

Review of Illinois' New Source Review Construction Permit Program

Illinois Environmental Protection Agency

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2004 Review of Illinois' NSR Construction Permit Program

I. Executive Summary

In 2004, the United States Environmental Protection Agency (USEPA), Region 5, conducted an evaluation of the Illinois Environmental Protection Agency's (IEPA) PSD/NSR construction permit program. This evaluation is part of USEPA's ongoing oversight of state and local construction permit programs.

Overall, USEPA found IEPA's program strengths to include IEPA air permit program staff's experience and level of knowledge of the air permitting program. IEPA air program staff has been at the forefront of addressing construction permit implementation issues and developing NSR/PSD guidance and policy. After experiencing an increase in proposed coal fired projects, IEPA issued a letter on Prevention of Significant Deterioration (PSD) permitting that required that any applicant proposing a coal fired power plant project consider integrated coal gasification combined cycle technology as an applicable BACT option. As the delegated permitting authority, IEPA has worked with USEPA and the United States Fish and Wildlife Service to address the requirements for consultation under Section 7 of the Endangered Species Act, for the Prairie State Generation Station and Indeck Elwood project, and to reach a decision that the proposed projects may, but construction likely would not affect, specified endangered species. Because IEPA is a delegated program implementing the PSD permitting program pursuant to federal PSD rules, IEPA has been at the forefront in dealing with implementation issues on USEPA's New Source Review (NSR) Reform regulation provisions, such as pollution control projects and clean unit exemptions.¹ IEPA continues to engage USEPA in discussions on resolving permit implementation concerns with the remaining provisions of the NSR reform regulations, as well as the new 8-hour ozone standard and PM 2.5 standard.²

II. Introduction / audit program

In 2003, as part of USEPA's oversight role, we began a four-year initiative to review the implementation of the Title 5 and NSR permit programs by permitting authorities throughout the country. To ensure that the regional offices conduct consistent reviews of all permitting

¹ On June 24, 2005 The U.S. Court of Appeals for the D.C. Circuit issued an opinion that has acted to vacate the pollution control projects and clean units sections of the NSR Reform rules.

² Because of these developments, certain aspects of IEPA's permitting program in 2004, as described in this document for historical purposes, are no longer applicable. For example, the Greater Chicago ozone nonattainment area became a moderate ozone nonattainment area in June 115, 2004, and ceased to be a severe nonattainment area in June 15, 2005.

authorities, USEPA developed two standard program evaluation protocols in the form of questionnaires, one addressing Title V and one addressing NSR (the May 14, 2003, NSR Program Review Questionnaire). The purpose of the program evaluation was to meet with each permitting authority to evaluate its implementation of the permitting programs, note practices that could be helpful to other permitting authorities, document areas needing improvement, and learn how USEPA can help the permitting authorities and further improve the national programs.

On August 17-18, 2004, USEPA staff visited the IEPA offices in Springfield, Illinois. Prior to this visit, USEPA met with IEPA management and staff by conference call to discuss the questionnaire provided. During the visit, USEPA discussed the questionnaire in more detail with IEPA staff and performed a file review. The results of these and follow-up discussions are provided in this report.

This final report summarizes the findings and conclusions of USEPA from its review of IEPA's NSR program. The findings and conclusions in the report are based on the answers IEPA gave to the questionnaire, the file review, and USEPA staff knowledge of the program from experience reviewing the IEPA permits. This information was compared to the statutory and regulatory requirements for Federal permitting programs as outlined in the questionnaire.

III. Program Description- New Source Review (NSR), Prevention of Significant Deterioration (PSD) program

Illinois' rules governing the permitting of construction and modification of air pollution sources are codified at 35 IAC Parts 201 and 203. The statutory authority for these rules is found in Sections 9, 9.1, and 39 of the Illinois Environmental Protection Act. On September 27, 1995, USEPA approved into Illinois' state implementation plan (SIP) its rules for meeting the requirements of the 1990 Clean Air Act Amendments regarding nonattainment NSR (60 Fed. Reg. 49778 (September 27, 1995)).

IEPA processes applications for major new sources and major modifications subject to PSD under a delegation from USEPA the federal PSD program at 40 C.F.R. § 52.21. USEPA originally delegated to IEPA the authority to implement the federal PSD program in Illinois on February 28, 1980. The delegation was amended on November 17, 1981.

All permit applications are processed by the Permit Section of the Bureau of Air, which is located at the headquarters office of IEPA in Springfield, Illinois. The Permit Section is responsible for the drafting and issuance of NSR/PSD construction permits. The Bureau of Air has 11 field offices located throughout the state. The field offices inspect regulated sources and respond to citizen complaints. The Air Permit Section has a Construction/Utility unit which is responsible for processing applications for construction permits for sources subject to the Clean Air Act Permit Program (CAAPP), Illinois' Title 5 Permit Program. A separate state unit processes construction permit applications for sources that are not or will not be subject to CAAPP. The Construction/Utility unit also processes state operating permit to sources that have not yet received their CAAPP permits. Finally, it also processes CAAPP applications for the

utility sector, although this function has been shared with the CAAPP Unit, a third unit in the Permit Section, during the last two years. The State Unit also processes operating permits for non-CAAPP sources. These operating permits are further divided into so-called lifetime permits, which are State-only permits that do not expire, FESOP, and a few exceptional State permits with expiration dates.

As of July 1, 2003, the Illinois General Assembly passed new and expanded program fees, including fees for construction permit applications submitted to the IEPA's Bureau of Air. The fees apply to any source which submits an application for an air pollution construction permit. These fees are not the fees that IEPA is required to assess under the CAAPP. The new air fee schedule is attached to this document.

IV. Findings

On July 21, 2004, USEPA provided IEPA a copy of the questionnaire to fill out before our meeting. During the NSR program audit, USEPA met with IEPA staff to review its responses to the NSR questionnaire. The questionnaire is divided into eight sections: Program requirements common to both PSD and NAA NSR; PSD; NAA NSR; minor NSR program; public participation; program staffing and training issues; general NSR program issues; effective construction permits. The questionnaire with IEPA's responses is attached and the end of this document. Below is a description of our findings on IEPA's responses for each category and subcategory of topics.

1. Program requirements common to both PSD/NSR

Netting

IEPA has in its SIP netting for PSD and NSR permits. IEPA responded to the majority of the questions in this section in which a follow up or request to explain was needed. IEPA stated that they use three different contemporaneous periods for their contemporaneous 5-year look back consistent with applicable statutory and regulatory provisions: one period for PSD permits based on start of construction as provided by 40 C.F.R. §52.21, one for VOM projects in severe and serious ozone nonattainment areas based on calendar years under section 182(c)(6) of the CAA, and the SIP requirement for other NAA permits, which counts the 5 year contemporaneous period from receipt of a complete permit application. IEPA allows reductions to meet MACT requirements eligible for netting credits as allowed under USEPA guidance and policy.

Routine maintenance, repair, and replacement (RMRR)

For case by case routine maintenance, repair and replacement (RMRR) determinations, IEPA follows USEPA's May 23, 2000, Detroit Edison guidance letter in addition to utilizing other USEPA guidance documents. IEPA seeks USEPA guidance from our Technology Transfer Network Internet website and also the USEPA Region 7 policy and guidance database. However, IEPA has no formal protocol for conducting RMRR determinations. Historically,

IEPA has conducted 6 RMRR determinations in 2004, 0 in 2000 (no data readily available for years in between). The number of RMRR determinations has significantly increased over time, presumably as sources have become more sensitive to this issue. IEPA retains the determinations as part of the individual permit files. RMRR determinations are discussed in unit meetings to train new staff on the RMRR determination process.

Synthetic minor limits (straight synthetic minor permits, not major sources with synthetic minor projects.)

IEPA does not specifically keep a list of synthetic minor sources. IEPA does keep a list of all construction permits from past 1 ½ years, but it is not specific for synthetic minor. IEPA does keep a list of FESOPs. IEPA does not have separate regulations for establishing synthetic minor permits. IEPA explains that the process is inherent in the permit itself. The permit would show that these conditions were put in place to avoid an applicable rule or requirement. In most cases, FESOPs are obtained by sources so that they are not required to obtain CAAPP permits. While construction permits can establish federally enforceable limits on new and modified sources and units, such permits are routinely followed by a separate FESOP. IEPA does not normally require or perform modeling for synthetic minor sources.

Pollution control projects (PCP)

On June 24, 2005, the United States Court of Appeals for the D.C. Circuit vacated the pollution control projects and clean units portions of USEPA's NSR reform rule. The responses IEPA provided were based on permitting activities undertaken prior to the vacatur, either using USEPA's guidance on PCP or the NSR reform rule.

Prior to the USEPA NSR reform rule, IEPA utilized the NSPS exemption for PCP but did not provide special handling of PCP in PSD permitting. Subsequently, IEPA utilized the now-vacated NSR reform PCP rule for permitting actions, such as natural gas compressor stations where the facility would install control equipment that would reduce its NO_x emissions but increase CO emissions by more than 100 tons. IEPA required the facility to model to assure protection of the NAAQS. The PCP exemptions that IEPA issued normally were for process or control changes, and were not beyond the list of accepted activities.

Fugitive emissions

IEPA uses the federal definition of "fugitive" for permitting. IEPA makes the distinction between fugitive and uncontrolled by noting that uncontrolled emissions are not necessarily fugitive, as seen in refinery operations.

Modeling

IEPA follows EPA's modeling protocols and guidance during permitting. IEPA does not model minor sources before issuing minor source permits or FESOPS, but may choose to model a

source on a case by case basis or if there is sufficient public interest.

Stationary source determinations

IEPA defines “stationary source” in section 203.136 of the Illinois Administrative Code, as any building, facility, or installation which emits or may emit any pollutant subject to regulation under the Illinois Environmental Protection Act, the Illinois Administrative Code or the Clean Air Act. This definition is the same as the definition of stationary source provided in 40 C.F.R. § 51.165. IEPA utilizes the factors of contiguous or adjacent, common control or ownership, and the SIC code when assessing whether multiple facilities are single or separate sources.

Debottlenecking and increased utilization

IEPA utilizes available USEPA guidance from the TTN and USEPA’s Region 7 guidance and policy database for determinations on debottlenecking and increased utilization. IEPA cited its experience in permitting refineries, such as the Exxon Mobil and Conoco Phillips projects where changes were made for low sulfur fuel projects where the ripple effects of the projects on other units at the refineries needed to be addressed.

Relaxation of limits taken to avoid major NSR

IEPA’s focus to avoid backsliding is on a source’s commitment to permit limits. IEPA processes approximately 1 or 2 applications per year requesting a relaxation of a permit limit that was taken to avoid major NSR. IEPA identifies in the permit which limits are put in place to avoid an applicable requirement. The Construction/Utility unit holds biweekly unit meetings to train permitting staff on issues such as relaxation of limits. IEPA treats sources as if they are currently constructing when they relax a limit that had made them synthetic minor according to 40 C.F.R. 52.21(r)(4). This also would apply if the limit was taken for another program and the resulting relaxation triggers an applicable requirement.

Circumvention/aggregation issues

IEPA uses common sense and USEPA guidance to determine if a phased construction must be aggregated or whether a source is attempting to circumvent major new source review. IEPA raised the Indeck Rockford permit as an example, in which they considered the final configuration of the plant to determine if several construction projects, which individually resulted only in minor emissions increases, should be aggregated. One of the methods IEPA uses to address these concerns is their filing system, which the permit engineer uses to track other permit actions by companies. IEPA assigns the same permit engineer, if possible, to a specific company to address this concern. IEPA believes that the cost burdens associated with trying to circumvent the permitting process dissuade these actions.

2. PSD

Best Available Control Technology (BACT)

During PSD permitting, IEPA requires the use of the “top-down” method for determining BACT. IEPA utilizes the expected resources of BACT determinations such as USEPA publications, the RACT-BACT-LAER clearinghouse (RBLC), applicant materials, and other states’ web sites. However, IEPA has stated that they need to improve the information made available to the public on the BACT determination in a PSD permit in the permit’s preliminary determination. IEPA has updated the State’s entries in the RBLC for any PSD/NSR permits issued since 1999. IEPA also enacted a new procedure as part of the permitting process to add new entries into the RBLC in a timely manner.

Class I area protection for PSD sources

There are currently no Class I areas within the State of Illinois. However, IEPA does, on a case by case basis consult with the Federal land manager of the nearest Class I areas, the Mingo Wilderness Area, as described in USEPA’s NSR Workshop guidance, which are beyond 100 km. There are relative few projects, such as the Prairie State Generation project and Ameren Grand Tower repowering project, which potentially impact Class I areas in other states.

Additional impacts: soils, vegetation, visibility, growth

IEPA uses what limited guidance USEPA has on the requirements of an additional impact analysis.

Preconstruction monitoring

As is the case in our other Region 5 states, IEPA has not processed a PSD application for which it was necessary to conduct preconstruction monitoring. IEPA uses its state network for representative monitoring sites for ambient monitoring data. IEPA has required sources to conduct post construction monitoring to provide information on actual air quality after a project is in operation.

Increment tracking procedures

IEPA maintains a list of baseline dates by county for increment tracking purposes, however, they do not have a specific program for tracking the increment. An applicant is required to do a spot check on the status of the available increment.

Endangered Species Act (ESA)

The Endangered Species Act requires consultation when any Federal action may impact threatened or endangered species. IEPA issues PSD permits through a delegation from USEPA of the federal PSD regulations. IEPA has worked with USEPA when the ESA required consultation with the US Fish and Wildlife Service in the framework of informal consultation

under Section 7 of the ESA. This has occurred during permitting of the Indeck Elwood and Prairie State Generation Station PSD permits.

3. NAA NSR

NSR offsets

IEPA does not have many NSR permitting actions, so it does not believe that an emissions bank is needed. The validity of the available offsets can be checked on a case by case basis through a review of the relevant permit files involving the units that would provide the offsets.

LAER determinations

IEPA follows the general requirements for LAER determinations during NSR permitting. IEPA stated that they continue to work to improve their documentation and explanation of proposed LAER determinations in technical support documents and the public record.

Alternatives analysis

IEPA does require an NSR applicant to have an alternative analysis. However, the alternative analysis has not had any historic impact on any NSR permits.

Compliance of other major sources in the State

IEPA generally uses the same criteria as they do in the CAAAP compliance certification requirements. Existing source compliance is addressed during NA NSR permitting. IEPA requires a compliance schedule if source are not in compliance at the time of permit issuance.

4. Minor NSR programs

NAAQS Increment protection

IEPA responded to the question about public access to a list of sources that affect PSD increment by stating that the list from the air quality planning group may not be complete.

Control requirements

IEPA does not have a state-wide BACT requirement for minor NSR sources.

Tracking synthetic minor NSR permits

As stated previously, IEPA keeps a general inventory of permitted sources. In addition, copies of current permits are readily available to staff by computer access to read-only copies of the documents. Compliance is routinely tracked by source reporting, with on-site inspections

normally only occurring as a result of complaints.

5. Public participation

IEPA provides USEPA notice of proposed permits in the public comment period via email from IEPA staff in a timely manner. We have not experienced any instances where USEPA was not informed of a draft permit being put out for public comment and opportunity for public hearing. IEPA works cooperatively with USEPA to address comments we raise during our permit review process (examples of this include Chicago Coke, Indeck Elwood, and Prairie State Generation permits).

6. Program staffing and training issues

IEPA has a technical staff in the air permit program of about 32 individuals, of those about, 12 staff (permit writers) are assigned to work on the NSR program. New staff is provided USEPA and Air Pollution Training Institute training materials. Otherwise, training is conducted as needed and available and as part of the biweekly staff meetings. IEPA suggests improvements to training on BACT/LAER determinations and judgments, practical enforceability in terms of time limits, and how to negotiate with applicants to convince them on positions.

7. General NSR program issues

IEPA suggests more USEPA input would be useful on Federal NSR rule changes. IEPA would like to see additional communication of significant determinations made in other states to ensure consistency in how multi-state sources are treated.

8. Effective construction permits

IEPA would like to see USEPA guidance addressing procedures for various types of revisions to issued PSD permits.

File review

During the program audit, USEPA requested to review IEPA's permit files to assess its file and record keeping practices. IEPA put together a list of possible permit files to review under the categories of: PSD permits with BACT analysis, Nonattainment NSR permits with LAER analysis, Synthetic minor permits, netting permits, and Permits with significant interest. The following permit files were selected to review: Kendall New Century, Yorkville- simple cycle power plant (PSD permit with BACT analysis); Wheatland Tube, Chicago- welded tube line (Nonattainment NSR permit with LAER analysis); VA Medical Center (synthetic minor permit); Corn Products, Bedford Park- fluidized bed boiler (netting permit); North Shore Sanitary District- Zion- sewage sludge processing facility (permit with significant public interest).

During the file review, USEPA staff reviewed the files requested from those on the list of

possible permits for review. Our recommendation for IEPA is based on the fact that IEPA is at the front line for providing the public information on the permitting actions through Freedom of Information Act requests and responding during public comment periods. We recommend that the files be better maintained in a condition that preserves the physical quality of the file and the documents held within. This is especially important for projects with significant public interest, where more effort needs to be applied to consolidate material after action is taken on the application, to assure a complete record is readily available for both IEPA and public access.

Corn Products International (netting permit)

The file was not divided by sections that enabled a reviewer to readily find the application, permit, support documents or public comments. The file did not contain a draft permit which some permit files did contain. The file did not contain a copy of the responsiveness summary, but did have public comments and public hearing documents.

VA Medical Center (synthetic minor)

The file did not contain a draft permit and there was no date on the project summary document.

Wheatland Tube (NAA NSR with LAER analysis)

USEPA staff did not find any issues.

North Shore Sanitary District (permit with significant public interest)

The file did not contain comment letters received during the public comment period. The file also did not contain a copy of the responsiveness summary responding to the comments received. Because of the volume of such material, it was likely that these items were in a separate file maintained by the community relations officer.

Kendal New Century (PSD with BACT analysis)

The file did not contain a traveler sheet which other files did contain.

V. Recommendations

The IEPA runs an effective NSR/PSD permitting program. IEPA staff have demonstrated a level of knowledge of the program and its implementing regulations during the course of issuing construction permits. Based on the discussions during the program audit and responses provided by IEPA in the questionnaire, USEPA recommends that IEPA continue to work on providing information to the public during the public comment period, either in the technical support document or public record, to ensure the public has an adequate understanding of the decisions IEPA makes on BACT/LAER determinations.

VI. State recommendations for USEPA

IEPA has recommended that USEPA improve the method of communicating its significant determinations, and programmatic NSR/PSD rulemaking efforts. IEPA suggests more USEPA input would be useful on Federal NSR rule changes. IEPA would like to see additional

communication of significant determinations made in other states to ensure consistency in how multi-state sources are treated.