Xcel Energy℠

414 Nicollet Mall
Minneapolis, Minnesota 55401-1993

March 27, 2003

Mr. Paul Kim
Minnesota Pollution Control Agency
Environmental Outcomes Division
Integrated Data Management Unit
520 Lafayette Road N
St. Paul, MN 55155

Re: 2002 Air Emission Inventory Reports

Enclosed are Northern States Power d/b/a Xcel Energy's 2002 Air Emission Inventory Reports completed and signed for the following facilities owned and operated by Northern States Power Company d/b/a Xcel Energy:

| Facility Name | Facility ID # | Facility Name | Facility ID # |
|---|---|---|---|
| Allen S. King | 16300005 | Minnesota Valley | 02300012 |
| Alliant Techsystems | 05300697 | Monticello | 17100019 |
| Black Dog | 03700003 | Prairie Island | 04900030 |
| Blue Lake | 13900010 | Red Wing | 04900005 |
| General Office | 05300855 | Riverside | 05300015 |
| Granite City | 00900021 | Sherburne County | 14100004 |
| High Bridge | 12300012 | United Healthcare | 05300698 |
| Inver Hills | 03700015 | Wescott | 03700064 |
| Key City | 01300015 | West Faribault | 13100003 |
| Maple Grove | 05300898 | Wilmarth | 01300015 |

Northern States Power d/b/a Xcel Energy also owns and operates three (3) oil-fired generators located at the United Hospital Facility in St. Paul. These units are included in the facility Emissions Inventory Report which is signed and submitted by United Hospital.

In addition, enclosed are supplemental information sheets for several facilities to assist in the calculations for the Emission Summaries.

If you have any questions, please call me at 612-330-7630.

Sincerely,

Sarah A. Butrymowicz
Environmental Analyst III

Enclosures

cc: Environmental Services Record Center
Lee Eberley, w/o attachments
Rick Rosvold, w/attachments
Nancy Stafki, w/attachments
John Chelstrom, w/attachments
Alma Allen-Webb w/attachments
Nancy Stafki – General Office
Karen Olson – Maple Grove
Mike Miser – Allen S. King
Jim Paris – Black Dog
Scott Anton – High Bridge
Carl Bayley – Riverside
Mary Dieltz – Sherco
Gloria Tieszen – Mn Valley
Gary Kolle – Prairie Island
Rick Latsch – Monticello
Nathan Svoboda – Wilmarth
Arthur Zimmerman – Red Wing
Ron Shilts – Wescott
Steve Chapman – West Faribault, Blue Lake, Key City, Inver Hills
Brian Anderson – United Healthcare, Alliant Techsystems, Granite City

# Minnesota Pollution Control Agency

**Air Pollutant Emissions Inventory Report**

**Facility ID: 17100019 Inventory Year: 2002**



Contact: Eberley, Lee W( 110 )

Xcel Energy Monticello Nuclear Plant

| | | | |
|---|---|---|---|
| Facility Name: | ~~NSP dba Xcel Energy Monticello Nuclear~~ | Inventory Contact: | Eberley, Lee W |
| Location Street Address: | 2807 W Highway 75 | Job Title: | Air Quality Manager |
| City/ZIP: | Monticello 55362 | Mail Address: | 414 Nicollet Mall |
| County: | Wright | City/St/ZIP: | Minneapolis, MN 55401-1993 |
| | | Contact Phone: | (612) 330-5596 |
| | | Contact Fax: | (612) 330-6357 |
| | | Contact E-Mail: | |

I certify under penalty of law that this document and all attachments were prepared under my direction or supervised by qualified personnel. The Information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I understand that the data provided in this document will be used by the MPCA to calculate a fee, which my facility will be required to pay under Minnesota Rules, part 7002.0025, based on tons of pollutants emitted by the facility.

Signature and Title of Company Official (please write): _____ Date: 3/14/03

Name and Title of Company Official (please print): Jack Purkis, Plant Manager

**Return To: Paul Kim (651) 296-7320**
**or Michael Smith (651) 282-5849**
**Minnesota Pollution Control Agency**
**Environmental Outcomes Division**
**Integrated Data Management Unit**
**520 Lafayette Road N**
**St. Paul, MN 55155-4194**

# Minnesota Pollution Control Agency

## Air Pollutant Emissions Inventory Report

**Facility ID: 17100019** **Inventory Year: 2002**



Contact: Eberley, Lee W( 110)

Operating Schedule

| | Average Working Schedule | | | | % Annual Throughput | | | |
|---|---|---|---|---|---|---|---|---|
| | Percent Heating | Hours Per Day | Days Per Week | Hours Per Year | Dec-Feb | Mar-May | Jun-Aug | Sep-Nov |
| EU 001 Boiler | 100 | 13.390 | 3.900 | 4888.9 | 43.8 | 30.4 | 0.0 | 25.7 |
| EU 002 Diesel Generator 11 | 0 | 0.075 | 0.022 | 27.4 | 27.4 | 25.9 | 26.3 | 20.1 |
| EU 003 Diesel Generator 12 | 0 | 0.091 | 0.027 | 33.3 | 25.5 | 37.2 | 19.2 | 18.0 |
| EU 004 Security Diesel Generator | 0 | 0.021 | 0.006 | 7.8 | 11.5 | 35.9 | 16.7 | 35.9 |
| EU 005 Fire Pump Diesel Engine | 0 | 0.105 | 0.031 | 38.3 | 24.4 | 22.6 | 31.4 | 21.6 |
| EU 006 Diesel Generator 13 | 0 | 0.058 | 0.017 | 21.0 | 23.8 | 23.8 | 28.6 | 23.8 |
| EU 007 Temporary Engine > 600 Hp | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| EU 008 Temporary Engine < 600 Hp | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |

# Minnesota Pollution Control Agency

## Air Pollutant Emissions Inventory Report

**Facility ID: 17100019** **Inventory Year: 2002**



Contact: Eberley, Lee W( 110)

Throughput Information

| Unit | Unit Description | Segment Description | Throughput | Throughput Units | Sulfur % | Ash % |
|---|---|---|---|---|---|---|
| EU 001 | Boiler | Diesel | 271.74 | 1000 gallons burned | <0.05 | N/A |
| EU 002 | Diesel Generator 11 | Diesel | 4.66 | 1000 gallons burned | <0.05 | N/A |
| EU 003 | Diesel Generator 12 | Diesel | 5.66 | 1000 gallons burned | <0.05 | N/A |
| EU 004 | Security Diesel Generator | Diesel | 0.12 | 1000 gallons burned | <0.05 | N/A |
| EU 005 | Fire Pump Diesel Engine | Diesel | 0.31 | 1000 gallons burned | <0.05 | N/A |
| EU 006 | Diesel Generator 13 | Diesel | 2.34 | 1000 gallons burned | <0.5 | N/A |
| EU 007 | Temporary Engine > 600 Hp | Diesel | N/A | 1000 gallons burned | N/A | N/A |
| EU 008 | Temporary Engine < 600 Hp | Diesel | N/A | 1000 gallons burned | N/A | N/A |

Monticello Nuclear Plant #17100019

| Unit[2] | Unit Description | Seg | Seg Description | SCC | Pollutant | Emission Factor (lb/MMBTU) | Calculation Method | Throughput (gallons) | Throughput (MMBTU)[1] | Control % | Capture % | Combined% | Actual (Tons) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| EU006 | Diesel Engine 13 | 1 | Diesel | 20100102 | NOx | 2.57 | Appvd Stack Test (10/2000) | 2,340.00 | 320.58 | | | | 0.41 |

1. Assume heat value of 137,000 BTU/Gallon
2. For other units and pollutants, use appropriate AP-42 equations.

| Unit # | Unit Description | Segment Description | SCC | Pollutant | Emission Factor | Calculation Method | Control Equipment | Control % | Capture % | Comb % | Emissions (in tons) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| EU001 | Boiler | Fuel Oil | | NOx | | Test | | | | | 3.56 |
| | | | | TSP/PM | | AP-42 | | | | | 0.27 |
| | | | | SOx | | AP-42 | | | | | 9.78 |
| EU002, 003, & 006 | Generator | Diesel | | NOx | | Test | | | | | 2.73 |
| | | | | TSP/PM | | AP-42 | | | | | 0.06 |
| | | | | SOx | | AP-42 | | | | | 0.45 |

Note: NOx emissions from generators 11, 12 & 13 have been combined. See attached letter(s).

# Air Pollutant Emissions Inventory Report 2002

## Operating Schedule

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Heating Boiler | 742.2 | 674.4 | 737.4 | 500.2 | 249.5 | 0.0 | 0.0 | 1.5 | 39.3 | 541.7 | 676.2 | 726.5 |
| DG 11 | 1.9 | 1.6 | 1.9 | 3.5 | 1.7 | 1.6 | 3.7 | 2.0 | 1.8 | 2.1 | 1.6 | 4.0 |
| DG 12 | 1.6 | 1.5 | 1.1 | 7.4 | 3.9 | 0.0 | 4.5 | 1.9 | 2.0 | 1.8 | 2.2 | 5.4 |
| Security DG | 0.4 | 0.2 | 0.4 | 0.3 | 2.1 | 0.3 | 0.3 | 0.7 | 0.4 | 0.3 | 2.1 | 0.3 |
| Fire Pump DG | 4.83 | 2.26 | 2.96 | 2.18 | 3.53 | 6.36 | 2.78 | 2.87 | 2.23 | 2.36 | 3.69 | 2.25 |
| DG 13 | 2.0 | 1.0 | 2.0 | 2.0 | 1.0 | 3.0 | 1.0 | 2.0 | 2.0 | 1.0 | 2.0 | 2.0 |

| 6 Month Totals | Jan-Jun | Jul-Dec |
|---|---|---|
| Heating Boiler | 2903.7 | 1985.2 |
| DG 11 | 12.2 | 15.2 |
| DG 12 | 15.5 | 17.8 |
| Security DG | 3.7 | 4.1 |
| Fire Pump DG | 22.1 | 16.2 |
| DG 13 | 11.0 | 10.0 |

| | Average Working Schedule | | | % Annual Throughput | | | | |
|---|---|---|---|---|---|---|---|---|
| | Hrs/Day | Days/Wk | Hrs/Yr | Dec-Feb | Mar-May | Jun-Aug | Sep-Nov | % |
| Heating Boiler | 13.39 | 3.90 | 4888.9 | 43.8 | 30.4 | 0.0 | 25.7 | 100.0 |
| DG 11 | 0.0750 | 0.0219 | 27.4 | 27.4 | 25.9 | 26.6 | 20.1 | 100.0 |
| DG 12 | 0.0912 | 0.0266 | 33.3 | 25.5 | 37.2 | 19.2 | 18.0 | 100.0 |
| Security DG | 0.0214 | 0.0062 | 7.8 | 11.5 | 35.9 | 16.7 | 35.9 | 100.0 |
| Fire Pump DG | 0.1049 | 0.0306 | 38.3 | 24.4 | 22.6 | 31.4 | 21.6 | 100.0 |
| DG 13 | 0.0575 | 0.0168 | 21.0 | 23.8 | 23.8 | 28.6 | 23.8 | 100.0 |

## Air Pollutant Emissions Inventory Report 2002

### Throughput Information

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Heating Boiler | 45432.7 | 39276.3 | 45441.7 | 25839.7 | 12327.6 | 82.6 | 0.0 | 89.5 | 2108.4 | 27322.3 | 34751.1 | 39072.3 | 271.74 | 1,000 Gallons Burned |
| DG 11 | 323.0 | 272.0 | 323.0 | 595.0 | 289.0 | 272.0 | 629.0 | 340.0 | 306.0 | 357.0 | 272.0 | 680.0 | 4.66 | 1,000 Gallons Burned |
| DG 12 | 272.0 | 255.0 | 187.0 | 1258.0 | 663.0 | 0.0 | 765.0 | 323.0 | 340.0 | 306.0 | 374.0 | 918.0 | 5.66 | 1,000 Gallons Burned |
| Security DG | 5.1 | 2.6 | 5.1 | 26.9 | 3.8 | 3.8 | 9.0 | 5.1 | 3.8 | 26.9 | 26.9 | 3.8 | 0.12 | 1,000 Gallons Burned |
| Fire Pump DG | 39.1 | 18.3 | 24.0 | 17.7 | 28.6 | 51.5 | 22.5 | 23.2 | 18.1 | 19.1 | 29.9 | 18.2 | 0.31 | 1,000 Gallons Burned |
| DG 13 | 222.4 | 111.2 | 222.4 | 222.4 | 111.2 | 333.6 | 111.2 | 222.4 | 222.4 | 111.2 | 222.4 | 222.4 | 2.34 | 1,000 Gallons Burned |

| Six Month Fuel Usage Report | January - June | July - December | Annual Total | |
|---|---|---|---|---|
| Heating Boiler | 168.40 | 103.34 | 271.74 | 1,000 Gallons Burned |
| DG 11 | 2.07 | 2.58 | 4.66 | 1,000 Gallons Burned |
| DG 12 | 2.64 | 3.03 | 5.66 | 1,000 Gallons Burned |
| Security DG | 0.05 | 0.08 | 0.12 | 1,000 Gallons Burned |
| Fire Pump DG | 0.18 | 0.13 | 0.31 | 1,000 Gallons Burned |
| DG 13 | 1.22 | 1.11 | 2.34 | 1,000 Gallons Burned |

Monticello Nuclear Generating Plant
Fuel Usage Report

**Period Covered:** January 1 - June 30, 2002

| Unit | MPCA Emission Unit No. | Hours Operated | Fuel Consumption Rate (gal/hr) [1] | Fuel Amount Used (gal) | NOx Emission Rate [2,3,4,6] (lb/gal) | NOx Emissions (tons) | SO2 Emission Rate [4,5,6] (lb/gal) | SO2 Emissions (tons) | PM Emission Rate [4,6] (lb/gal) | PM Emissions (tons) |
|---|---|---|---|---|---|---|---|---|---|---|
| Boiler 1 | EU001 | - | 208.6 | 168,401 | 0.0262 | 2.20 | 0.0720 | 6.06 | 0.0020 | 0.17 |
| D11 | EU002 | 12.2 | 170 | 2,074 | 0.4480 | 0.46 | 0.0707 | 0.07 | 0.0098 | 0.01 |
| D12 | EU003 | 15.5 | 170 | 2,635 | 0.4480 | 0.59 | 0.0707 | 0.09 | 0.0098 | 0.01 |
| Security | EU004 | 3.7 | 12.8 | 47 | 0.6174 | 0.01 | 0.0406 | 0.00 | 0.0434 | 0.00 |
| Fire Pump | EU005 | 22.1 | 8.1 | 179 | 0.6174 | 0.06 | 0.0406 | 0.00 | 0.0434 | 0.00 |
| D13 | EU006 | 11.0 | 111.2 | 1,223 | 0.3602 | 0.22 | 0.0707 | 0.04 | 0.0098 | 0.01 |
| | | | Totals | 174,559 | | 3.55 | | 6.28 | | 0.20 |

1. Fuel consumption rates (maxiumum capacity) taken from Title V application.
2. Boiler NOx emission rate from 1/1/1996 stack test.
3. D13 NOx emission rate from 10/18 2000 stack test.
4. Boiler emission rates from MPCA Table EC-02.1; Engine emission rates from MPCA Table EC-03.1 (lb/mmBTU rates converted to lbs/gal)
5. Assumes 0.5% S in fuel.
6. Assumes fuel heat value of 140,000 Btu/gal

shaded area represents manually entered data.

Monticello Nuclear Generating Plant
Fuel Usage Report

Period Covered: July 1 - December 31, 2002

| Unit | MPCA Emission Unit No. | Hours Operated | Fuel Consumption Rate (gal/hr) [1] | Fuel Amount Used (gal) | NOx Emission Rate [2,3,4,6] (lb/gal) | NOx Emissions (tons) | SO2 Emission Rate [4,5,6] (lb/gal) | SO2 Emissions (tons) | PM Emission Rate [4,6] (lb/gal) | PM Emissions (tons) |
|---|---|---|---|---|---|---|---|---|---|---|
| Boiler 1 | EU001 | - | 208.6 | 103,344 | 0.0262 | 1.35 | 0.0720 | 3.72 | 0.0020 | 0.10 |
| D11 | EU002 | 15.2 | 170 | 2,584 | 0.4480 | 0.58 | 0.0707 | 0.09 | 0.0098 | 0.01 |
| D12 | EU003 | 17.8 | 170 | 3,026 | 0.4480 | 0.68 | 0.0707 | 0.11 | 0.0098 | 0.01 |
| Security | EU004 | 4.1 | 12.8 | 52 | 0.6174 | 0.02 | 0.0406 | 0.00 | 0.0434 | 0.00 |
| Fire Pump | EU005 | 16.2 | 8.1 | 131 | 0.6174 | 0.04 | 0.0406 | 0.00 | 0.0434 | 0.00 |
| D13 | EU006 | 10.0 | 111.2 | 1,112 | 0.3602 | 0.20 | 0.0707 | 0.04 | 0.0098 | 0.01 |
| | | | Totals | 110,249 | | 2.87 | | 3.96 | | 0.14 |

1. Fuel consumption rates (maxiumum capacity) taken from Title V application.
2. Boiler NOx emission rate from 1/1/1996 stack test.
3. D13 NOx emission rate from 10/18 2000 stack test.
4. Boiler emission rates from MPCA Table EC-02.1; Engine emission rates from MPCA Table EC-03.1 (lb/mmBTU rates converted to lbs/gal)
5. Assumes 0.5% S in fuel.
6. Assumes fuel heat value of 140,000 Btu/gal

shaded area represents manually entered data.