



**AIR EMISSION PERMIT NO. 10900006- 001
IS ISSUED TO**

International Business Machine Corporation

IBM - Rochester
3605 Highway 52 North
Rochester, Olmsted County, Minnesota 55901-7829

The emission units, control equipment and emission stacks at the stationary source authorized in this permit are as described in the following permit application(s):

Permit Type:
Total Facility Operating Permit

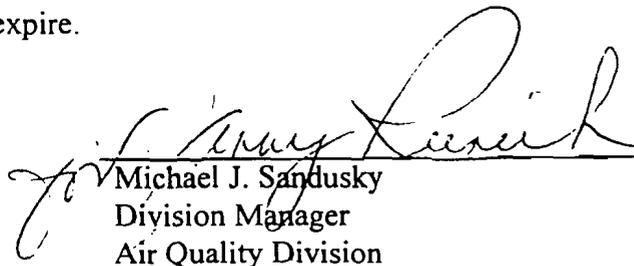
Application Date:
June 15, 1995
February 19, 1996
April 11, 1997

This permit authorizes the Permittee to operate the stationary source at the address listed above unless otherwise noted in Table A. The Permittee must comply with all the conditions of the permit and with all general conditions listed in Minn. R. pt. 7007.0800, subp. 16, which are incorporated by reference. Any changes or modifications to the stationary source must be performed in compliance with Minn. R. pts. 7007.1150 to 7007.1500. Terms used in the permit as defined in the state air pollution control rules unless the term is explicitly defined in the permit.

Permit Type: State; Synthetic Minor Part 70

Issue Date: June 3, 1998

Expiration: Permit does not expire
All Title I Conditions do not expire.


Michael J. Sandusky
Division Manager
Air Quality Division

for Peder A. Larson
Commissioner
Minnesota Pollution Control Agency

JKD:yma

TABLE OF CONTENTS

Notice to the Permittee

Permit Shield

Facility Description

Table A: Limits and Other Requirements

Table B: Submittals

FACILITY DESCRIPTION:

International Business Machine Corporation (IBM) operates a computer component and system manufacturing plant located at 3605 Highway 52 North in Rochester, Olmsted County, Minnesota. The Permittee occupies a campus of buildings with a total of approximately 3,000,000 square feet. General capabilities of the facility consist of the manufacture of electronic digital computers and disk drive substrates. Some sub-assemblies, including circuit boards which are used in the final computer assembly, are also manufactured at this location. Emission units at the facility include three boilers fueled primarily with natural gas. Residual oil, LP gas and distillate oil may also be used in the boilers. Twenty-six emergency generators, five auxiliary emergency generators and three fire pumps are permitted at the facility.

TABLE A: LIMITS AND OTHER REQUIREMENTS

06/03/98

Facility Name: IBM - Rochester

Permit Number: 10900006 - 001

Table A contains limits and other requirements with which your facility must comply. The limits are located in the first column of the table (What To do). The limits can be emission limits or operational limits. This column also contains the actions that you must take and the records you must keep to show that you are complying with the limits. The second column of Table A (Why to do it) lists the regulatory basis for these limits. Appendices included as conditions of your permit are listed in Table A under total facility requirements.

Subject Item: Total Facility

What to do	Why to do it
D. RECORD KEEPING REQUIREMENTS	hdr
State Implementation Plan Recordkeeping: Retain all records at the stationary source for a period of five (5) years from the date of the required monitoring, sample, measurement, or report that corresponds with a "Title I Condition: State Implementation Plan for SO2" requirement.	Title I Condition: State Implementation Plan for SO2
E. REPORTING REQUIREMENTS	hdr
Deviations from requirements cited as "Title I Condition: State Implementation Plan for SO2" shall be reported semiannually with the Semiannual Deviations Report required by this permit. If deviations from any requirement cited as "Title I Condition: State Implementation Plan for SO2" did not occur during the reporting period, the permittee shall indicate such in the Semiannual Deviation Report.	Title I Condition: State Implementation Plan for SO2

TABLE A: LIMITS AND OTHER REQUIREMENTS

06/03/98

Facility Name: IBM - Rochester

Permit Number: 10900006 - 001

Amendments to Title I Conditions: If any permit requirement cited as "Title I Condition: State Implementation Plan for SO2" is amended, the amendment must first comply with procedures of parts 7007.0850 (Permit Application Notice and Comment) and 7007.0950 (EPA Review and Objection) applicable to major amendments to Part 70 permits.	Title I Condition: State Implementation Plan for SO2
--	--

TABLE A: LIMITS AND OTHER REQUIREMENTS

06/03/98

Facility Name: IBM - Rochester

Permit Number: 10900006 - 001

Subject Item: GP 001 Boilers, Generators, and Fire Pumps

- Associated Items:**
- EU 001 Boiler 1
 - EU 002 Boiler 2
 - EU 003 Boiler 3
 - EU 004 Emergency Electric Generator
 - EU 005 Emergency Electric Generator
 - EU 006 Emergency Electric Generator
 - EU 007 Emergency Electric Generator
 - EU 008 Emergency Electric Generator
 - EU 009 Emergency Electric Generator
 - EU 010 Emergency Electric Generator
 - EU 011 Emergency Electric Generator
 - EU 012 Emergency Electric Generator
 - EU 013 Emergency Electric Generator
 - EU 014 Emergency Electric Generator
 - EU 015 Emergency Electric Generator
 - EU 016 Emergency Electric Generator
 - EU 017 Emergency Electric Generator
 - EU 018 Emergency Electric Generator
 - EU 019 Emergency Electric Generator
 - EU 020 Emergency Electric Generator
 - EU 021 Emergency Electric Generator
 - EU 022 Emergency Electric Generator
 - EU 023 Emergency Electric Generator
 - EU 024 Emergency Electric Generator
 - EU 025 Emergency Electric Generator
 - EU 026 Emergency Electric Generator
 - EU 027 Emergency Electric Generator
 - EU 028 Emergency Electric Generator
 - EU 029 Emergency Electric Generator
 - EU 030 Auxiliary Emergency Electric Generator 1
 - EU 031 Auxiliary Emergency Electric Generator 2
 - EU 032 Auxiliary Emergency Electric Generator 3
 - EU 033 Auxiliary Emergency Electric Generator 4
 - EU 034 Auxiliary Emergency Electric Generator 5
 - EU 035 Fire Pump 1
 - EU 036 Fire Pump 2
 - EU 037 Fire Pump 3
 - SV 001
 - SV 002
 - SV 003
 - SV 004
 - SV 005
 - SV 006
 - SV 007
 - SV 008

TABLE A: LIMITS AND OTHER REQUIREMENTS

06/03/98

Facility Name: IBM - Rochester

Permit Number: 10900006 - 001

- Associated Items:** SV 009
 SV 010
 SV 011
 SV 012
 SV 013
 SV 014
 SV 015
 SV 016
 SV 017
 SV 018
 SV 019
 SV 020
 SV 021
 SV 022
 SV 023
 SV 024
 SV 025
 SV 026
 SV 027
 SV 028
 SV 029
 SV 030
 SV 031
 SV 032
 SV 033
 SV 034
 SV 035
 SV 036
 SV 037

What to do	Why to do it
A. EMISSION LIMITS	hdr
Nitrogen Oxides: less than or equal to 99 tons/year using 12-month Rolling Sum	Title I Condition: Limit to avoid major source classification under 40 CFR 52.21; limit to avoid major source classification under 40 CFR 70.
Sulfur Dioxide: less than or equal to 99 tons/year using 12-month Rolling Sum	Title I Condition: Limit to avoid major source classification under 40 CFR 52.21; limit to avoid major source classification under 40 CFR 70.
B. RECORD KEEPING REQUIREMENTS	hdr
Record keeping: by the 15th day of each calendar month, calculate and record nitrogen oxide emissions for the previous month and previous 12-month period. Monthly nitrogen oxide emissions shall be calculated according to the following equation: $NO_x = [(Q_{ngb} * 0.00014 \text{ lb NO}_x/\text{cf}) + (Q_r * 0.055 \text{ lb NO}_x/\text{gal}) + (Q_{lp} * 0.019 \text{ lb NO}_x/\text{gal}) + (Q_d * 0.020 \text{ lb NO}_x/\text{gal}) + (H_{ng} * 0.003400 \text{ lb NO}_x/\text{cf} * 849 \text{ cf/hr}) + (H_{df} * 0.61 \text{ lb NO}_x/\text{gal} * 252.5 \text{ gal/hr}) + (Q_{df} * 0.61 \text{ lb NO}_x/\text{gal})]$	Title I Condition: Record keeping for limit to avoid major source classification under 40 CFR 52.21; record keeping for limit to avoid major source classification under 40 CFR 70; Minn. R. 7007.0800, subp. 5

TABLE A: LIMITS AND OTHER REQUIREMENTS

06/03/98

Facility Name: IBM - Rochester

Permit Number: 10900006 - 001

<p>(continued from previous requirement) Where: Qngb = cubic feet (cf) of natural gas combusted in boilers Qr = gallons (gal) of residual oil combusted in boilers Qlp = gallons of LP gas combusted in boilers Qd = gallons of distillate oil combusted in boilers Hng = hours of operation with natural gas combusted in generators and fire pump Hdf = hours of operation with diesel fuel combusted in generators and fire pumps Qdf = gallons of diesel fuel combusted in auxiliary generators</p> <p>Fuel usages (Q) are volumes per month for the previous month. Hours of operation (H) are hours per month for the previous month.</p> <p>Calculations of emissions for the first eleven months after permit issuance shall be based on actual operating history.</p>	<p>Title I Condition: Limit to avoid major source classification under 40 CFR 52.21; record keeping for limit to avoid major source classification under 40 CFR 70; Minn. R. 7007.0800, subp. 5 (continued from previous requirement)</p>
<p>Record keeping: by the 15th day of each calendar month, calculate and record sulfur dioxide emissions for the previous month and previous 12-month period. Monthly sulfur dioxide emissions shall be calculated according to the following equation: $SO_2 = [(Qngb * 0.0000006 \text{ lb } SO_2/cf) + (Qr * 0.159 \text{ lb } SO_2/gal * Sr) + (Qlp * 0.00010 \text{ lb } SO_2/gal * Slp) + (Qd * 0.144 \text{ lb } SO_2/gal * Sd) + (Hng * 0.0000006 \text{ lb } SO_2/cf * 849 \text{ cf/hr}) + (Hdf * 0.008 \text{ lb } SO_2/gal * 252.5 \text{ gal/hr}) + (Qdf * 0.008 \text{ lb } SO_2/gal)]$</p> <p>Where: Qngb = cubic feet (cf) of natural gas combusted in boilers Qr = gallons (gal) of residual oil combusted in boilers Qlp = gallons of LP gas combusted in boilers Qd = gallons of distillate oil combusted in boilers</p> <p>(continued on next requirement)</p>	<p>Title I Condition: Limit to avoid major source classification under 40 CFR 52.21; record keeping for limit to avoid major source classification under 40 CFR 70; Minn. R. 7007.0800, subp. 5.</p>
<p>(continued from previous requirement)</p> <p>Hng = hours of operation with natural gas combusted in generators and fire pumps Hdf = hours of operation with diesel fuel combusted in generators and fire pumps Sr = Sulfur content in residual oil in percent sulfur by weight, determined according to requirement in GP 001 Sd = Sulfur content in distillate oil in percent sulfur by weight, determined according to requirement in GP 001 Slp = Sulfur content expressed in gr/100 cubic feet gas vapor. Qdf = gallons of diesel fuel combusted in auxillary generators</p> <p>Fuel usages (Q) are volumes per month for the previous month. Hours of operation (H) are hours per month for the previous month.</p> <p>Calculations of emissions for the first eleven months after permit issuance shall be based on actual operating history.</p>	<p>Title I Condition: Limit to avoid major source classification under 40 CFR 52.21; record keeping for limit to avoid major source classification under 40 CFR 70; Minn. R. 7007.0800, subp. 5 (continued from previous requirement)</p>
<p>Fuel Usage Record keeping: by the 15th day of the month for GP 002 and the five auxillary emergency electric generators in GP003:</p> <ol style="list-style-type: none"> 1) record the type of fuel combusted during the previous month; 2) record the total fuel usage for each fuel type during the previous month and the previous 12-month period. 	<p>Title I Condition: Limit to avoid major source classification under 40 CFR 52.21; record keeping for limit to avoid major source classification under 40 CFR 70; Minn. R. 7007.0800, subp. 2 and 14</p>
<p>Hours of Operation Record keeping: by the 15th day of the month for GP 003, excluding the five auxillary emergency generators:</p> <ol style="list-style-type: none"> 1) record the type of fuel combusted during the previous month; 2) record the total hours of operation for each fuel type during the previous month and the previous 12-month period. 	<p>Title I Condition: Limit to avoid major source classification under 40 CFR 52.21; record keeping for limit to avoid major source classification under 40 CFR 70; Minn. R. 7007.0800, subp. 2 and 14</p>
<p>The permittee shall either: 1) obtain and maintain a fuel supplier receipt from the fuel supplier for each shipment of residual oil, distillate oil and diesel fuel certifying that the shipment complies with the American Society of Testing and Materials (ASTM) specifications for residual oil, distillate oil and diesel fuel and that the sulfur content is less than or equal to 1.50 percent by weight for residual oil, 0.50 percent by weight for distillate oil, and 0.05 percent by weight for diesel fuel; OR (continued on next requirement)</p>	<p>Title I Condition: State Implementation Plan for SO2</p>
<p>(continued from previous requirement)</p> <ol style="list-style-type: none"> 2) sample the fuel oil from the tank(s) after each delivery. Sampling shall be conducted within 48 hours after each delivery, or within 48 hours after the last of multiple deliveries in a calendar week if oil is combusted at the time of delivery. If oil is not combusted at the time of delivery, sampling shall be conducted within 30 days after each delivery or within 30 days after the last of multiple deliveries in a calendar week but prior to combustion of any oil. Samples shall be collected from a location representative of the contents of the tank. Record the date and the time of delivery, time of fuel sampling, initials of person recording the information, and the results of the fuel analysis. The fuel samples shall be analyzed to determine the sulfur content of the fuel in percent by weight, in accordance with the current ASTM Method for that fuel. 	<p>Title I Condition: State Implementation Plan for SO2 (continued from previous requirement)</p>

TABLE A: LIMITS AND OTHER REQUIREMENTS

06/03/98

Facility Name: IBM - Rochester

Permit Number: 10900006 - 001

Subject Item: GP 002 Boilers 1, 2, and 3

Associated Items: EU 001 Boiler 1

EU 002 Boiler 2

EU 003 Boiler 3

What to do	Why to do it
A. EMISSION LIMITS	hdr
Sulfur Dioxide: less than or equal to 144.12 lbs/hour using 24-hour Block Average (midnight to midnight) for any calendar day when oil is burned only in two boilers.	Title I condition: State Implementation Plan for SO2
Sulfur Dioxide: less than or equal to 105.79 lbs/hour using 24-hour Block Average (midnight to midnight) for any calendar day when oil is burned only in three boilers.	Title I condition: State Implementation Plan for SO2
Sulfur Dioxide: less than or equal to the limit determined by the following equation: $[(144.12 \cdot A) + (105.79 \cdot B)] / 24$ using a 24-hr Block Average (midnight to midnight) for any calendar day when oil was burned in only two boilers and also was burned in three boilers during the same calendar day, where: A = total hours during the calendar day where oil was burned in two boilers B = total hours during the calendar day where oil was burned in three boilers	Title I condition: State Implementation Plan for SO2
Sulfur Dioxide: less than or equal to 367.97 lbs/hour using 3-hour Average (block average) when oil is burned in three boilers.	Title I condition: State Implementation Plan for SO2
B. OPERATING REQUIREMENTS	hdr
Fuel usage is limited to natural gas, residual oil, LP gas, and distillate oil.	Title I Condition: State Implementation Plan for SO2
Sulfur Content of Fuel: less than or equal to 0.5 percent by weight for distillate oil.	Title I Condition: State Implementation Plan for SO2
Sulfur Content of Fuel: less than or equal to 1.5 percent by weight for residual oil.	Title I Condition: State Implementation Plan for SO2
C. RECORD KEEPING REQUIREMENTS	hdr
SO2 Emission Limit Record keeping: once each day, record the calculated 24-hr Block Average (midnight to midnight) SO2 emission limit for the previous calendar day if oil was burned in two boilers during the previous day and oil was also burned in three boilers during the previous day.	Title I condition: State Implementation Plan for SO2
SO2 Emission Calculations and Record Keeping: once each day, calculate and record the 24-hour block average SO2 emission rate for the previous calendar day, using the following formula: Emission Rate (lb SO2/hr) = $[(Ar \cdot 0.159 \cdot Sr) + (Ad \cdot 0.144 \cdot Sd) + (Alp \cdot 0.0001 \cdot Slp)]$ Ar = 24-hr block average residual oil usage (gal/hr) Ad = 24-hr block average distillate oil usage (gal/hr) Alp = 24-hr block average LP gas usage (gal/hr) Sr = the weight percent sulfur (determined according to the requirements in GP 001) Sd = the weight percent sulfur (determined according to the requirements in GP 001) Slp = the sulfur content expressed in gr/100 cf of gas vapor.	Title I Condition: State Implementation Plan for SO2
Record keeping: for each calendar day (midnight to midnight) when residual oil is used, calculate and record the individual 24-hour block average usages for residual oil, distillate oil, and LP gas (in gallons per hour) by the end of the following calendar day. The 24-hour block average usage is determined by dividing the usage rate for the calendar day (in gallons per day) by 24 hours/day.	Title I Condition: State Implementation Plan for SO2
Record keeping: record the type of fuel combusted in each boiler, for each hour of boiler operation.	Title I Condition: State Implementation Plan for SO2

TABLE A: LIMITS AND OTHER REQUIREMENTS

06/03/98

Facility Name: IBM - Rochester

Permit Number: 10900006 - 001

Subject Item: GP 003 Generators and Fire Pumps

- Associated Items:** EU 004 Emergency Electric Generator
EU 005 Emergency Electric Generator
EU 006 Emergency Electric Generator
EU 007 Emergency Electric Generator
EU 008 Emergency Electric Generator
EU 009 Emergency Electric Generator
EU 010 Emergency Electric Generator
EU 011 Emergency Electric Generator
EU 012 Emergency Electric Generator
EU 013 Emergency Electric Generator
EU 014 Emergency Electric Generator
EU 015 Emergency Electric Generator
EU 016 Emergency Electric Generator
EU 017 Emergency Electric Generator
EU 018 Emergency Electric Generator
EU 019 Emergency Electric Generator
EU 020 Emergency Electric Generator
EU 021 Emergency Electric Generator
EU 022 Emergency Electric Generator
EU 023 Emergency Electric Generator
EU 024 Emergency Electric Generator
EU 025 Emergency Electric Generator
EU 026 Emergency Electric Generator
EU 027 Emergency Electric Generator
EU 028 Emergency Electric Generator
EU 029 Emergency Electric Generator
EU 030 Auxiliary Emergency Electric Generator 1
EU 031 Auxiliary Emergency Electric Generator 2
EU 032 Auxiliary Emergency Electric Generator 3
EU 033 Auxiliary Emergency Electric Generator 4
EU 034 Auxiliary Emergency Electric Generator 5
EU 035 Fire Pump 1
EU 036 Fire Pump 2
EU 037 Fire Pump 3
SV 004
SV 005
SV 006
SV 007
SV 008
SV 009
SV 010
SV 011
SV 012
SV 013
SV 014

TABLE A: LIMITS AND OTHER REQUIREMENTS

06/03/98

Facility Name: IBM - Rochester

Permit Number: 10900006 - 001

- Associated Items:**
- SV 015
 - SV 016
 - SV 017
 - SV 018
 - SV 019
 - SV 020
 - SV 021
 - SV 022
 - SV 023
 - SV 024
 - SV 025
 - SV 026
 - SV 027
 - SV 028
 - SV 029
 - SV 030
 - SV 031
 - SV 032
 - SV 033
 - SV 034
 - SV 035
 - SV 036
 - SV 037

What to do	Why to do it
Fuel usage is limited to diesel fuel and natural gas.	Title I Condition: State Implementation Plan for SO2
Sulfur Content of Fuel: less than or equal to 0.05 percent by weight for diesel fuel.	Title I Condition: State Implementation Plan for SO2

TABLE A: LIMITS AND OTHER REQUIREMENTS

06/03/98

Facility Name: IBM - Rochester

Permit Number: 10900006 - 001

Subject Item: SV 043

Associated Items: EU 043 Sludge Dryer

What to do	Why to do it

TABLE A: LIMITS AND OTHER REQUIREMENTS

06/03/98

Facility Name: IBM - Rochester

Permit Number: 10900006 - 001

Subject Item: SV 044

Associated Items: EU 044 Lime Silo

What to do	Why to do it

TABLE A: LIMITS AND OTHER REQUIREMENTS

06/03/98

Facility Name: IBM - Rochester

Permit Number: 10900006 - 001

Subject Item: SV 045

Associated Items: EU 045 Metal Chip Collector

What to do	Why to do it

TABLE A: LIMITS AND OTHER REQUIREMENTS

06/03/98

Facility Name: IBM - Rochester

Permit Number: 10900006 - 001

Subject Item: SV 046

Associated Items: EU 046 Router/Dust Collector

What to do	Why to do it

TABLE A: LIMITS AND OTHER REQUIREMENTS

06/03/98

Facility Name: IBM - Rochester

Permit Number: 10900006 - 001

Subject Item: SV 047

Associated Items: EU 047 Router/Dust Collector

What to do	Why to do it
Total Particulate	

TABLE A: LIMITS AND OTHER REQUIREMENTS

06/03/98

Facility Name: IBM - Rochester

Permit Number: 10900006 - 001

Subject Item: SV 048

Associated Items: EU 048 Router/Dust Collector

What to do	Why to do it

TABLE B: SUBMITTALS

06/03/98

Facility Name: IBM - Rochester

Permit Number: 10900006 - 001

TABLE B: RECURRENT SUBMITTALS

06/03/98

Facility Name: IBM - Rochester

Permit Number: 10900006 - 001

What to send	When to send	Portion of Facility Affected