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Case Study - MPCA ECOS project with IBM Rochester
Synthetic Minor Air Permit with EMS

I. Background

The Minnesota Pollution Control Agency (MPCA) has worked with IBM and EPA-Region 5 to develop an experimental permit incorporating an enhanced Environmental Management System for IBM-Rochester, Minnesota (IBM-Rochester). EPA's Office of Environmental Policy Innovation (OEPI) and Office of Enforcement and Compliance Assurance (OECA) were also involved in the development of this permit. This work has been conducted pursuant to the Joint EPA/State Agreement to Pursue Regulatory Innovation (an ECOS project). The IBM-Rochester facility manufactures electronic digital computers and produces computer software. The primary sources of emissions at the facility are four boilers that have a combined heat input of 325 MMBtu/hour. IBM-Rochester has elected to accept federally enforceable emission limits to maintain its NO_X and SO_2 emissions under 100 tons per year to avoid major source status under the air rules. This qualifies the facility as a synthetic minor for air permitting purposes, which allows it to operate under a state synthetic minor permit and obviates the need for a Title V permit, which would be required for a major air source.

In addition, IBM-Rochester has in place an ISO 14001 Environmental Management System (EMS) that has been subject to third party audits since 1998. An EMS is a continual cycle of planning, implementing, reviewing and improving the actions an organization takes to meet its environmental obligations. MPCA selected IBM-Rochester as a pilot facility to create a regulatory incentive for a top-performing company with minor environmental impacts.

Currently, the agreement between MPCA and IBM-Rochester is limited to the facility's air permit, though elements from other media may be added. The permit is a variation of MPCA's existing state air Option D registration permit and retains IBM's classification as a synthetic minor source. This permit variance contains facility-wide caps between major source and registration permit limits and offers operational flexibility so that minor and moderate permit amendments are not required. IBM-Rochester's permit also reduces record keeping and reporting requirements for all emissions except SOx and NOx from monthly to annual, so long as actual emissions remain below specified limits (typically 25-30 percent of the permit limit). The permit retains current State Implementation Plan requirements for SOx, despite the area's upgrade from a non-attainment to maintenance area for this pollutant.

II. Impetus of the Project

In an effort to more efficiently and effectively allocate its diminishing resources, MPCA developed a pilot experimenting with disinvestment in oversight of facilities it believes are "good performers". IBM Rochester was selected as a project participant because of its "low-risk" status. The facility has minor actual environmental impacts, arrived at through historic and recent

improvement. In addition, MPCA believes IBM Rochester to be worthy of trust. Their good performer status has been achieved in large part by a proactive environmental management culture both at the corporate and local level. This culture is expressed in an Environmental Management System (EMS) designed, maintained, and independently overseen to a widely-accepted international standard (ISO 14001).

Under this project, IBM is able to undertake minor operational changes without the need for permit modifications, reduce its record-keeping and reporting requirements, and have routine MPCA inspections replaced with third party EMS auditing that includes compliance checks and random sample verification of air emissions data. Specific features of the permit include:

· Facility-wide air pollutant limits within federal and state standards;
· Calculation of emissions annually, instead of monthly, if emissions stay 70 percent below limits;
· Substitution of environmental impact data and third-party EMS audits augmented with random air data verification for routine inspections, although the MPCA will continue to inspect "with cause"; and
· Flexibility under emissions caps, relieving IBM of the requirement to apply for minor or moderate permit amendments.

MPCA will use the EMS audit reports as a compliance monitoring tool and will be able to redirect its inspection resources to facilities that present a greater environmental risk. MPCA and the public will also benefit from IBM's regular submission of EMS audit reports which will be posted on the MPCA website.

MPCA expects that the approach used in this pilot will ultimately save both Agency and company resources and result in improved environmental performance and improved transparency. If successful, MPCA believes that this experiment can be expanded to larger numbers of companies, freeing up MPCA's resources for new priorities while simultaneously creating a real regulatory incentive for companies to position themselves as good performers. While MPCA seeks significant redirection of resources in the next ten years, clearly this program is not now intended for high-risk or low-trust companies. The status of such companies may change in ten years, but until it does, the conventional regulatory tools and relationships will remain in place for them.

III. New Regulatory Approach

MPCA and IBM initially sought to develop an agreement that would encompass multi-media permitting requirements and incorporate an EMS. Ultimately, MPCA and EPA crafted a synthetic minor air permit that incorporated an EMS with compliance auditing requirements.

MPCA and IBM concluded that the permit would be unnecessarily complicated by the incorporation of RCRA requirements at that time, and decided to finalize the air requirements before incorporating any other media. Once IBM completes a RCRA corrective action and modifies its operations so that it qualifies as a small quantity generator, it is expected that RCRA and other requirements (e.g. RCRA generator licensing, corrective action and waste water) would also be incorporated into the permit to allow for a more holistic approach to permitting this facility. The EMS portion of the permit would also be modified to incorporate RCRA and water compliance issues that are to be included in the EMS audits.

IBM would have received a synthetic minor air permit absent this pilot project, however, it would not have included the record keeping and monitoring flexibility, EMS requirements, or public participation aspects that are in the final permit now.

IV. Role of EMS

IBM's permit includes a provision requiring IBM to conduct a third party EMS audit every 18 months. The terms of the permit require the facility to:

1. determine whether IBM properly implemented its EMS;
2. determine whether IBM took action to correct any deficiencies, if any existed, with its EMS or implementation of its EMS;
3. have the auditor sample compliance with the limits and conditions of the Permit; and
4. have the auditor supply an executive summary of its audit to MPCA.

The permit further states that "the auditor's activities and findings will provide MPCA with an indication of the performance and compliance status of IBM Rochester and assist the MPCA in determining if it is necessary to take some further action to accurately determine the compliance status of the facility. The auditor's executive summary of audit findings and IBM and MPCA responses will be available on [the MPCA website]."

The permit establishes a two year trial period for the EMS audit requirement, and outlines factors that MPCA will consider, but is not limited to, when it evaluates whether the approach should be continued and/or modified. These factors include compliance, any EMS deficiencies and corrective actions, stakeholder and IBM input, amount of MPCA and IBM resources utilized, reduction in MPCA and IBM administrative costs, effectiveness of web reporting, and the effectiveness of third party EMS audits in confirming the accuracy of reported emissions and identifying strengths and weaknesses in IBM's EMS.

IBM is required to continue to use ISO 14001 registration or an alternative external or internal standard approved by MPCA.

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V. Lessons Learned

IBM-Rochester's criteria pollutant emissions numbers continue to remain under reduced record keeping thresholds (25 tons per year or less). IBM-Rochester completed third-party EMS audits in June 2002, November 2003, and June 2004 with no compliance or EMS conformance issues identified.

The MPCA and IBM-Rochester have not had to spend resources processing the regulatory approvals for minor amendments that would have been required in the absence of this innovative permit. According to MPCA's estimates, 40 hours of staff time are saved for each amendment *not* needing processing, or 2.4 percent of a State full time equivalent (FTE). If MPCA were to permit an additional 20 facilities with this innovative approach and each facility were able to avoid two minor amendments per year, MPCA would free a full FTE per year to focus on overseeing more serious environmental risks.

Following the 2005 audit, MPCA will produce findings from the experimental permit and discuss them with EPA and other stakeholders.