additional NRC Form 366A's)* (17)

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COR2.0 R2 1280          S3C1F836                    EDIT= 23  04/04/85  14:03:19  PAGE =  57

                    AXIALLY  INTEGRATED  AND  PEAK  OUTPUT ASSEMBLY EXPOSURE EDITS

 FORMAT OF ASSEMBLY IN CORE MAP
 ASSEMBLY NUMBER - BATCH NUMBER
 INTEGRATED BOX EXPOSURE IN  10**+03MWD/T
 MAXIMUM  BOX  EXPOSURE  IN  10**+03MWD/T
 LOCATION OF MAX. ASS. EXP. IN 0/0 HEIGHT

                                      1-05     2-05     3-05     4-05
                                    5.990    7.774    7.768    5.976
                                    7.364    9.493    9.477    7.308
                                   34.000   34.000   34.000   32.000

                           5-05     6-05     7-07     8-07     9-04    10-07    11-07    12-05    13-05
                         5.769    7.790    9.348   11.059    9.826   11.040    9.305    7.710    5.626
                         7.143    9.563   11.578   13.682   12.237   13.630   11.476    9.396    6.895
                        36.000   34.000   32.000   34.000   34.000   34.000   32.000   34.000   42.000

                14-05    15-06    16-04    17-02    18-04    19-02    20-04    21-02    22-04    23-06    24-05
              6.299    9.568    9.716    9.901   10.862   10.303   10.850    9.877    9.601    9.448    6.229
              7.637   11.811   12.014   12.132   13.433   12.651   13.402   12.069   11.855   11.567    7.561
             36.000   36.000   36.000   34.000   34.000   34.000   34.000   34.000   34.000   36.000   34.000

        25-05    26-02    27-04    28-02    29-04    30-02    31-04    32-02    33-04    34-02    35-04    36-02    37-05
      6.387    8.892    9.790    9.999   11.001   10.601   11.283   10.601   11.029    9.946    9.690    8.008    6.323
      7.836    9.984   12.122   12.231   13.486   12.934   13.862   12.929   13.515   12.123   11.916    9.751    7.711
     36.000   36.000   36.000   36.000   36.000   36.000   36.000   34.000   36.000   34.000   34.000   34.000   34.000

38-05    39-06    40-14    41-02    42-04    43-02    44-04    45-02    46-04    47-02    48-04    49-02    50-04    51-06    52-05
5.601    9.530    9.888   10.018   11.156   10.743   11.584   10.809   11.567   10.784   11.075    9.908    9.777    9.930    5.545
6.787   11.651   12.153   12.216   13.657   13.027   14.181   13.255   14.166   12.994   13.544   12.857   11.992   11.520    6.712
34.000   36.000   36.000   36.000   36.000   36.000   36.000   34.000   34.000   36.000   36.000   36.000   36.000   36.000   36.000

53-05    54-04    55-02    56-04    57-02    58-03    59-01    60-03    61-01    62-03    63-02    64-04    65-02    66-04    67-05
7.786    9.575   10.812   11.147   10.888   11.685   11.064   11.775   11.041   11.588   10.712   10.962    9.901    9.477    7.710
9.412   11.672   12.167   13.595   13.078   14.142   13.381   14.396   13.360   14.098   12.969   13.403   12.037   11.615    9.302
34.000   34.000   36.000   36.000   36.000   36.000   34.000   34.000   36.000   36.000   36.000   38.000   36.000   36.000   36.000

68-07    69-02    70-04    71-02    72-03    73-01    74-03    75-01    76-03    77-01    78-03    79-02    80-04    81-02    82-07
9.685    9.967   11.189   10.768   11.717   11.084   11.953   11.229   11.944   11.102   11.693   10.704   11.025    9.881    9.589
11.818   12.184   13.583   13.866   14.293   13.412   14.516   13.513   14.486   13.356   14.211   12.969   13.439   11.937   11.582
34.000   34.000   36.000   36.000   36.000   34.000   36.000   36.000   36.000   38.000   38.000   38.000   36.000   36.000   34.000
83-05                                                                                                                          84-05
6.233                                                                                                                          6.162
7.598    85-07    86-04    87-02    88-04    89-01    90-03    91-01    92-03    93-01    94-03    95-01    96-04    97-02    98-04    99-07    7.327
32.000   11.428   10.840   10.639   11.566   11.820   11.740   11.221   11.904   11.272   11.929   11.071   11.578   10.556   10.755   11.385   34.000
         13.981   13.305   12.965   14.178   13.398   14.458   13.529   14.417   13.496   14.361   13.353   14.162   12.821   13.033   13.670
188-05   32.000   34.000   34.000   36.000   34.000   34.000   36.000   36.000   36.000   36.000   38.000   40.000   36.000   34.000   34.000   181-05
8.685                                                                                                                          8.882
9.798  102-04   103-02   104-04   105-02   106-03   107-01   108-03   109-01   110-03   111-01   112-03   113-02   114-04   115-02   116-04   9.577
32.000  10.367   10.448   11.382   10.750   11.779   11.171   12.057   11.315   12.082   11.219   11.826   10.791   11.352   10.397   10.252   34.000
        12.778   12.758   13.960   13.141   14.395   13.538   14.607   13.545   14.575   13.490   14.379   13.156   13.862   12.564   12.519
117-05  34.000   34.000   34.000   34.000   36.000   36.000   36.000   36.000   36.000   36.000   36.000   36.000   34.000   34.000   34.000   118-05
8.189                                                                                                                          8.816
9.846  119-07   120-04   121-02   122-04   123-01   124-03   125-01   126-03   127-01   128-03   129-01   130-04   131-02   132-04   133-07   9.661
32.000  11.477   10.921   10.585   11.290   10.997   11.930   11.286   12.036   11.274   11.884   11.025   11.442   10.568   10.759   11.336   32.000
        14.109   13.442   12.861   13.678   13.301   14.575   13.574   14.465   13.539   14.448   13.318   13.913   12.819   13.225   13.858
134-05  34.000   34.000   34.000   34.000   36.000   36.000   36.000   36.000   36.000   36.000   36.000   36.000   34.000   34.000   32.000   135-05
6.312                                                                                                                          6.217
7.732  136-07   137-02   138-04   139-02   140-03   141-01   142-03   143-01   144-03   145-01   146-03   147-02   148-04   149-02   150-07   7.607
32.000  9.722    9.972   11.865   10.688   11.701   11.138   12.812   11.275   11.981   11.084   11.672   10.685   11.033    9.916    9.635   32.000
        11.948   12.190   13.551   12.931   14.239   13.451   14.542   13.516   14.500   13.383   14.175   12.885   13.445   12.853   11.768
        34.000   34.000   34.000   36.000   36.000   36.000   36.000   36.000   36.000   36.000   36.000   36.000   34.000   34.000   34.000

151-05   152-04   153-02   154-04   155-02   156-03   157-01   158-03   159-01   160-03   161-02   162-04   163-02   164-04   165-05
7.779    9.524    9.991   11.131   10.795   11.692   11.110   11.866   11.862   11.562   11.716   11.029    9.942    9.566    9.755
9.503   11.805   12.188   13.581   13.067   14.227   13.389   14.308   13.349   14.187   12.936   13.516   12.038   11.716    9.397
34.000   34.000   34.000   36.000   36.000   36.000   34.000   34.000   34.000   36.000   36.000   38.000   36.000   34.000   34.000

166-05   167-06   168-04   169-02   170-04   171-02   172-04   173-02   174-04   175-02   176-04   177-02   178-04   179-06   180-05
5.593    9.512    9.866   10.008   11.158   10.769   11.628   10.854   11.577   10.648   11.075    9.937    9.792    9.628    9.559
6.829   11.663   12.128   12.163   13.630   13.853   14.188   13.231   14.125   12.944   13.581   12.277   11.944   11.664    6.724
34.000   34.000   36.000   36.000   36.000   34.000   34.000   34.000   34.000   36.000   36.000   36.000   36.000   34.000   34.000

         181-05   182-02   183-04   184-02   185-04   186-02   187-04   188-02   189-04   190-02   191-04   192-02   193-05
       6.407    8.078    9.751   10.801   11.065   10.643   11.338   10.597   10.937    9.939    9.734    7.994    6.205
       7.797    9.827   11.958   12.166   13.539   12.938   13.880   12.878   13.367   12.182   11.996    9.675    7.664
      34.000   36.000   36.000   36.000   34.000   34.000   36.000   36.000   36.000   36.000   38.000   36.000   34.000

                194-05   195-06   196-04   197-02   198-04   199-02   200-04   201-02   202-04   203-06   204-05
              6.281    9.530    9.698    9.984   10.886   10.337   10.862    9.863    9.650    9.482    6.235
              7.613   11.643   11.888   12.052   13.365   12.687   13.341   12.009   11.828   11.569    7.534
             36.000   36.000   34.000   34.000   34.000   34.000   36.000   36.000   36.000   36.000   36.000

                      205-05   206-05   207-07   208-07   209-04   210-07   211-07   212-05   213-05
                    5.721    7.754    9.295   11.869    9.879   11.071    9.319    7.732    5.676
                    6.973    9.410   11.554   13.546   12.159   13.569   11.435    9.391    6.899
                   34.000   34.000   34.000   34.000   34.000   34.000   34.000   34.000   32.000

                                      214-05   215-05   216-05   217-05
                                    5.985    7.791    7.793    5.999
                                    7.256    9.488    9.426    7.278
                                   34.000   34.000   34.000   34.000

MAXIMUM INTEGRATED ASSEMBLY EXPOSURE IS   0.120816D+05 MWD/T IN ASSEMBLY 110
MAXIMUM PEAK AXIAL EXPOSURE IS   0.146070D+05 MWD/T, OCCURRING AT  36.00 0/0 OF THE CORE HEIGHT IN ASSEMBLY 108
CORE AVERAGE EXPOSURE IS   0.9933230+04 MWD/T

---------- BATCH AVERAGE EXPOSURES ----------

BATCH NUMBER    BATCH NAME    AVERAGE EXPOSURE (GWD/T)
           1            A1                    11.196
           2            A2                    10.178
           3            B1                    11.838
           4            B2                    10.657
           5             C                     6.742
           6            C*                     9.491
           7           C**                    10.355
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Southern California Edison Company

SAN ONOFRE NUCLEAR GENERATING STATION
P.O. BOX 128
SAN CLEMENTE, CALIFORNIA 92672

J. G. HAYNES
STATION MANAGER

TELEPHONE
(714) 492-7700

May 6, 1985

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

Dear Sir:

Subject: Docket No. 50-362
30-Day Report
Licensee Event Report No. 85-012
San Onofre Nuclear Generating Station, Unit 3

Pursuant to 10 CFR 50.73(a)(2)(i)(B), 10 CFR 50.73(a)(2)(iv) and Limiting Condition for Operation (LCO) 3.4.7, Action Statement 'd' of Appendix A, Technical Specifications to Facility Operating License NPF-15 for San Onofre Unit 3, this submittal provides the required 30-day written Licensee Event Report (LER) for an occurrence involving the Plant Protection System. Neither the health and safety of plant personnel nor the health and safety of the public was affected by this event.

If you require any additional information, please so advise.

Sincerely,

R W Krieger for J G Haynes

Enclosure: LER No. 85-012

cc: F. R. Huey (USNRC Senior Resident Inspector, Units 1, 2 and 3)
J. P. Stewart (USNRC Resident Inspector, Units 2 and 3)

J. B. Martin (Regional Administrator, USNRC Region V)

Institute of Nuclear Power Operations (INPO)

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