

SUPPLEMENTS TO PREVIOUS
SEMIANNUAL REPORTS

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I. DISCUSSION

Supplements to the Effluent and Waste Disposal Semiannual Reports are as follows:

| <u>Report Period</u> | <u>Affected Pages</u> |
|-----------------------|-----------------------------|
| January - June, 1985 | Enclosure 1, Page 6 |
| July - December, 1985 | Enclosure 1, Page 6 |
| January - June, 1986 | Enclosure 1, Page 7, 12, 13 |

Supplements are provided as replacement pages with change bars indicating new information. Corrections were made to the First and Second Six Months 1985 semiannual reports and the first six months 1986 report to include Unit 1 Circulating Water and the total Unit 1 and 2 Circulating Water, respectively. The Curie Total, Waste Volume, and Average Diluted Concentration corrections to the first six months, 1986, were due to 1) an erroneous continuous Steam Generator Blowdown release, and 2) a Quarterly Steam Generator Blowdown Fe-55 result omitted. The Average Release Rates for Gaseous Effluents in the 1986 report were recalculated for each quarter using the proper time interval.

II. DATA TABLES

The corrected data tables are as follows:

TABLE 2A

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT - 1985

LIQUID EFFLUENTS - SUMMATION OF ALL RELEASES

| | UNITS | 3RD QUARTER | 4TH QUARTER | % ERROR |
|---|--------|-----------------|-----------------|-----------------|
| <u>A. FISSION AND ACTIVATION PRODUCTS</u> | | | | |
| 1. Total Releases | Ci | <u>3.99E-02</u> | <u>1.95E-02</u> | <u>1.00E+01</u> |
| 2. Average Diluted Concentration | uCi/ml | <u>1.46E-10</u> | <u>7.27E-11</u> | |
| 3. % of Applicable Limit | % | <u>1.46E-01</u> | <u>7.27E-02</u> | |
| <u>B. TRITIUM</u> | | | | |
| 1. Total Releases | Ci | <u>1.15E+02</u> | <u>9.02E+01</u> | <u>1.00E+01</u> |
| 2. Average Diluted Concentration | uCi/ml | <u>4.21E-07</u> | <u>3.36E-07</u> | |
| 3. % of Applicable Limit | % | <u>1.40E-02</u> | <u>1.12E-02</u> | |
| <u>C. DISSOLVED AND ENTRAINED GASES</u> | | | | |
| 1. Total Releases | Ci | <u>1.31E-02</u> | <u>2.39E-02</u> | <u>1.00E+01</u> |
| 2. Average Diluted Concentration | uCi/ml | <u>4.79E-11</u> | <u>8.91E-11</u> | |
| 3. % of Applicable Limit | % | <u>1.60E-03</u> | <u>2.97E-03</u> | |
| <u>D. GROSS ALPHA RADIOACTIVITY</u> | | | | |
| 1. Total Release | Ci | <u><LLD</u> | <u><LLD</u> | <u>1.00E+01</u> |
| <u>E. VOLUME OF WASTE RELEASED</u> | | | | |
| | Liters | <u>2.17E+06</u> | <u>3.07E+06</u> | <u>1.00E+01</u> |
| <u>F. VOLUME OF DILUTION WATER</u> | | | | |
| | Liters | <u>2.73E+11</u> | <u>2.68E+11</u> | <u>1.00E+01</u> |
| <u>G. MAXIMUM CONCENTRATION OF GROSS RADIOACTIVITY RELEASED</u> | | | | |
| | uCi/ml | <u>1.01E-08</u> | <u>1.05E-08</u> | |

TABLE 1A

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT - 1986
GASEOUS EFFLUENTS - SUMMATION OF ALL RELEASES

| | <u>UNITS</u> | <u>1ST QUARTER</u> | <u>2ND QUARTER</u> |
|--|--------------|--------------------|--------------------|
| A. <u>FISSION AND ACTIVATION GASES:</u> | | | |
| 1. Total Release | Ci | <u>3.03E+02</u> | <u>7.21E+01</u> |
| 2. Estimated Total Error | % | <u>1.10E+02</u> | <u>1.10E+02</u> |
| 3. Average Release Rate for Period | uCi/sec | <u>3.90E+01</u> | <u>9.17E+00</u> |
| 4. Percent of 10CFR50, Appendix I | | | |
| <u>Quarterly Limit</u> | | | |
| Gamma Air | % | <u>5.86E+00</u> | <u>1.07E-01</u> |
| Beta Air | % | <u>8.34E+00</u> | <u>3.59E+00</u> |
| <u>Yearly Limit</u> | | | |
| Gamma Air | | <u>2.93E+00</u> | <u>2.99E+00</u> |
| Beta Air | % | <u>4.17E+00</u> | <u>5.96E+00</u> |
| B. Iodines, Particulates, and Tritium: | | | |
| <u>Iodines</u> | | | |
| 1. Total Iodine - 131 | Ci | <u>4.19E-03</u> | <u>7.22E-05</u> |
| 2. Estimated Total Error | % | <u>1.10E+02</u> | <u>1.10E+02</u> |
| 3. Average Release Rate | uCi/sec | <u>5.39E-04</u> | <u>9.18E-06</u> |
| <u>Particulates</u> | | | |
| 1. Particulates with Half-Lives | | | |
| >8 days | Ci | <u>1.76E-04</u> | <u>3.21E-06</u> |
| 2. Estimated Total Error | % | <u>1.00E+02</u> | <u>1.00E+02</u> |
| 3. Average Release Rate for Period | uCi/sec | <u>2.26E-05</u> | <u>4.08E-07</u> |
| 4. Gross Alpha Radioactivity | Ci | <u><LLD</u> | <u><LLD</u> |
| <u>Tritium</u> | | | |
| 1. Total Release | Ci | <u>2.15E+00</u> | <u>6.81E-01</u> |
| 2. Estimated Total Error | % | <u>9.00E+01</u> | <u>9.00E+01</u> |
| 3. Average Release Rate for Period | uCi/sec | <u>2.77E-01</u> | <u>8.66E-02</u> |
| Percent of 10CFR50, Appendix I | | | |
| <u>Quarterly Limit</u> | | | |
| Organ Thyroid | % | <u>5.16E+01</u> | <u>3.11E-01</u> |
| <u>Yearly Limit*</u> | | | |
| Organ Thyroid | % | <u>2.58E+01</u> | <u>2.60E+01</u> |

*Cumulative total for the year-to-date.

TABLE 2A
EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT - 1985
LIQUID EFFLUENTS - SUMMATION OF ALL RELEASES

| | UNITS | 3RD QUARTER | 4TH QUARTER | % ERROR |
|---|--------|-----------------|-----------------|-----------------|
| <u>A. FISSION AND ACTIVATION PRODUCTS</u> | | | | |
| 1. Total Releases | Ci | <u>1.68E-02</u> | <u>1.79E-02</u> | <u>1.00E+01</u> |
| 2. Average Diluted Concentration | uCi/ml | <u>8.09E-11</u> | <u>6.58E-11</u> | |
| 3. % of Applicable Limit | % | <u>8.09E-02</u> | <u>6.58E-02</u> | |
| <u>B. TRITIUM</u> | | | | |
| 1. Total Releases | Ci | <u>1.64E+01</u> | <u>8.78E+01</u> | <u>1.00E+01</u> |
| 2. Average Diluted Concentration | uCi/ml | <u>7.90E-08</u> | <u>3.23E-07</u> | |
| 3. % of Applicable Limit | % | <u>2.63E-03</u> | <u>1.08E-02</u> | |
| <u>C. DISSOLVED AND ENTRAINED GASES</u> | | | | |
| 1. Total Releases | Ci | <u>3.31E-03</u> | <u>1.09E-01</u> | <u>1.00E+01</u> |
| 2. Average Diluted Concentration | uCi/ml | <u>1.59E-11</u> | <u>4.01E-10</u> | |
| 3. % of Applicable Limit | % | <u>5.30E-04</u> | <u>1.34E-02</u> | |
| <u>D. GROSS ALPHA RADIOACTIVITY</u> | | | | |
| 1. Total Release | Ci | <u><LLD</u> | <u><LLD</u> | <u>1.00E+01</u> |
| <u>E. VOLUME OF WASTE RELEASED</u> | | | | |
| | Liters | <u>9.83E+05</u> | <u>7.14E+06</u> | <u>1.00E+01</u> |
| <u>F. VOLUME OF DILUTION WATER</u> | | | | |
| | Liters | <u>2.08E+11</u> | <u>2.72E+11</u> | <u>1.00E+01</u> |
| <u>G. MAXIMUM CONCENTRATION OF GROSS RADIOACTIVITY RELEASED</u> | | | | |
| | uCi/ml | <u>8.71E-09</u> | <u>1.41E-08</u> | |

TABLE 2A

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT - 1986
 LIQUID EFFLUENTS - SUMMATION OF ALL RELEASES

| | UNITS | 1ST QUARTER | 2ND QUARTER |
|--|---------|-----------------|-----------------|
| <u>A. FISSION AND ACTIVATION GASES:</u> | | | |
| 1. Total Releases | Ci | <u>1.33E-01</u> | <u>1.03E-01</u> |
| 2. Estimated Total Error | % | <u>1.00E+02</u> | <u>1.00E+02</u> |
| 3. Average Diluted Concentration | uCi/sec | <u>9.05E-10</u> | <u>3.90E-10</u> |
| <u>B. TRITIUM</u> | | | |
| 1. Total Releases | Ci | <u>4.04E+01</u> | <u>1.71E+01</u> |
| 2. Estimated Total Error | % | <u>4.00E+01</u> | <u>4.00E+01</u> |
| 3. Average Diluted Concentration | uCi/sec | <u>2.75E-07</u> | <u>6.48E-08</u> |
| <u>C. DISSOLVED AND ENTRAINED GASES</u> | | | |
| 1. Total Releases | Ci | <u>9.75E-03</u> | <LLD |
| 2. Estimated Total Error | % | <u>1.00E+02</u> | <u>1.00E+02</u> |
| 3. Average Diluted Concentration | uCi/sec | <u>6.63E-11</u> | <LLD |
| <u>D. GROSS ALPHA RADIOACTIVITY</u> | | | |
| 1. Total Releases | Ci | <LLD | <LLD |
| 2. Estimated Total Error | % | <u>1.00E+02</u> | <u>1.00E+02</u> |
| <u>E. VOLUME OF WASTE RELEASED</u> | | | |
| | Liters | <u>4.13E+06</u> | <u>5.30E+07</u> |
| <u>F. VOLUME OF DILUTION WATER</u> | | | |
| | Liters | <u>1.47E+11</u> | <u>2.64E+11</u> |
| <u>G. PERCENT OF 10CFR50, APPENDIX I</u> | | | |
| <u>Quarterly Limit</u> | | | |
| Organ Liver % | | <u>5.59E+00</u> | <u>7.37E-01</u> |
| Total Body % | | <u>1.33E+01</u> | <u>1.79E+00</u> |
| <u>Yearly Limit*</u> | | | |
| Organ Liver % | | <u>2.80E+00</u> | <u>3.17E+00</u> |
| Total Body % | | <u>6.66E+00</u> | <u>7.55E+00</u> |

*Cumulative total for the year-to-date.

TABLE 2B
EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT - 1986
LIQUID EFFLUENTS

| NUCLIDES RELEASED | UNITS | <u>CONTINUOUS MODE</u> | | <u>BATCH MODE</u> | |
|----------------------|-----------|------------------------|--------------------|--------------------|--------------------|
| | | <u>1ST QUARTER</u> | <u>2ND QUARTER</u> | <u>1ST QUARTER</u> | <u>2ND QUARTER</u> |
| H-3 | Ci | <LLD | <LLD | 4.04E+01 | 1.71E+01 |
| Na-24 | Ci | <LLD | <LLD | 1.15E-04 | <LLD |
| Cr-51 | Ci | <LLD | <LLD | 3.97E-03 | 5.02E-04 |
| Mn-54 | Ci | <LLD | <LLD | 6.54E-04 | 2.33E-04 |
| Fe-55 | Ci | <LLD | 8.21E-02 | 3.34E-03 | <LLD |
| Fe-59 | Ci | <LLD | <LLD | 1.96E-05 | 1.20E-05 |
| Co-57 | Ci | | | 1.32E-04 | 1.59E-05 |
| Co-58 | Ci | <LLD | <LLD | 5.99E-02 | 9.82E-03 |
| Co-60 | Ci | <LLD | <LLD | 3.63E-02 | 4.03E-03 |
| Zn-65 | Ci | <LLD | <LLD | 2.70E-05 | 1.74E-05 |
| Sr-89 | Ci | <LLD | <LLD | 2.60E-05 | 3.74E-06 |
| Sr-90 | Ci | <LLD | <LLD | <LLD | <LLD |
| Sr-92 | Ci | | | 3.00E-04 | 1.57E-04 |
| Zr-95 | Ci | <LLD | <LLD | 1.41E-04 | 4.32E-05 |
| Nb-95 | Ci | <LLD | <LLD | 6.23E-04 | 1.89E-04 |
| Nb-97 | Ci | <LLD | <LLD | 3.36E-04 | <LLD |
| Tc-99m | Ci | <LLD | <LLD | <LLD | <LLD |
| Mo-99 | Ci | <LLD | <LLD | <LLD | <LLD |
| Ag-110m | Ci | | | 7.09E-04 | 1.48E-04 |
| Sb-124 | Ci | | | 1.26E-02 | 2.23E-04 |
| I-131 | Ci | 6.71E-06 | <LLD | 5.90E-04 | 2.30E-05 |
| Cs-134 | Ci | <LLD | <LLD | 3.79E-03 | 2.00E-03 |
| Cs-137 | Ci | <LLD | <LLD | 9.62E-03 | 3.38E-03 |
| Ba/La-140 | Ci | <LLD | <LLD | <LLD | <LLD |
| Ce-141 | Ci | <LLD | <LLD | <LLD | <LLD |
| Ce-144 | Ci | <LLD | <LLD | <LLD | <LLD |
| Total | Ci | 6.71E-06 | 8.21E-02 | 4.05E+01 | 1.71E+01 |
| Xe-133 | Ci | 1.40E-05 | <LLD | 9.68E-03 | <LLD |
| Xe-133m | Ci | <LLD | <LLD | 7.56E-06 | <LLD |
| Xel35 | Ci | <LLD | LLD | 5.75E-05 | <LLD |
| Total | Ci | 1.40E-05 | <LLD | 9.75E-03 | <LLD |