SOUTHERN CALIFORNIA
EDISON®
An *EDISON INTERNATIONAL*® Company

**Ross T. Ridenoure**
VP and Site Manager
San Onofre Nuclear Generating Station

February 11, 2008

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

Subject: **Docket No. 50-361 and 50-362**
**Notice of Violation**
**San Onofre Nuclear Generating Station, (SONGS) Unit 2 and Unit 3**

References: (1) Letter from Michael P. McCann, California Regional Water Quality Control Board San Diego Region, to H. W. Newton, Southern California Edison, dated January 7, 2008 (Unit 2)

(2) Letter from Michael P. McCann, California Regional Water Quality Control Board San Diego Region, to H. W. Newton, Southern California Edison, dated January 7, 2008 (Unit 3)

(3) Response letter from Mary Jane Johnson, Southern California Edison, to John Robertus, California Regional Water Quality Control Board San Diego Region, dated February 7, 2008

Gentlemen:

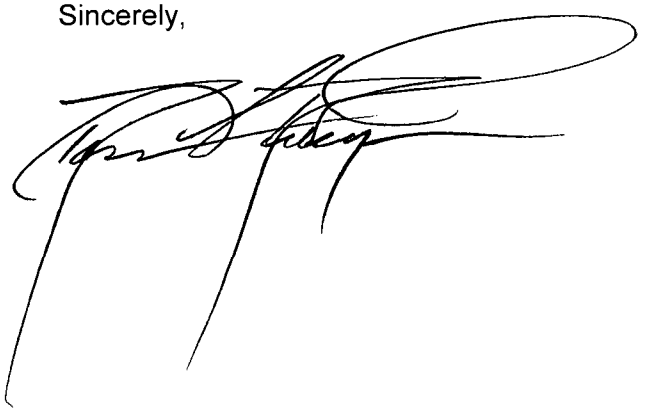
Appendix B, Section 3.2, of Operating License Nos. NPF-10 and NPF-15 for San Onofre Unit 2 and Unit 3 respectively, requires violations of the NPDES Permit or State certification (pursuant to Section 401 of the Clean Water Act), to be reported to the NRC by submittal of copies of the reports required by the NPDES Permit or certification.

Accordingly, copies of 2 violation reports from the California Regional Water Quality Control Board, (References 1 and 2) and SCE's required response are provided as attachments to this letter.

Additional details can be found in the attached referenced letters.

If you require additional information, please contact Clay E. Williams at (949) 368-6707.

Sincerely,



Mail Drop D45
P.O. Box 128
San Clemente, CA 92672
949-368-6255 PAX 86255
Fax: 949-368-6183
Ross.Ridenoure@sce.com

IE25
C001

Attachments as stated

cc: E. E. Collins, NRC Regional Administrator, Region IV
N. Kalyanam, NRC Project Manager, SONGS Units 2 and 3
C. C. Osterholtz, NRC Senior Resident Inspector, SONGS Units 2 and 3
S. Y. Hsu, California Department of Health Services

Linda S. Adams
*Secretary for Environmental Protection*

# California Regional Water Quality Control Board

## San Diego Region

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Arnold Schwarzenegger
*Governor*

9174 Sky Park Court, Suite 100, San Diego, California 92123-4353
(858) 467-2952 • Fax (858) 571-6972
http:// www.waterboards.ca.gov/sandiego

January 7, 2008

**VIA CERTIFIED MAIL**
7006 2760 0000 1615 6816

Mr. H. W. Newton
Manager, Site Support Services
Southern California Edison
P.O. Box 128
San Clemente, CA 92674-0128

In Reply Refer to:
**NCR:13-0087.01:ccheng**

Dear Mr. Newton:

**SUBJECT: NOTICE OF VIOLATION**
**REVIEW OF MONITORING REPORTS FOR ORDER NO. R9-2005-0005, NPDES PERMIT NO. CA0108073, WASTE DISCHARGE REQUIREMENTS FOR SOUTHERN CALIFORNIA EDISON COMPANY SAN ONOFRE NUCLEAR GENERATION STATION, UNIT 2**

The Regional Board has completed review of the following monitoring reports for the reporting period of February 2007 through November 2007:

| MONITORING REPORTS REVIEWED FOR ORDER NO. R9-2005-0005 | | | |
|---|---|---|---|
| **FREQENCY** | **PERIOD** | **REPORT DATE** | **DATE RECEIVED** |
| Monthly | February 2007 | April 1, 2007 | March 29, 2007 |
| | March 2007 | May 1, 2007 | April 25, 2007 |
| | April 2007 | June 1, 2007 | June 4, 2007 |
| | May 2007 | July 1, 2007 | July 2, 2007 |
| | June 2007 | August 1, 2007 | August 14, 2007 |
| | July 2007 | September 1, 2007 | September 4, 2007 |
| | August 2007 | October 1, 2007 | October 1, 2007 |
| | September 2007 | November 1, 2007 | October 29, 2007 |
| | October 2007 | December 1, 2007 | November 29, 2007 |
| | November 2007 | January 1, 2008 | January 2, 2008 |
| Quarterly | January – March 2007 | May 1, 2007 | April 25, 2007 |
| | April – June 2007 | August 1, 2007 | August 14, 2007 |
| | July – September 2007 | November 1, 2007 | November 29, 2007 |
| Semiannual | January – June 2007 | August 1, 2007 | August 15, 2007 |

The following contains the Regional Board comments and the violations identified from information provided in the monitoring reports cited above:

## MONTHLY REPORTS

- **Violation of Monitoring and Reporting Program Sections XIII.5**

1. Monitoring reports for April, May, June, July, and November 2007 were not submitted by the required due dates (5 violations).

- **Violation of Monitoring and Reporting Program Sections IV**

2. All monthly monitoring reports reported only one weekly result for Total Residual Chlorine analysis, and failed to report all weekly analysis results (10 x 3 = 30 violations).

- **Violation of Effluent Limitations and Discharge Specifications III G.22**

3. On June 13, 2007, the pH of effluent from the Mesa Facility Complex sewage treatment plants (Internal Outfall 001-A and 001-B) was reported as 4.3, which is outside the required range of pH 6.0-9.0 (1 violation).

## QUARTERLY REPORTS

4. Monitoring reports for second and third quarter of 2007 were not submitted by the required due dates (2 violations).

## SEMIANNUAL REPORT

5. Monitoring report for first semiannual of 2007 was not submitted by the required due date (1 violation).

## ADDITIONAL COMMENTS

The Regional Board has the following comments regarding the subject reports:

1. The reporting and discussion of Total Residual Chlorine in the Unit 2 Combined Discharge at Outfall 002 is unclear and difficult for the Regional Board staff to evaluate. The following information must be provided, no later than February 15, 2008, to further evaluate the existing information:

   a. The Monitoring and Reporting Program requires that the Total Residual Chlorine shall be analyzed weekly and reported monthly. In all monthly reports, only one weekly value is reported (e.g. see page 7 of 20 for February 2007 report). The monthly report shall report all 4 weekly values.

b. Because the facility applies chlorine intermittently, the permit requires that instantaneous maximum effluent limitation for total residual chlorine be calculated based on instantaneous maximum water quality objective, in accordance with the California Ocean Plan (2005), Table B, note c):

*"Water Quality Objectives for total chlorine residual applying to intermittent discharges not exceeding two hours, shall be determined through the use of the following equation:*

*log y = -0.43 (log x) + 1.8*

*where: y = the water quality objective (in ug/l) to apply when chlorine is being discharged;*
*x = the duration of uninterrupted chlorine discharge in minutes."*

Based on the statement that "San Onofre Units 2 and 3 normally chlorinate six times per day for each unit at a duration of 18 minutes", the instantaneous maximum water quality objective is calculated as following:

log y = -0.43 (log 18) + 1.8 = 1.26
y = 18.2 ug/l

The instantaneous maximum effluent limitation for total residual chlorine is calculated by multiplying the instantaneous maximum water quality objective by dilution factor of 11:

18.2 ug/l x 11 = 200 ug/l

The discharger shall report the parameters used in determining the above results, including duration of chlorination, calculation of instantaneous maximum effluent limitations.

c. On February 6, 2007, the reported instantaneous maximum effluent limitation concentration is 140 ug/l, at discharge flow rate of 1219 MGD, for a discharge duration of 2 hours per day, the calculated mass emission rate (lbs/day = 0.00834 x 140 x 1219 x 2/24) should be 118.6 lbs/day. But the reported mass emission rate is 59.3 lbs/day (page 7 of 20).

The discharger shall report the parameters used in determining the mass emission rate reported for total residual chlorine, including the measurement of discharge flow rate, and calculations of mass emission rate.

d. The report listed "Result Value" for instantaneous maximum, daily maximum and 6-month median of total residual chlorine, without providing a demonstration of how those values were obtained.

   The discharger shall report the parameters and provide the calculations used in determining the reported "Result Values" referenced above.

e. Parameters and calculations requested in 1.a through 1.d above shall be provided in a clearly organized tabular format to facilitate review of the information.

2. To save paper and expedite review of reports, please do not include blank reports for those outfalls or parameters where no discharge occurred during the reporting period. The narrative should be amended to simply identify the affected outfalls and indicate time periods when there were no discharges through those facilities.

The heading portion of this letter includes a Regional Board code number noted after "In reply refer to:" In order to assist us in the processing of your correspondence please include this code number in the heading or subject line portion of all correspondence and reports to the Regional Board pertaining to this matter.

If you have any questions regarding the above, please contact Mr. Charles Cheng at (858) 627-3930 or ccheng@waterboards.ca.gov.

Respectfully,

MICHAEL P. McCANN
Assistant Executive Officer

MPM :JRO:CQC

CIWQS Codes: Reg Mesure -133388 ; Party ID - 41643 ; Place ID - 257702 ; Contact Person ID – 125538
Violations: (1) 708518; (2) 708519 ; (3) 708520 ; (4) 708521 ; (5) 708522
Enforcement: (SEL) (339112)
NOV ID: 339121

Linda S. Adams
*Secretary for*
*Environmental Protection*

# California Regional Water Quality Control Board

## San Diego Region

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Arnold Schwarzenegger
*Governor*

January 7, 2008

**VIA CERTIFIED MAIL**
7006 2760 0000 1615 6823

Mr. H. W. Newton
Manager, Site Support Services
Southern California Edison
P.O. Box 128
San Clemente, CA 92674-0128

In Reply Refer to:
**NCR:13-0088.01:ccheng**

Dear Mr. Newton:

**SUBJECT: NOTICE OF VIOLATION**
**REVIEW OF MONITORING REPORTS FOR ORDER NO. R9-2005-0006, NPDES PERMIT NO. CA0108181, WASTE DISCHARGE REQUIREMENTS FOR SOUTHERN CALIFORNIA EDISON COMPANY SAN ONOFRE NUCLEAR GENERATION STATION, UNIT 3**

The Regional Board has completed review of the following monitoring reports for the reporting period of February 2007 through November 2007:

| MONITORING REPORTS REVIEWED FOR ORDER NO. R9-2005-0006 | | | |
|---|---|---|---|
| **FREQENCY** | **PERIOD** | **REPORT DATE** | **DATE RECEIVED** |
| Monthly | February 2007 | April 1, 2007 | March 29, 2007 |
| | March 2007 | May 1, 2007 | April 25, 2007 |
| | April 2007 | June 1, 2007 | June 4, 2007 |
| | May 2007 | July 1, 2007 | July 2, 2007 |
| | June 2007 | August 1, 2007 | August 14, 2007 |
| | July 2007 | September 1, 2007 | September 4, 2007 |
| | August 2007 | October 1, 2007 | October 1, 2007 |
| | September 2007 | November 1, 2007 | October 29, 2007 |
| | October 2007 | December 1, 2007 | November 29, 2007 |
| | November 2007 | January 1, 2008 | January 2, 2008 |
| Quarterly | January – March 2007 | May 1, 2007 | April 25, 2007 |
| | April – June 2007 | August 1, 2007 | August 14, 2007 |
| | July – September 2007 | November 1, 2007 | November 29, 2007 |
| Semiannual | January – June 2007 | August 1, 2007 | August 14, 2007 |

The following contains the Regional Board comments and the violations identified from information provided in the monitoring reports cited above:

## MONTHLY REPORTS

- **Violation of Monitoring and Reporting Program Sections XIII.5**

1. Monitoring reports for April, May, June, July and November 2007 were not submitted by the required due dates (5 violations).

- **Violation of Monitoring and Reporting Program Sections IV**

2. All monthly monitoring reports reported only one weekly result for Total Residual Chlorine analysis, and failed to report all weekly analysis results (10 x 3 = 30 violations).

- **Violation of Effluent Limitations and Discharge Specifications III B.1.b**

3. Instantaneous maximum Total Residual Chlorine exceeded the effluent limit during the week of June 5, 2007 (1 violation).

## QUARTERLY REPORTS

4. Monitoring reports for second and third quarter of 2007 were not submitted by the required due dates (2 violations).

## SEMIANNUAL REPORT

5. Monitoring report for first semiannual of 2007 was not submitted by the required due date (1 violation).

## ADDITIONAL COMMENTS

The Regional Board has the following comments regarding the subject reports:

1. The reporting and discussion of Total Residual Chlorine in the Unit 3 Combined Discharge at Outfall 003 is unclear and difficult for the Regional Board staff to evaluate. The following information must be provided, no later than February 15, 2008, to further evaluate the existing information:

   a. The Monitoring and Reporting Program requires that the Total Residual Chlorine shall be analyzed weekly and reported monthly. In all monthly reports, only one weekly value is reported (e.g. see page 7 of 20 for February 2007 report). The monthly report shall report all 4 weekly values.

b. Because the facility applies chlorine intermittently, the permit requires that instantaneous maximum effluent limitation for total residual chlorine be calculated based on instantaneous maximum water quality objective, in accordance with the California Ocean Plan (2005), Table B, note c):

*"Water Quality Objectives for total chlorine residual applying to intermittent discharges not exceeding two hours, shall be determined through the use of the following equation:*

*log y = -0.43 (log x) + 1.8*

*where: y = the water quality objective (in ug/l) to apply when chlorine is being discharged;*
*x = the duration of uninterrupted chlorine discharge in minutes."*

Based on the statement that "San Onofre Units 2 and 3 normally chlorinate six times per day for each unit at a duration of 18 minutes", the instantaneous maximum water quality objective is calculated as following:

log y = -0.43 (log 18) + 1.8 = 1.26
y = 18.2 ug/l

The instantaneous maximum effluent limitation for total residual chlorine is calculated by multiplying the instantaneous maximum water quality objective by dilution factor of 11:

18.2 ug/l x 11 = 200 ug/l

The discharger shall report the parameters used in determining the above results, including duration of chlorination, calculation of instantaneous maximum effluent limitations.

c. On February 20, 2007, the reported instantaneous maximum effluent limitation concentration is 130 ug/l, at discharge flow rate of 1219 MGD, for a discharge duration of 2 hours per day, the calculated mass emission rate (lbs/day = 0.00834 x 130 x 1219 x 2/24) should be 110.1lbs/day. But the reported mass emission rate is 55.1lbs/day (page 7 of 20).

The discharger shall report the parameters used in determining the mass emission rate reported for total residual chlorine, including the measurement of discharge flow rate, and calculations of mass emission rate.

d. The report listed "Result Value" for instantaneous maximum, daily maximum and 6-month median of total residual chlorine, without providing a demonstration of how those values were obtained.

   The discharger shall report the parameters and provide the calculations used in determining the reported "Result Values" referenced above.

e. Parameters and calculations requested in 1.a through 1.d above shall be provided in a clearly organized tabular format to facilitate review of the information.

2. To save paper and expedite review of reports, please do not include blank reports for those outfalls or parameters where no discharge occurred during the reporting period. The narrative should be amended to simply identify the affected outfalls and indicate time periods when there were no discharges through those facilities.

The heading portion of this letter includes a Regional Board code number noted after "In reply refer to:" In order to assist us in the processing of your correspondence please include this code number in the heading or subject line portion of all correspondence and reports to the Regional Board pertaining to this matter.

If you have any questions regarding the above, please contact Mr. Charles Cheng at (858) 627-3930 or ccheng@waterboards.ca.gov.

Respectfully,

MICHAEL P. McCANN
Assistant Executive Officer

MPM:JRO:CQC

CIWQS Codes: Reg Mesure -133389 ; Party ID - 41643 ; Place ID - 257703 ; Contact Person ID – 125538
Violations: (1) 708523; (2) 708524; (3) 708525 ; (4) 708526 ; (5) 708527
Enforcement: (SEL) (339113)
NOV ID: 339122

SOUTHERN CALIFORNIA
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February 7, 2008

Mr. John Robertus
California Regional Water Quality Control Board
San Diego Region
9174 Sky Park Ct. Suite 100
San Diego, California 92123
NCR:13-0087.01:ccheng

SUBJECT: Notice of Violation, Review of Monitoring Reports for Order Numbers R9-2005-0005 & R9-2005-0006, NPDES Permit Numbers CA0108073 & CA0108181, San Onofre Nuclear Generating Station Units 2 and 3 Dated January 7, 2008

Dear Mr. Robertus,

SCE requests that the 30 violations cited in each letter on chlorination data be rescinded. In your January 7, 2008 letters, you cited us with 30 violations on each permit because weekly chlorination results were not included in the monthly discharge monitoring reports. In a chlorination form developed by Regional Board staff a few years ago, we have included all of the weekly chlorination results as part of a mass emission rate calculation on an attachment to the monthly reports. Thus, the required data has been included in all of our reports for 2007. More information on this item is included in the attached report.

We have responded to each of the items raised in the subject letters in the attached report. If you have any questions on this matter, you can contact Robert Heckler at (949)-368-3816. We also request that all future correspondance be addresed to Mary Jane Johnson, Manager of Site Support Services.

Sincerely,

Mary Jane Johnson
Manager, Site Support Services

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

cc: J. Reilly
C. Williams
R. Tom
D. W. Kay
R. K. Heckler
A. Kneisel
IDB NPDES

**Issues addressed in January 7, 2008 Letters**

Late Submittal of Monthly, Quarterly and Semiannual Reports

Corrective Action:

Procedures have been put in place to ensure that all future reports are sent and receipted by the Regional Board prior to the due date. Since the subject late reports were not made known to us until they had accumulated at the end of the year, we request that all of these late reports be treated as one violation for each unit's NPDES permit.

Background:

The April, May, June, July, and November 2007 monthly discharge monitoring reports for both units were received late. This was also the case for the second and third quarterly and first 2007 semiannual reports for each unit were also received late. This resulted in a total of eight late reports for each NPDES permit in 2007. Based on the dates these reports were mailed, it is believed that half of them arrived on the Saturday the weekend they were due. The Regional Board however, does not have anyone present on Saturday's to receipt reports, so they were not receipted until the next working day, which was after the due date for those reports. In the case of the June 2007, second quarter 2007, and first 2007 semiannual reports, it is believed that the reports were mailed with the previous Regional Board address, and were therefore forwarded late by the U.S. Mail. The third quarter quarterly reports were unknowingly submitted a month late.

Weekly Total Residual Chlorine Results

Corrective Action:

Mr. Charles Cheng of your staff has provided us with a sample form that he has requested that we use for future NPDES reports for total residual chlorine reporting. Beginning with the December 2007 discharge monitoring reports, this form will be used for NPDES total residual chlorine reporting and will replace the old form generated and approved by your staff that we were using previously. We request that the 30 violations noted in each letter for each NPDES permit for total residual chlorine be rescinded per the discussion below.

Background:

You cited us with 30 violations associated with the total residual chlorine analysis for each unit during the time period from February 2007 to November 2007. In my discussion with Charles Cheng of your staff, he requested that I send him a copy of the

form that we fill out for the State Water Resources Control Board each month for total residual chlorine analysis reporting (a blank copy of this form was provided to him on an e-mail dated 1/17/08 and is shown in attachment 1). The form shows that the SWRCB only requires us to notify them of the maximum value during the month, and the monthly average of all samples obtained during that month. They do not require that we provide them with the result of each analytical result for the month. The equivalent page for this in our monthly reports that we submit to you is on page 7 of the monthly reports.

In addition, we have provided an attachment each month that includes a chlorine sample calculations page (shown in attachment 2). This form was developed with Dan Phares of the Regional Board staff several years ago. This form explains that at SONGS, we chlorinate 6 times per day for a duration of 18 minutes. Using the Ocean Plan calculation, this results in a limit of 0.2 mg/l for total residual chlorine for each sample that month. In addition, this page details all of the analytical results of the month for total residual chlorine for each unit. The total lbs/day is then calculated based on the mass emissions rate calculation in the NPDES permits as follows:

The MER (lbs/day) = 8.34 x C x Q x Z/24

where C= effluent chlorine result as measured by a grab sample
Q= discharge flowrate (MGD)
Z= total time (hours of chlorine discharged per day)

A sample calculation would be as follows:

MER= 8.34(chlorine sample concentration)(flowrate)total time/24 or
8.34(0.09)(1218.855)(2/24)= 76.24 lbs/day (for sample obtained on Unit 2 on 10/02/07).

The weekly chlorine analytical result for that week was 0.09 mg/l. So from this page, you can find the weekly analytical results for each total residual chlorine analysis required by the NPDES permits. Therefore, we have reported all of our total residual chlorine results to you in our monthly reports. This is also well above what is required for us to report to the SWRCB in the report forms they provide to us every month. The lab records for all of the results of our discharge monitoring reports were also checked by Carole Leong when she inspected our facility on October 23, 2007. You have a copy of this inspection report. Carole had no issues associated with the way these results are logged in our lab records. She also checked these results with the results we reported in our DMR's to you.

Additional Comments

1. The following comments are responded to in the format as they were provided in the January 7, 2008 letters as follows:

a. The monitoring and reporting program for total residual chlorine has been analyzed and reported weekly on each monthly report in the past. This will continue to be analyzed and reported on the new form developed and approved by Charles Cheng of your staff that we are now currently using.

b. San Onofre has chlorinated each unit 6 times per day at a duration of 18 minutes for the past three years. The equation and calculation that you provided in your January 7, 2008 letters has been used and annotated in the chlorination summary attachment of each of our monthly discharge monitoring reports for several years now. The calculation and the 0.2 mg/l limit derived from the Ocean Plan equation was provided in each of the reports cited in your letters. We will continue to use this calculation and will provide the data in the new form provided by Charles Cheng of your staff for all future reports.

c. The results you cited in your January 7, 2008 letters for total residual chlorine mass emission rate on page 7 of 20 were in error in our reports you cited. The correct values were however reported in the subject reports on the chlorination summary attachment for each of the reports. The correct values are now being reported in the new form provided by Charles Cheng of your staff in all future reports.

d. A demonstration of the daily maximum and 6 month median total residual chlorine results is now provided in the new form provided by Charles Cheng of your staff. This information will now be provided in all future discharge monitoring reports as you have requested.

e. The parameters and calculations you requested are now being provided in the format in the form developed by Charles Cheng of your staff for all future reports.

2. As you have requested, a summary page will be provided in each discharge monitoring report detailing which waste streams were not discharged during that monitoring period in place of those pages in the reports.

# Attachment 1

# State Water Resources Control Board

# Chlorination Reporting Form

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if Different)*

NAME SONGS UNIT 2

ADDRESS SONGS UNIT 2
PO BOX 128, BLDG W44
SAN CLEMENTE CA 92674

FACILITY SONGS UNIT 2

LOCATION SAN CLEMENTE CA 92672

ATTN: ROBERT HECKLER

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM *(NPDES)*
DISCHARGE MONITORING REPORT *(DMR)*

Form Approved.
OMB No. 2040-0004

| PERMIT NUMBER | DISCHARGE NUMBER |
|---|---|
| CA0108073 | 002 A |

MAJOR
(SUBR 09)
F - FINAL
OUTFALL 002 DISCHARGE/MONTHLY

| MONITORING PERIOD | YEAR | MO | DAY | | YEAR | MO | DAY |
|---|---|---|---|---|---|---|---|
| FROM | 07 | 11 | 01 | TO | 07 | 11 | 30 |

*** NO DISCHARGE [ ] ***

NOTE: Read Instructions before completing this form.

| PARAMETER | | QUANTITY OR LOADING AVERAGE | MAXIMUM | UNITS | QUALITY OR CONCENTRATION MINIMUM | AVERAGE | MAXIMUM | UNITS | NO. EX | FREQUENCY OF ANALYSIS | SAMPLE TYPE |
|---|---|---|---|---|---|---|---|---|---|---|---|
| TURBIDITY | SAMPLE MEASUREMENT | ****** | ****** | | ****** | ****** | | ( 43) | | | |
| 00070 1 0 0 EFFLUENT GROSS VALUE | PERMIT REQUIREMENT | ****** | ****** | **** **** | ****** | ****** | REPORT DAILY MX | NTU | | ONCE/ MONTH | GRAB |
| PH | SAMPLE MEASUREMENT | ****** | ****** | | | ****** | | ( 12) | | | |
| 00400 1 0 0 EFFLUENT GROSS VALUE | PERMIT REQUIREMENT | ****** | ****** | **** **** | 6.0 MINIMUM | ****** | 9.0 MAXIMUM | SU | | ONCE/ MONTH | GRAB |
| FLOW, IN CONDUIT OR THRU TREATMENT PLANT | SAMPLE MEASUREMENT | | ****** | ( 03) | ****** | ****** | ****** | | | | |
| 50050 1 0 0 EFFLUENT GROSS VALUE | PERMIT REQUIREMENT | 1287 MX30DAAV | ****** | MGD | ****** | ****** | ****** | **** **** | | CONTIN UOUS | METER |
| CHLORINE, TOTAL RESIDUAL | SAMPLE MEASUREMENT | ****** | ****** | | ****** | | | ( 19) | | | |
| 50060 1 0 0 EFFLUENT GROSS VALUE | PERMIT REQUIREMENT | ****** | ****** | **** **** | ****** | REPORT MO AVG | REPORT DAILY MX | MG/L | | WEEKLY | GRAB |
| TEMP. DIFF. BETWEEN INTAKE AND DISCHARGE | SAMPLE MEASUREMENT | ****** | ****** | | ****** | ****** | | ( 15) | | | |
| 61576 1 0 0 EFFLUENT GROSS VALUE | PERMIT REQUIREMENT | ****** | ****** | **** **** | ****** | ****** | 25 MAXIMUM | DEG. F | | EVERY 2 HRS | MEASRD |
| HYDRAZINE | SAMPLE MEASUREMENT | ****** | ****** | | ****** | ****** | | ( 28) | | | |
| 81313 1 0 0 EFFLUENT GROSS VALUE | PERMIT REQUIREMENT | ****** | ****** | **** **** | ****** | ****** | REPORT DAILY MX | UG/L | | ONCE/ MONTH | GRAB |
| | SAMPLE MEASUREMENT | | | | | | | | | | |
| | PERMIT REQUIREMENT | | | | | | | | | | |

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

TYPED OR PRINTED

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

| TELEPHONE AREA CODE | NUMBER | DATE YEAR | MO | DAY |
|---|---|---|---|---|
| | | | | |

COMMENTS AND EXPLANATION OF ANY VIOLATIONS *(Reference all attachments here)*

TEMPERATURE SHALL BE REPORTED AS THE AMOUNT BY WHICH THE DAILY EFFLUENT TEMP EXCEEDS THE DAILY COOLING WATER INTAKE TEMP - REPORT THE HIGHEST VALUE FOR THE MONTH (NORMAL OPERATION TEMP ONLY)

EPA Form 3320-1 (Rev. 3/99) Previous editions may be used.

This is a 4-part form

PAGE OF

# Attachment 2

# San Onofre Chlorination Summary Page

# From Monthly Discharge Monitoring Reports

## Chlorine Sample Calculations

San Onofre Units 2 and 3 normally chlorinate six times per day for each unit at a duration of 18 minutes. The instantaneous limit for total residual chlorine is therefore calculated using the equation in the NPDES permits for each unit under discharge specification B.1 as follows:

$\log y = -0.43(\log x) + 1.8$

Where y = the water quality objective (in ug/l) to apply when chlorine/bromine is being discharged
x = the duration of uninterrupted chlorine/bromine discharge in minutes

The result of the above formula must be multiplied by a dilution factor to arrive at the time weighted effluent discharge limit. In the case of San Onofre Units 2 and 3, this dilution factor equals 11.

The USEPA BAT effluent limitation contained in 40 CFR 423 is 0.20 mg/l.

**To obtain the instantaneous limit under discharge specification B.1 for San Onofre Units 2 and 3, you can calculate as follows:**

$\log y = -0.43(\log 18) + 1.8$

$y = 0.2$ mg/l

The MER limit (lb/day) = 8.34 x C x Q x Z/24

where C = effluent concentration limit as calculated above (mg/l)

Q = discharge flowrate (MGD)

Z = total time (hours of chlorine/bromine is discharged per day)

**For Unit 2 in the month of October 2007, the limit would be calculated as follows:**

MER limit (lbs/day) = 8.34(0.09)(1218.855)(2/24) = 76.24 lb/day (for sample on 10/02/07)

MER limit (lbs/day) = 8.34(0.02)(1218.921)(2/24) = 16.94 lb/day (for sample on 10/09/07)

MER limit (lbs/day) = 8.34(0.08)(1218.742)(2/24) = 67.76 lb/day (for sample on 10/16/07)

MER limit (lbs/day) = 8.34(0.08)(1218.950)(2/24) = 67.77 lb/day (for sample on 10/23/07)

MER limit (lbs/day) = 8.34(0.12)(1218.902)(2/24) = 101.66 lb/day (for sample on 10/30/07)

**For Unit 3 in the month of October 2007, the limit would be calculated as follows:**

MER limit (lbs/day) = 8.34(0.09)(1218.727)(2/24) = 76.23 lb/day (for sample on 10/02/07)

MER limit (lbs/day) = 8.34(0.10)(1218.768)(2/24) = 84.70 lb/day (for sample on 10/09/07)

MER limit (lbs/day) = 8.34(0.06)(914.010)(2/24) = 38.11 lb/day (for sample on 10/16/07)

MER limit (lbs/day) = 8.34(0.02)(1218.788)(2/24) = 16.94 lb/day (for sample on 10/23/07)

MER limit (lbs/day) = 8.34(0.08)(1218.682)(2/24) = 67.76 lb/day (for sample on 10/30/07)