



Commonwealth Edison
 LaSalle County Nuclear Station
 Rural Route #1, Box 220
 Marseilles, Illinois 61341
 Telephone 815/357-6761

August 14, 1991

Mr. Bert Davis
 Administrator
 Nuclear Regulatory Commission, Region III
 799 Roosevelt Road
 Glen Ellyn, Illinois 60137

Dear Mr. Davis:

Enclosed is the Semi-annual Radioactive Effluent Report for January through June, 1991 for LaSalle County Nuclear Power Station, Docket Numbers 50-373 and 50-374.

Two copies of the report are provided for your use. Two copies will be forwarded to the Document Control Desk and one copy to the Resident Inspector.

Sincerely,

G. J. Diederich
 Station Manager
 LaSalle County Nuclear Station

GJD/KFK/djf

enc.

cc: Director of Nuclear Reactor Regulation ✓
 Illinois Dept. of Nuclear Safety
 American Nuclear Insurers
 B. P. I.
 American Electric Power Service Corp.
 U.S. EPA
 Illinois EPA (Region III)
 Illinois EPA (Div. of Water Pollution Control)
 Murray and Trettel, Inc.
 Teledyne Isotopes Midwest Laboratory
 Nuclear Quality Program and Assessments
 Chemistry Services
 Emergency Preparedness
 Health Physics Services Supervisor (LaSalle)
 NRC Resident Inspector (LaSalle)
 Nuclear Quality Programs Supt. (LaSalle)
 Chemistry Services Supv. (LaSalle)
 EP Coordinator (LaSalle)
 Illini State Park
 Station File

100092

ZCSTAMGR/176+
 9108220100 910630
 PDR ADOCK 05000373
 R PDR

LASALLE COUNTY NUCLEAR POWER STATION
 UNITS ONE AND TWO
 DOCKET NUMBERS 50-373 AND 50-374

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT (1991)

GASEOUS EFFLUENTS-SUMMATION OF ALL RELEASES

| | | First Quarter | Second Quarter |
|--|---------|------------------|-------------------|
| A. Fission and Activation Gases | | | |
| 1. Total release | Ci | 3.57E-01 | 3.91E+00 |
| 2. Average release rate for period | uCi/sec | 1.95E-01 | 7.95E+00 |
| B. Iodines | | | |
| 1. Total iodine-131 | Ci | 3.28E-04 | 3.91E-04 |
| 2. Average release rate for period | uCi/sec | 1.91E-04 | 1.69E-04 |
| C. Particulates | | | |
| 1. Particulates with T1/2 >8 days | Ci | 3.37E-04 | 1.29E-03 |
| 2. Average release rate for period | uCi/sec | 2.04E-04 | 4.76E-03 |
| 3. Gross alpha radioactivity | Ci | <1.00E-11 | <1.00E-11 |
| D. Tritium | | | |
| 1. Total release | Ci | 2.36E-01 | 6.19E-02 |
| 2. Average release rate for period | uCi/sec | 2.79E-02 | 1.30E-02 |

"<" indicates activity of sample is less than LLD given in uci/ml

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT (1991)

GASEOUS EFFLUENTS-ELEVATED RELEASE

| Nuclides Released | | January | February | March | First Quarter |
|-------------------------|----|-----------|-----------|-----------|---------------|
| 1. Fission Gases | | | | | |
| Ar-41 | Ci | 2.06E-01 | 2.39E-04 | 7.20E-04 | 2.07E-01 |
| Kr-85 | Ci | <1.00E-06 | <1.00E-06 | <1.00E-06 | <1.00E-06 |
| Kr-85m | Ci | <1.00E-06 | <1.00E-06 | <1.00E-06 | <1.00E-06 |
| Kr-87 | Ci | <1.00E-06 | <1.00E-06 | <1.00E-06 | <1.00E-06 |
| Kr-88 | Ci | <1.00E-06 | <1.00E-06 | <1.00E-06 | <1.00E-06 |
| Xe-133 | Ci | <1.00E-06 | <1.00E-06 | 6.40E-04 | 6.40E-04 |
| Xe-133m | Ci | <1.00E-06 | <1.00E-06 | <1.00E-06 | <1.00E-06 |
| Xe-135 | Ci | 1.48E-01 | 5.94E-04 | 8.60E-04 | 1.49E-01 |
| Xe-138 | Ci | <1.00E-06 | <1.00E-06 | <1.00E-06 | <1.00E-06 |
| Total for period | Ci | 3.54E-01 | 8.33E-04 | 2.22E-03 | 3.57E-01 |
| 2. Iodines | | | | | |
| I-131 | Ci | 1.08E-04 | 1.80E-04 | 4.10E-05 | 3.29E-04 |
| I-132 | Ci | <1.00E-11 | <1.00E-11 | <1.00E-11 | <1.00E-11 |
| I-133 | Ci | 1.74E-03 | 7.24E-04 | 3.05E-04 | 2.77E-03 |
| I-134 | Ci | <1.00E-11 | <1.00E-11 | <1.00E-11 | <1.00E-11 |
| I-135 | Ci | <1.00E-11 | 6.86E-04 | <1.00E-11 | 6.86E-04 |
| Total for period | Ci | 1.85E-03 | 1.59E-03 | 3.46E-04 | 3.79E-03 |
| 3. Particulates | | | | | |
| Mn-54 | Ci | <1.00E-04 | <1.00E-04 | <1.00E-04 | <1.00E-04 |
| Co-58 | Ci | <1.00E-04 | <1.00E-04 | <1.00E-04 | <1.00E-04 |
| Fe-59 | Ci | <1.00E-04 | <1.00E-04 | <1.00E-04 | <1.00E-04 |
| Co-60 | Ci | <1.00E-04 | 1.99E-04 | 1.24E-04 | 3.23E-04 |
| Zn-65 | Ci | <1.00E-04 | 1.38E-05 | <1.00E-04 | 1.38E-05 |
| Sr-89 | Ci | <1.00E-11 | <1.00E-11 | <1.00E-11 | <1.00E-11 |
| Sr-90 | Ci | <1.00E-11 | <1.00E-11 | <1.00E-11 | <1.00E-11 |
| Nb-95 | Ci | <1.00E-04 | <1.00E-04 | <1.00E-04 | <1.00E-04 |
| Mo-99 | Ci | <1.00E-04 | <1.00E-04 | <1.00E-04 | <1.00E-04 |
| Cs-134 | Ci | <1.00E-04 | <1.00E-04 | <1.00E-04 | <1.00E-04 |
| Cs-137 | Ci | <1.00E-04 | <1.00E-04 | <1.00E-04 | <1.00E-04 |
| Ce-141 | Ci | <1.00E-04 | <1.00E-04 | <1.00E-04 | <1.00E-04 |
| Ce-144 | Ci | <1.00E-04 | <1.00E-04 | <1.00E-04 | <1.00E-04 |
| Total for period | Ci | 0.00E+00 | 2.13E-04 | 1.24E-04 | 3.37E-04 |

"<" indicates activity of sample is less than LLD given in uci/ml

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT (1991)

GASEOUS EFFLUENTS-ELEVATED RELEASE

| Nuclides Released | | April | May | June | Second Quarter |
|-------------------------|----|-----------|-----------|-----------|-------------------|
| 1. Fission Gases | | | | | |
| Ar-41 | Ci | <1.00E-06 | <1.00E-06 | 2.96E+00 | 2.96E+00 |
| Kr-85 | Ci | <1.00E-06 | <1.00E-06 | <1.00E-06 | <1.00E-06 |
| Kr-85m | Ci | <1.00E-06 | <1.00E-06 | <1.00E-06 | <1.00E-06 |
| Kr-87 | Ci | <1.00E-06 | <1.00E-06 | <1.00E-06 | <1.00E-06 |
| Kr-88 | Ci | <1.00E-06 | <1.00E-06 | <1.00E-06 | <1.00E-06 |
| Xe-133 | Ci | <1.00E-06 | 4.00E-04 | 5.90E-04 | 9.90E-04 |
| Xe-133m | Ci | <1.00E-06 | <1.00E-06 | <1.00E-06 | <1.00E-06 |
| Xe-135 | Ci | <1.00E-06 | 9.51E-01 | 1.18E-03 | 9.52E-01 |
| Xe-138 | Ci | <1.00E-06 | <1.00E-06 | <1.00E-06 | <1.00E-06 |
| Total for period | Ci | 0.00E+00 | 9.51E-01 | 2.96E+00 | 3.91E+00 |
| 2. Iodines | | | | | |
| I-131 | Ci | 1.89E-04 | 3.21E-05 | 1.70E-04 | 3.91E-04 |
| I-132 | Ci | <1.00E-11 | <1.00E-11 | <1.00E-11 | <1.00E-11 |
| I-133 | Ci | 4.48E-04 | 1.06E-03 | 2.35E-03 | 3.86E-03 |
| I-134 | Ci | <1.00E-11 | <1.00E-11 | <1.00E-11 | <1.00E-11 |
| I-135 | Ci | <1.00E-11 | <1.00E-11 | <1.00E-11 | <1.00E-11 |
| Total for period | Ci | 6.37E-04 | 1.09E-03 | 2.52E-03 | 4.25E-03 |
| 3. Particulates | | | | | |
| Cr-51 | Ci | 0.00E+00 | 1.08E-03 | 0.00E+00 | 1.08E-03 |
| Mn-54 | Ci | <1.00E-04 | <1.00E-04 | <1.00E-04 | <1.00E-04 |
| Co-58 | Ci | <1.00E-04 | <1.00E-04 | <1.00E-04 | <1.00E-04 |
| Fe-59 | Ci | <1.00E-04 | <1.00E-04 | <1.00E-04 | <1.00E-04 |
| Co-60 | Ci | 3.02E-05 | 1.79E-04 | <1.00E-04 | 2.09E-04 |
| Zn-65 | Ci | <1.00E-04 | <1.00E-04 | <1.00E-04 | <1.00E-04 |
| Sr-89 | Ci | <1.00E-11 | <1.00E-11 | <1.00E-11 | <1.00E-11 |
| Sr-90 | Ci | <1.00E-11 | <1.00E-11 | <1.00E-11 | <1.00E-11 |
| Nb-95 | Ci | <1.00E-04 | <1.00E-04 | <1.00E-04 | <1.00E-04 |
| Mo-99 | Ci | <1.00E-04 | <1.00E-04 | <1.00E-04 | <1.00E-04 |
| Cs-134 | Ci | <1.00E-04 | <1.00E-04 | <1.00E-04 | <1.00E-04 |
| Cs-137 | Ci | <1.00E-04 | <1.00E-04 | <1.00E-04 | <1.00E-04 |
| Ce-141 | Ci | <1.00E-04 | <1.00E-04 | <1.00E-04 | <1.00E-04 |
| Ce-144 | Ci | <1.00E-04 | <1.00E-04 | <1.00E-04 | <1.00E-04 |
| Total for period | Ci | 3.02E-05 | 1.26E-03 | 0.00E+00 | 1.29E-03 |

"<" indicates activity of sample is less than LLD given in uci/ml

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT (1991)

UNIT ONE

LIQUID EFFLUENTS-SUMMATION OF ALL RELEASES

| | | First Quarter | Second Quarter |
|--|--------|------------------|-------------------|
| A. Fission and Activation Products | | | |
| 1. Total release (not including tritium, gases, alpha) | Ci | 0.00E+00 | 0.00E+00 |
| 2. Average concentration released | uCi/ml | N/A | N/A |
| 3. Maximum concentration released | uCi/ml | N/A | N/A |
| B. Tritium | | | |
| 1. Total release | Ci | 0.00E+00 | 0.00E+00 |
| 2. Average concentration released | uCi/ml | N/A | N/A |
| C. Dissolved Noble Gases | | | |
| 1. Total release | Ci | 0.00E+00 | 0.00E+00 |
| 2. Average concentration released | uCi/ml | N/A | N/A |
| D. Gross Alpha Radioactivity | | | |
| 1. Total release | Ci | 0.00E+00 | 0.00E+00 |
| 2. Average concentration released | uCi/ml | N/A | N/A |
| E. Volume of Waste Released | liters | 0.00E+00 | 0.00E+00 |
| F. Volume of Dilution Water | liters | 0.00E+00 | 0.00E+00 |

"<" indicates activity of sample is less than LLD given in uCi/ml

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT (1991)

UNIT ONE

LIQUID EFFLUENTS

| Nuclides Released | | January | February | March | First Quarter |
|-------------------|----|----------|----------|----------|------------------|
| Mn-54 | Ci | No | No | No | |
| Fe-55 | Ci | Releases | Releases | Releases | |
| Co-58 | Ci | | | | |
| Fe-59 | Ci | | | | |
| Co-60 | Ci | | | | |
| Zn-65 | Ci | | | | |
| Sr-89 | Ci | | | | |
| Sr-90 | Ci | | | | |
| Mo-99 | Ci | | | | |
| I-131 | Ci | | | | |
| Xe-133 | Ci | | | | |
| Xe-133m | Ci | | | | |
| Cs-134 | Ci | | | | |
| Xe-135 | Ci | | | | |
| Cs-137 | Ci | | | | |
| Ce-141 | Ci | | | | |
| Ce-144 | Ci | | | | |
| Total for period | Ci | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT (1991)

UNIT ONE

LIQUID EFFLUENTS

| Nuclides Released | | April | May | June | Second Quarter |
|-------------------|----|----------|----------|----------|-------------------|
| Mn-54 | Ci | No | No | No | |
| Fe-55 | Ci | Releases | Releases | Releases | |
| Co-58 | Ci | | | | |
| Fe-59 | Ci | | | | |
| Co-60 | Ci | | | | |
| Zn-65 | Ci | | | | |
| Sr-89 | Ci | | | | |
| Sr-90 | Ci | | | | |
| Mo-99 | Ci | | | | |
| I-131 | Ci | | | | |
| Xe-133 | Ci | | | | |
| Xe-133m | Ci | | | | |
| Cs-134 | Ci | | | | |
| Xe-135 | Ci | | | | |
| Cs-137 | Ci | | | | |
| Ce-141 | Ci | | | | |
| Ce-144 | Ci | | | | |
| Total for period | Ci | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT (1991)

UNIT TWO

LIQUID EFFLUENTS-SUMMATION OF ALL RELEASES

| | | First Quarter | Second Quarter |
|--|--------|------------------|-------------------|
| A. Fission and Activation Products | | | |
| 1. Total release (not including tritium, gases, alpha) | Ci | 0.00E+00 | 0.00E+00 |
| 2. Average concentration released | uCi/ml | N/A | N/A |
| 3. Maximum concentration released | uCi/ml | N/A | N/A |
| B. Tritium | | | |
| 1. Total release | Ci | 0.00E+00 | 0.00E+00 |
| 2. Average concentration released | uCi/ml | N/A | N/A |
| C. Dissolved Noble Gases | | | |
| 1. Total release | Ci | 0.00E+00 | 0.00E+00 |
| 2. Average concentration released | uCi/ml | N/A | N/A |
| D. Gross Alpha Radioactivity | | | |
| 1. Total release | Ci | 0.00E+00 | 0.00E+00 |
| 2. Average concentration released | uCi/ml | N/A | N/A |
| E. Volume of Waste Released | liters | 0.00E+00 | 0.00E+00 |
| F. Volume of Dilution Water | liters | 0.00E+00 | 0.00E+00 |

"<" indicates activity of sample is less than LLD given in uCi/ml

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT (1991)

UNIT TWO

LIQUID EFFLUENTS

| Nuclides Released | | January | February | March | First Quarter |
|-------------------|----|----------|----------|----------|------------------|
| Mn-54 | Ci | No | No | No | |
| Fe-55 | Ci | Releases | Releases | Releases | |
| Co-58 | Ci | | | | |
| Fe-59 | Ci | | | | |
| Co-60 | Ci | | | | |
| Zn-65 | Ci | | | | |
| Sr-89 | Ci | | | | |
| Sr-90 | Ci | | | | |
| Mo-99 | Ci | | | | |
| I-131 | Ci | | | | |
| Xe-133 | Ci | | | | |
| Xe-133m | Ci | | | | |
| Cs-134 | Ci | | | | |
| Xe-135 | Ci | | | | |
| Cs-137 | Ci | | | | |
| Ce-141 | Ci | | | | |
| Ce-144 | Ci | | | | |
| Total for period | Ci | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT (1991)

UNIT TWO

LIQUID EFFLUENTS

| Nuclides Released | | April | May | June | Second Quarter |
|-------------------|----|----------|----------|----------|-------------------|
| Mn-54 | Ci | No | No | No | |
| Fe-55 | Ci | Releases | Releases | Releases | |
| Co-58 | Ci | | | | |
| Fe-59 | Ci | | | | |
| Co-60 | Ci | | | | |
| Zn-65 | Ci | | | | |
| Sr-89 | Ci | | | | |
| Sr-90 | Ci | | | | |
| Mo-99 | Ci | | | | |
| I-131 | Ci | | | | |
| Xe-133 | Ci | | | | |
| Xe-133m | Ci | | | | |
| Cs-134 | Ci | | | | |
| Xe-135 | Ci | | | | |
| Cs-137 | Ci | | | | |
| Ce-141 | Ci | | | | |
| Ce-144 | Ci | | | | |
| Total for period | Ci | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 |

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT (1991)

MAXIMUM DOSES RESULTING FROM RELEASES

| | | First Quarter | Second Quarter |
|---|------|------------------|-------------------|
| A. Gaseous Effluents (Units One and Two) | | | |
| 1. Gamma air | mrad | 9.28E-06 | 1.22E-04 |
| 2. Beta air | mrad | 1.08E-06 | 1.23E-05 |
| 3. Total body | mrem | 4.92E-06 | 6.61E-05 |
| 4. Skin | mrem | 8.04E-06 | 1.05E-04 |
| 5. Organ (infant thyroid) | mrem | 3.06E-04 | 8.13E-04 |
| B. Liquid Effluents (Unit One) | | | |
| 1. Total body | mrem | 0.00E+00 | 0.00E+00 |
| 2. Internal organ | mrem | 0.00E+00 | 0.00E+00 |
| C. Liquid Effluents (Unit Two) | | | |
| 1. Total body | mrem | 0.00E+00 | 0.00E+00 |
| 2. Internal organ | mrem | 0.00E+00 | 0.00E+00 |

COMPLIANCE STATUS

| | | | |
|---|------------------------|------|------|
| A. Gaseous Effluents (Units One and Two) | | | |
| 1. Gamma air | % of Tech. Spec. Limit | 0.00 | 0.00 |
| 2. Beta air | % of Tech. Spec. Limit | 0.00 | 0.00 |
| 3. Total body | % of Tech. Spec. Limit | 0.00 | 0.00 |
| 4. Skin | % of Tech. Spec. Limit | 0.00 | 0.00 |
| 5. Organ | % of Tech. Spec. Limit | 0.00 | 0.01 |
| B. Liquid Effluents (Unit One) | | | |
| 1. Total body | % of Tech. Spec. Limit | 0.00 | 0.00 |
| 2. Internal organ | % of Tech. Spec. Limit | 0.00 | 0.00 |
| C. Liquid Effluents (Unit Two) | | | |
| 1. Total body | % of Tech. Spec. Limit | 0.00 | 0.00 |
| 2. Internal organ | % of Tech. Spec. Limit | 0.00 | 0.00 |

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT (1991)

SOLID WASTE SHIPPED OFFSITE FOR BURIAL OR DISPOSAL

| | | January | February | March | First Quarter |
|--|-------|----------|----------|----------|------------------|
| 1. Spent resins, filter sludges, evaporator bottoms, etc. | | | | | |
| a. Quantity shipped | cu.m. | 3.90E+01 | 1.11E+01 | 2.46E+01 | 7.47E+01 |
| b. Total activity | Ci | 5.78E+02 | 9.16E+01 | 1.70E+02 | 8.40E+02 |
| c. Major nuclides (estimate) | | | | | |
| Mn-54 | % | 10 | 06 | 02 | |
| Fe-55 | % | 65 | 66 | 85 | |
| Co-60 | % | 24 | 27 | 12 | |
| d. Container type | | LSA | LSA | LSA | |
| e. Container volume* | cu.m. | 2.08E-01 | 2.08E-01 | 2.08E-01 | |
| | | 4.20E+00 | 3.14E-01 | 4.20E+00 | |
| | | 5.83E+00 | 4.20E+00 | 4.84E+00 | |
| | | | | 5.83E+00 | |
| f. Solidification agent | | Cement | Cement | Cement | |
| 2. Dry compressible waste, contaminated equipment, etc. | | | | | |
| a. Quantity shipped | cu.m. | 1.87E+01 | 1.13E+01 | 4.25E-01 | 3.04E+01 |
| b. Total activity | Ci | 5.79E-01 | 5.02E+00 | 2.47E-01 | 5.85E+00 |
| c. Major nuclides (estimate) | | | | | |
| Cr-51 | % | 14 | 14 | 14 | |
| Mn-54 | % | 15 | 15 | 15 | |
| Fe-55 | % | 45 | 45 | 45 | |
| Fe-59 | % | 16 | 16 | 16 | |
| d. Container type | | LSA | LSA | LSA | |
| e. Container volume | cu.m. | 2.08E-01 | 2.08E-01 | 2.08E-01 | |
| | | | 3.14E-01 | | |

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT (1991)

SOLID WASTE SHIPPED OFFSITE FOR BURIAL OR DISPOSAL

| | January | February | March | First Quarter |
|-----------------------------------|---------------------|---------------------|---------------------|------------------|
| 3. Solid Waste Disposition | | | | |
| a. Number of Shipments | 10 | 05 | 06 | 21 |
| b. Mode of Transportation | Truck | Truck | Truck | |
| Number | 10 | 05 | 06 | |
| c. Destination | Barnwell, SC | Barnwell, SC | Barnwell, SC | |
| Number | 03 | 00 | 02 | |
| Number | Beatty, NV 06 | Beatty, NV 04 | Beatty, NV 04 | |
| Number | Oak Ridge, TN 01 | Oak Ridge, TN 01 | Oak Ridge, TN 00 | |

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT (1991)

SOLID WASTE SHIPPED OFFSITE FOR BURIAL OR DISPOSAL

| | | April | May | June | Second Quarter |
|--|-------|--|--|--|-------------------|
| 1. Spent resins, filter sludges, evaporator bottoms, etc. | | | | | |
| a. Quantity shipped | cu.m. | 2.45E+01 | 2.42E+01 | 1.52E+01 | 6.39E+01 |
| b. Total activity | Ci | 3.45E+02 | 7.98E+02 | 2.76E+02 | 1.42E+03 |
| c. Major nuclides (estimate) | | | | | |
| Mn-54 | % | 10 | 10 | 10 | |
| Fe-55 | % | 64 | 64 | 65 | |
| Co-60 | % | 23 | 23 | 23 | |
| d. Container type | | LSA | LSA | LSA | |
| e. Container volume | cu.m. | 2.08E-01 3.41E+00 4.20E+00 5.83E+00 | 2.08E-01 3.14E-01 3.41E+00 4.20E+00 4.84E+00 5.83E+00 | 2.08E-01 3.14E-01 3.41E+00 4.20E+00 4.84E+00 | |
| f. Solidification agent | | Cement | Cement | Cement | |
| 2. Dry compressible waste, contaminated equipment, etc. | | | | | |
| a. Quantity shipped | cu.m. | 7.29E+01 | 2.82E+01 | 9.39E+01 | 1.95E+02 |
| b. Total activity | Ci | 1.45E+01 | 2.03E+00 | 4.52E+00 | 2.11E+01 |
| c. Major nuclides (estimate) | | | | | |
| Cr-51 | % | 14 | 14 | 14 | |
| Mn-54 | % | 15 | 15 | 15 | |
| Fe-55 | % | 45 | 45 | 45 | |
| Fe-59 | % | 16 | 16 | 16 | |
| d. Container type | | LSA | LSA | LSA | |
| e. Container volume | cu.m. | 2.08E-01 2.72E+00 | 2.08E-01 2.72E+00 | 2.08E-01 2.72E+00 7.25E+01 | |

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT (1991)

SOLID WASTE SHIPPED OFFSITE FOR BURIAL OR DISPOSAL

| | April | May | June | Second Quarter |
|-----------------------------------|---------------|---------------|---------------|-------------------|
| 3. Solid Waste Disposition | | | | |
| a. Number of Shipments | 10 | 07 | 07 | 24 |
| b. Mode of Transportation | Truck | Truck | Truck | |
| Number | 10 | 07 | 07 | |
| c. Destination | Barnwell, SC | Barnwell, SC | Barnwell, SC | |
| Number | 02 | 03 | 03 | |
| | Beatty, NV | Beatty, NV | Beatty, NV | |
| Number | 04 | 03 | 02 | |
| | Oak Ridge, TN | Oak Ridge, TN | Oak Ridge, TN | |
| Number | 04 | 01 | 02 | |

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT (1991)

Supplemental Information

1. Regulatory Limits

a. Gaseous effluents

- 1) The air dose due to noble gases released in gaseous effluents, from each reactor unit, from the site shall be limited to the following:
 - a) During any calendar quarter: Less than or equal to 5 mrad for gamma radiation and less than or equal to 10 mrad for beta radiation, and
 - b) During any calendar year: Less than or equal to 10 mrad for gamma radiation and less than or equal to 20 mrad for beta radiation.
- 2) The dose to an individual from radioiodines and radioactive materials in particulate form, and radionuclides, other than noble gases, with half-lives greater than eight days in gaseous effluents released, from each reactor unit, from the site shall be limited to the following:
 - a) During any calendar quarter: Less than or equal to 7.5 mrems to any organ, and
 - b) During any calendar year: Less than or equal to 15 mrems to any organ.

b. Liquid effluents

- 1) The dose or dose commitment to an individual from radioactive materials in liquid effluents released, from each reactor unit, from the site shall be limited:
 - a) During any calendar quarter to less than or equal to 1.5 mrem to the total body and to less than or equal to 5 mrem to any organ, and
 - b) During any calendar year to less than or equal to 3 mrem to the total body and to less than or equal to 10 mrem to any organ.

c. Total dose

- 1) The dose or dose commitment to any member of the public, due to releases of radioactivity and radiation, from uranium fuel cycle sources shall be limited to less than or equal to 25 mrem to the body or any organ (except the thyroid, which shall be limited to less than or equal to 75 mrem) over 12 consecutive months.

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT (1991)

Supplemental Information (continued)

2. Maximum Permissible Concentrations

a. Gaseous effluents

- 1) The dose rate due to radioactive materials released in gaseous effluents from the site shall be limited to the following:
 - a) For noble gases: Less than or equal to 500 mrems/year to the total body and less than or equal to 3000 mrems/year to the skin, and
 - b) For all radioiodines and for all radioactive materials in particulate form, and radionuclides, other than noble gases, with half-lives greater than eight days: Less than or equal to 1500 mrems/year to any organ via the inhalation pathway.

b. Liquid effluents

- 1) The concentration of radioactive material released from the site shall be limited to the concentrations specified in 10 CFR Part 20, Appendix B, Table II, Column 2 for radionuclides other than dissolved or entrained noble gases. For dissolved or entrained noble gases, the concentration shall be limited to the following:

| <u>Nuclide</u> | <u>MPC (uci/ml)</u> |
|----------------|---------------------|
| Kr-85m | 2.00E-04 |
| Kr-85 | 5.00E-04 |
| Kr-87 | 4.00E-05 |
| Kr-88 | 9.00E-05 |
| Ar-41 | 7.00E-05 |
| Xe-131m | 7.00E-04 |
| Xe-133m | 5.00E-04 |
| Xe-133 | 6.00E-04 |
| Xe-135m | 2.00E-04 |
| Xe-135 | 2.00E-04 |

3. Average Energy

- a. Not applicable.

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT (1991)

Supplemental Information (continued)

4. Measurements and Approximations of Total Radioactivity

a. Gaseous effluents

- 1) Containment vent and purge system is sampled by grab sample which is analyzed for principal gamma emitters and H-3.
- 2) Main vent stack is sampled by grab sample which is analyzed for principal gamma emitters and H-3.
- 3) Standby gas treatment system is sampled by grab sample which is analyzed for principal gamma emitters.
- 4) All release types as listed in 1 and 2 above, at the vent stack and as listed in 3 above, at the standby gas treatment system whenever there is flow, are continuously sampled by charcoal, particulate and composite samples which are analyzed for iodines, principal gamma emitters, gross alpha, Sr-89 and Sr-90. Noble gases, gross beta and gamma are continuously monitored by noble gas monitors for the vent stack and the standby gas treatment system.

b. Liquid effluents

- 1) Batch waste release tanks are sampled each batch for principal gamma emitters, I-131, dissolved and entrained noble gases, H-3, gross alpha, Sr-89, Sr-90 and Fe-55.
- 2) Continuous releases are sampled continuously in proportion to the rate of flow of the effluent stream and by grab sample. Samples are analyzed for principal gamma emitters, I-131, dissolved and entrained noble gases, H-3, gross alpha, Sr-89, Sr-90 and Fe-55.

5. Batch Releases

a. Gaseous

- | | |
|---|------|
| 1) Number of batch releases: | None |
| 2) Total time period for batch releases: | N/A |
| 3) Maximum time period for a batch release: | N/A |
| 4) Average time period for batch releases: | N/A |
| 5) Minimum time period for a batch release: | N/A |

b. Liquid

- | | |
|---|------|
| 1) Number of batch releases: | None |
| 2) Total time period for batch releases: | N/A |
| 3) Maximum time period for a batch release: | N/A |
| 4) Average time period for batch releases: | N/A |
| 5) Minimum time period for a batch release: | N/A |
| 6) Average stream flow during periods of release of effluent into a flowing stream: | N/A |

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT (1991)

Supplemental Information (continued)

6. Abnormal Releases

a. Gaseous

- 1) Number of releases: None
- 2) Total activity released: N/A

b. Liquid

- 1) Number of releases: None
- 2) Total activity released: N/A

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT (1991)

METEOROLOGICAL DATA

(See following pages.)

NUMBER OF OBSERVATIONS = 2031
VALUES ARE PERCENT OCCURRENCE

| SPEED CLASS | WIND DIRECTION CLASSES | | | | | | | | | | | | | | | | STABILITY CLASSES | | | | | | | TOTAL | | |
|-------------|------------------------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|-------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | N | NNE | NE | ENE | E | ESE | SE | SSE | S | SSW | SW | WSW | W | WNW | NW | NNW | TOTAL | EU | MU | SU | N | SS | MS | | ES | TOTAL |
| EU | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| MU | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| C SU | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| A N | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| L SS | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| M MS | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| ES | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| EU | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| MU | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 1 SU | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| - N | .05 | .00 | .00 | .00 | .00 | .00 | .00 | .10 | .05 | .05 | .00 | .00 | .00 | .05 | .05 | .34 | .34 | .34 | .34 | .34 | .34 | .34 | .34 | .34 | .34 | .34 |
| 3 SS | .00 | .00 | .00 | .05 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .05 | .00 | .10 | .10 | .10 | .10 | .10 | .10 | .10 | .10 | .10 | .10 | .10 |
| MS | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .10 | .00 | .00 | .00 | .00 | .10 | .10 | .10 | .10 | .10 | .10 | .10 | .10 | .10 | .10 | .10 |
| ES | .00 | .05 | .05 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| EU | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| MU | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .15 | .00 | .00 | .00 | .00 | .15 | .15 | .15 | .15 | .15 | .15 | .15 | .15 | .15 | .15 | .15 |
| 4 SU | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| - N | .34 | .20 | .15 | .00 | .00 | .10 | .00 | .05 | .10 | .10 | .25 | .30 | .15 | .20 | .30 | .25 | 2.46 | 2.46 | 2.46 | 2.46 | 2.46 | 2.46 | 2.46 | 2.46 | 2.46 | 2.46 |
| 7 SS | .15 | .05 | .20 | .10 | .20 | .05 | .00 | .05 | .05 | .05 | .15 | .15 | .10 | .05 | .25 | .10 | 1.67 | 1.67 | 1.67 | 1.67 | 1.67 | 1.67 | 1.67 | 1.67 | 1.67 | 1.67 |
| MS | .05 | .05 | .00 | .00 | .00 | .00 | .00 | .10 | .10 | .00 | .00 | .00 | .05 | .00 | .00 | .05 | .39 | .39 | .39 | .39 | .39 | .39 | .39 | .39 | .39 | .39 |
| ES | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| EU | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| MU | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .05 | .00 | .00 | .00 | .00 | .05 | .05 | .05 | .05 | .05 | .05 | .05 | .05 | .05 | .05 | .05 |
| 8 SU | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .05 | .00 | .00 | .05 | .05 | .05 | .05 | .05 | .05 | .05 | .05 | .05 | .05 | .05 |
| - N | 1.23 | .59 | .79 | .10 | .30 | .10 | .30 | .15 | .15 | .10 | .30 | .15 | .94 | .98 | 1.23 | 1.18 | 8.57 | 8.57 | 8.57 | 8.57 | 8.57 | 8.57 | 8.57 | 8.57 | 8.57 | 8.57 |
| 1 SS | .39 | .20 | .79 | .34 | .59 | .10 | .10 | .10 | .10 | .39 | .15 | .54 | .34 | .20 | .30 | .20 | 4.83 | 4.83 | 4.83 | 4.83 | 4.83 | 4.83 | 4.83 | 4.83 | 4.83 | 4.83 |
| 2 MS | .10 | .00 | .05 | .10 | .00 | .05 | .00 | .00 | .10 | .10 | .20 | .05 | .05 | .20 | .00 | .10 | 1.08 | 1.08 | 1.08 | 1.08 | 1.08 | 1.08 | 1.08 | 1.08 | 1.08 | 1.08 |
| ES | .00 | .05 | .00 | .00 | .00 | .00 | .00 | .00 | .05 | .10 | .00 | .00 | .00 | .00 | .00 | .20 | .20 | .20 | .20 | .20 | .20 | .20 | .20 | .20 | .20 | .20 |
| EU | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 1 MU | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 3 SU | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .10 | .00 | .10 | .10 | .10 | .10 | .10 | .10 | .10 | .10 | .10 | .10 |
| - N | 2.22 | 1.38 | .79 | .30 | .39 | .10 | .44 | .49 | .30 | .34 | .34 | .94 | .59 | 1.08 | 1.58 | 1.97 | 13.24 | 13.24 | 13.24 | 13.24 | 13.24 | 13.24 | 13.24 | 13.24 | 13.24 | 13.24 |
| 1 SS | .54 | .25 | .74 | .34 | .49 | .44 | .39 | .20 | .20 | .25 | .25 | .34 | .79 | .84 | .54 | .54 | 7.14 | 7.14 | 7.14 | 7.14 | 7.14 | 7.14 | 7.14 | 7.14 | 7.14 | 7.14 |
| 8 MS | .05 | .10 | .05 | .20 | .00 | .05 | .15 | .15 | .00 | .34 | .34 | .15 | .20 | .20 | .15 | .10 | 2.22 | 2.22 | 2.22 | 2.22 | 2.22 | 2.22 | 2.22 | 2.22 | 2.22 | 2.22 |
| ES | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .05 | .05 | .10 | .00 | .00 | .00 | .10 | .00 | .30 | .30 | .30 | .30 | .30 | .30 | .30 | .30 | .30 | .30 |

CECO LASALLE STATION
375 ft. WIND SPEED and WIND DIRECTION

January-March
375-33 ft. DIFFERENTIAL TEMPERATURE

| SPEED CLASS | WIND DIRECTION CLASSES | | | | | | | | | | | | | | | | STABILITY CLASSES | | | | | | | | |
|-------------|------------------------|------|------|------|------|------|------|------|------|------|-------|------|------|-------|-------|------|-------------------|-----|-----|-------|-------|-------|-------|------|--------|
| | N | NNE | NE | ENE | E | ESE | SE | SSE | S | SSW | SW | WSW | W | WNW | NW | NNW | TOTAL | EU | MU | SU | N | SS | MS | ES | TOTAL |
| EU | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 1 MU | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 9 SU | .10 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .05 | .00 | .20 | | | .20 | | | | | |
| N | 1.67 | .89 | .00 | .30 | .34 | .15 | .34 | .44 | .49 | .59 | .74 | .69 | .74 | 1.33 | 2.17 | 1.03 | 11.92 | | | 11.92 | | | | | |
| 2 SS | .20 | .20 | .10 | .05 | .79 | .74 | .34 | .34 | .34 | .54 | .74 | .98 | 1.23 | 1.08 | .49 | .64 | 8.81 | | | | 8.81 | | | | |
| 4 MS | .10 | .00 | .15 | .15 | .15 | .05 | .15 | .15 | .25 | .05 | .34 | .59 | .39 | .30 | .10 | .10 | 3.00 | | | | | 3.00 | | | |
| ES | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .10 | .15 | .05 | .05 | .10 | .05 | .05 | .00 | .54 | | | | | | | .54 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | 24.47 |
| EU | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .05 | .00 | .05 | .05 | .05 | | | | | | | |
| G MU | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .49 | .00 | .49 | | .49 | | | | | | | |
| T SU | .05 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .30 | .05 | .39 | | | .39 | | | | | | |
| N | .30 | .10 | .00 | .20 | .54 | .44 | .10 | .64 | .30 | 1.03 | .74 | .49 | .44 | 3.15 | 1.82 | .44 | 10.73 | | | 10.73 | | | | | |
| 2 SS | .00 | .30 | .00 | .00 | .39 | 1.23 | .20 | .84 | 1.18 | 2.36 | 2.17 | .89 | .74 | .94 | .34 | .00 | 11.57 | | | | 11.57 | | | | |
| 4 MS | .00 | .00 | .00 | .00 | .10 | .30 | .25 | .25 | .49 | 1.23 | 2.56 | .84 | .74 | .34 | .05 | .00 | 7.14 | | | | | 7.14 | | | |
| ES | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .15 | .15 | .34 | .69 | .49 | .20 | .05 | .00 | .00 | 2.07 | | | | | | | 2.07 | |
| | | | | | | | | | | | | | | | | | | | | | | | | | 32.45 |
| TOT | 7.53 | 4.38 | 3.84 | 2.22 | 4.28 | 3.89 | 2.76 | 3.99 | 4.58 | 8.27 | 10.49 | 7.63 | 7.83 | 11.03 | 10.49 | 6.79 | 100.00 | .05 | .69 | .74 | 47.27 | 34.12 | 13.93 | 3.20 | 100.00 |

Wind Direction by Stability

| N | NNE | NE | ENE | E | ESE | SE | SSE | S | SSW | SW | WSW | W | WNW | NW | NNW | TOTAL | -STABILITY CLASSES- |
|------|------|------|-----|------|------|------|------|------|------|------|------|------|------|------|------|-------|---------------------|
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .05 | .00 | .05 | Extremely Unstable |
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .20 | .00 | .00 | .00 | .49 | .00 | .69 | Moderately Unstable |
| .15 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .05 | .00 | .05 | .00 | .44 | .05 | .74 | Slightly Unstable |
| 5.81 | 3.15 | 1.72 | .89 | 1.58 | .89 | 1.18 | 1.77 | 1.43 | 2.22 | 2.41 | 2.56 | 2.86 | 6.75 | 7.14 | 4.92 | 47.27 | Neutral |
| 1.28 | .98 | 1.82 | .89 | 2.46 | 2.56 | 1.03 | 1.53 | 1.87 | 3.59 | 3.45 | 2.90 | 3.20 | 3.15 | 1.92 | 1.48 | 34.12 | Slightly Stable |
| .30 | .15 | .25 | .44 | .25 | .44 | .54 | .54 | .94 | 1.82 | 3.55 | 1.62 | 1.43 | 1.03 | .30 | .34 | 13.93 | Moderately Stable |
| .00 | .10 | .05 | .00 | .00 | .00 | .00 | .15 | .34 | .64 | .84 | .54 | .30 | .10 | .15 | .00 | 3.20 | Extremely Stable |

Wind Direction by Wind Speed

| N | NNE | NE | ENE | E | ESE | SE | SSE | S | SSW | SW | WSW | W | WNW | NW | NNW | TOTAL | -WIND SPEED CLASSES- |
|------|------|------|-----|------|------|-----|------|------|------|------|------|------|------|------|------|-------|----------------------|
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | CALM |
| .05 | .05 | .05 | .05 | .00 | .00 | .00 | .00 | .10 | .05 | .15 | .00 | .00 | .05 | .05 | .05 | .64 | 0.8 - 3.5 mph |
| .54 | .30 | .34 | .10 | .20 | .15 | .00 | .10 | .25 | .25 | .54 | .44 | .30 | .25 | .54 | .39 | 4.68 | 3.6 - 7.5 mph |
| 1.72 | .84 | 1.62 | .54 | .89 | .25 | .39 | .25 | .39 | .69 | .69 | .74 | 1.38 | 1.38 | 1.53 | 1.48 | 14.77 | 7.6 - 12.5 mph |
| 2.81 | 1.72 | 1.58 | .84 | .89 | .59 | .98 | .84 | .54 | .98 | 1.03 | 1.43 | 1.58 | 2.12 | 2.46 | 2.61 | 22.99 | 12.6 - 18.5 mph |
| 2.07 | 1.08 | .25 | .49 | 1.28 | .94 | .84 | .94 | 1.18 | 1.33 | 1.92 | 2.31 | 2.46 | 2.76 | 2.86 | 1.77 | 24.47 | 18.6 - 24.5 mph |
| .34 | .39 | .00 | .20 | 1.03 | 1.97 | .54 | 1.87 | 2.12 | 4.97 | 6.15 | 2.71 | 2.12 | 4.48 | 3.05 | .49 | 32.45 | > 24.5 mph |

CECO LASALLE STATION

375 ft. WIND SPEED AND WIND DIRECTION

375-33 ft. DIFFERENTIAL TEMPERATURE

April-June 1961

NUMBER OF OBSERVATIONS = 2164
VALUES ARE PERCENT OCCURRENCE

SPEED CLASS N NNE NE E ESE SE SSE S SSW SW W WSW WNW NNW NNN TOTAL

STABILITY CLASSES ES MS SS N SU NU EU TOTAL

| CLASS | N | NNE | NE | E | ESE | SE | SSE | S | SSW | SW | WSW | W | WNW | NNW | NNN | TOTAL | EU | NU | SU | N | SS | MS | ES | TOTAL |
|-------|-----|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------|-----|-----|-----|-----|-----|-----|-----|-------|
| EU | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| NU | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| C SU | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| Y N | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| L MS | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| H MS | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| ES | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| EU | .05 | .09 | .14 | .18 | .14 | .09 | .05 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| NU | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 4 SU | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 8 SU | .14 | .18 | .23 | .18 | .14 | .09 | .05 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| - N | .37 | .51 | .42 | .37 | .28 | .23 | .18 | .14 | .14 | .18 | .28 | .37 | .42 | .37 | .23 | .18 | .14 | .09 | .05 | .00 | .00 | .00 | .00 | .00 |
| 1 SS | .09 | .05 | .05 | .05 | .05 | .05 | .05 | .05 | .05 | .05 | .05 | .05 | .05 | .05 | .05 | .05 | .05 | .05 | .05 | .05 | .05 | .05 | .05 | .05 |
| 2 MS | .05 | .05 | .05 | .05 | .05 | .05 | .05 | .05 | .05 | .05 | .05 | .05 | .05 | .05 | .05 | .05 | .05 | .05 | .05 | .05 | .05 | .05 | .05 | .05 |
| ES | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| EU | .18 | .23 | .23 | .18 | .14 | .09 | .05 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| NU | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 1 MU | .05 | .09 | .14 | .14 | .14 | .09 | .05 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 3 SU | .05 | .14 | .28 | .28 | .23 | .18 | .14 | .14 | .18 | .28 | .37 | .42 | .37 | .23 | .18 | .14 | .09 | .05 | .00 | .00 | .00 | .00 | .00 | .00 |
| - N | .55 | 1.29 | 1.48 | 1.14 | .83 | .69 | .55 | .46 | .46 | .69 | .92 | .92 | .88 | .69 | .55 | .42 | .37 | .23 | .14 | .05 | .05 | .05 | .05 | .05 |
| 1 SS | .09 | .09 | .09 | .09 | .09 | .09 | .09 | .09 | .09 | .09 | .09 | .09 | .09 | .09 | .09 | .09 | .09 | .09 | .09 | .09 | .09 | .09 | .09 | .09 |
| 8 MS | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| ES | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |

31.38

17.79

9.01

.97

.00

CECO LASALLE STATE
375 ft. WIND SPEED and WIND DIRECTION

April-June
375-33 ft. DIFFERENTIAL TEMPERATURE

| SPEED CLASS | WIND DIRECTION CLASSES | | | | | | | | | | | | | | | | STABILITY CLASSES | | | | | | | | | |
|-------------|------------------------|------|------|-------|------|------|------|------|------|-------|-------|------|------|------|------|------|-------------------|------|------|------|-------|-------|-------|------|--------|--|
| | N | NNE | NE | ENE | E | ESE | SE | SSE | S | SSW | SW | WSW | W | WNW | NW | NNW | TOTAL | EU | MU | SU | N | SS | MS | ES | TOTAL | |
| EU | .00 | .00 | .00 | .28 | .00 | .00 | .00 | .00 | .14 | .09 | .00 | .00 | .00 | .00 | .00 | .51 | .51 | | | | | | | | | |
| 1 MU | .00 | .00 | .05 | .09 | .05 | .00 | .00 | .00 | .28 | .05 | .00 | .00 | .00 | .00 | .00 | .51 | .51 | .51 | | | | | | | | |
| 9 SU | .00 | .00 | .14 | .18 | .09 | .14 | .05 | .00 | .14 | .37 | .00 | .00 | .00 | .00 | .00 | 1.11 | | | 1.11 | | | | | | | |
| N | .05 | .28 | .51 | 2.63 | 1.85 | .55 | .28 | .09 | .46 | .60 | .83 | .60 | .18 | .05 | .60 | .09 | 9.66 | | | 9.66 | | | | | | |
| 2 SS | .05 | .05 | .00 | .05 | .60 | .79 | .32 | .28 | .60 | 1.11 | .74 | .65 | .46 | .18 | .28 | .00 | 6.15 | | | | 6.15 | | | | | |
| 4 MS | .00 | .00 | .00 | .00 | .37 | .23 | .37 | .05 | .23 | .46 | .60 | .42 | .23 | .05 | .18 | .00 | 3.19 | | | | | | 3.19 | | | |
| ES | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .18 | .05 | .14 | .14 | .18 | .00 | .00 | .00 | .69 | | | | | | | | .69 | | |
| 21.81 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| EU | .00 | .00 | .00 | .05 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .05 | .05 | | | | | | | | | |
| G MU | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .05 | .00 | .14 | .05 | .00 | .00 | .00 | .23 | .23 | .23 | | | | | | | | |
| T SU | .00 | .00 | .00 | .09 | .14 | .00 | .00 | .00 | .05 | .09 | .32 | .14 | .14 | .00 | .00 | .97 | | | .97 | | | | | | | |
| N | .00 | .00 | .05 | .69 | 1.20 | .55 | .32 | .09 | .37 | .42 | .46 | .83 | 1.71 | 1.06 | .28 | .23 | 8.27 | | | 8.27 | | | | | | |
| 2 SS | .00 | .00 | .00 | .00 | .14 | .79 | .65 | .42 | .09 | 1.06 | .74 | .65 | .18 | .28 | .18 | .00 | 5.18 | | | | 5.18 | | | | | |
| 4 MS | .00 | .00 | .00 | .00 | .00 | .09 | .88 | .09 | .05 | .74 | 1.71 | .18 | .05 | .00 | .00 | 3.79 | | | | | | | 3.79 | | | |
| ES | .00 | .00 | .00 | .00 | .00 | .00 | .23 | .14 | .00 | .09 | .05 | .00 | .05 | .00 | .00 | .55 | | | | | | | | .55 | | |
| 19.04 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TOT | 2.17 | 3.74 | 4.85 | 10.58 | 9.89 | 6.61 | 6.75 | 4.16 | 5.55 | 10.40 | 10.81 | 8.18 | 6.47 | 4.07 | 4.02 | 1.76 | 100.00 | 2.59 | 4.53 | 6.65 | 45.24 | 24.58 | 14.46 | 1.94 | 100.00 | |

Wind Direction by Stability

| N | NNE | NE | ENE | E | ESE | SE | SSE | S | SSW | SW | WSW | W | WNW | NW | NNW | TOTAL | -STABILITY CLASSES- |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|---------------------|
| .00 | .05 | .42 | 1.02 | .05 | .00 | .00 | .00 | .00 | .69 | .37 | .00 | .00 | .00 | .00 | .00 | 2.59 | Extremely Unstable |
| .09 | .23 | .37 | .74 | .23 | .23 | .28 | .14 | .23 | .97 | .55 | .42 | .05 | .00 | .00 | .00 | 4.53 | Moderately Unstable |
| .18 | .23 | .46 | 1.16 | .55 | .32 | .23 | .18 | .37 | .69 | .92 | .46 | .51 | .28 | .05 | .05 | 6.65 | Slightly Unstable |
| 1.52 | 2.63 | 3.19 | 6.52 | 5.27 | 2.77 | 2.36 | 1.71 | 2.03 | 2.50 | 2.82 | 3.05 | 3.19 | 2.13 | 2.08 | 1.48 | 45.24 | Neutral |
| .28 | .42 | .32 | .97 | 2.96 | 2.77 | 1.80 | 1.20 | 1.80 | 3.42 | 2.40 | 2.59 | 1.25 | 1.06 | 1.29 | .05 | 24.58 | Slightly Stable |
| .09 | .18 | .09 | .18 | .83 | .51 | 1.85 | .69 | .79 | 1.85 | 3.47 | 1.52 | 1.16 | .55 | .55 | .14 | 14.46 | Moderately Stable |
| .00 | .00 | .00 | .00 | .00 | .00 | .23 | .23 | .32 | .28 | .28 | .14 | .32 | .05 | .05 | .05 | 1.94 | Extremely Stable |

Wind Direction by Wind Speed

| N | NNE | NE | ENE | E | ESE | SE | SSE | S | SSW | SW | WSW | W | WNW | NW | NNW | TOTAL | -WIND SPEED CLASSES- |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|-------|----------------------|
| .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | CALM |
| .05 | .05 | .14 | .05 | .05 | .18 | .14 | .00 | .05 | .09 | .00 | .05 | .09 | .00 | .05 | .00 | .97 | 0.8 - 3.5 mph |
| .28 | .74 | 1.06 | .51 | .46 | .69 | .74 | .46 | .79 | .46 | .83 | .65 | .42 | .37 | .42 | .14 | 9.01 | 3.6 - 7.5 mph |
| 1.02 | .97 | 1.06 | 1.89 | 1.25 | .88 | 1.16 | 1.20 | .97 | 1.34 | 1.66 | .97 | 1.11 | .74 | .83 | .74 | 17.79 | 7.6 - 12.5 mph |
| .74 | 1.66 | 1.85 | 4.07 | 3.70 | 1.71 | 1.62 | 1.34 | 1.76 | 3.33 | 2.45 | 2.59 | 1.62 | 1.20 | 1.20 | .55 | 31.38 | 12.6 - 18.5 mph |
| .09 | .32 | .69 | 3.23 | 2.96 | 1.71 | 1.02 | .42 | 1.48 | 2.77 | 2.82 | 1.80 | 1.06 | .28 | 1.06 | .09 | 21.81 | 18.6 - 24.5 mph |
| .00 | .00 | .05 | .83 | 1.48 | 1.43 | 2.08 | .74 | .51 | 2.40 | 3.05 | 2.13 | 2.17 | 1.48 | .46 | .23 | 19.04 | > 24.5 mph |