UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

SEP 2 6 2017

REPLY TO THE ATTENTION OF

Julie Armitage, Chief
Bureau of Air
Illinois Environmental Protection Agency
1021 North Grand Avenue East
Springfield, Illinois 62794-9276

Dear Ms. Armitage:

I am pleased to transmit to you the final report of the U.S. Environmental Protection Agency's evaluation of the Illinois Environmental Protection Agency's (IEPA's) New Source Review (NSR) and Title V permit programs. EPA representatives conducted the on-site portion of the evaluation on March 13-15, 2017 at IEPA's central office in Springfield, Illinois.

We appreciate IEPA's efforts to improve permit quality and issuance rates for Title V and NSR permits. IEPA continues to make significant progress with issuing Title V permits for coal-fired power plants, and reducing the overall Title V permit backlog. EPA is encouraged that IEPA plans to complete the processing of permits for all of the remaining coal-fired power plants that currently lack effective Title V permits by the end of 2018.

As a result of our 2017 evaluation, EPA recommends that IEPA continue to work on strengthening its response to comments procedures and documentation of permit decisions. With respect to Title V permits, we recommend that IEPA provide written responses to comments at the time EPA's 45-day review period on a proposed Title V permit begins so that EPA and the public have adequate information to sufficiently evaluate the adequacy of the proposed permit terms.

If you have any questions, please contact Genevieve Damico, of my staff, at (312) 353-4761.

Sincerely,

Sara Breneman

for Edward Nam
Director
Air and Radiation Division

Enclosure

Review of Illinois Environmental Protection Agency's New Source Review and Title V Permit Programs

2017 Evaluation Final Report

United States Environmental Protection Agency, Region 5
Air & Radiation Division
77 West Jackson Boulevard
Chicago, Illinois 60604

September 2017

Contents

Executive Summary

On March 13-15, 2017, as part of its ongoing oversight of state and local New Source Review (NSR) and Title V permit programs, EPA conducted an on-site evaluation of the Illinois Environmental Protection Agency's (IEPA's) NSR and Title V permit programs.[1] The on-site evaluation occurred at IEPA's central office, Bureau of Air Permit Section, in Springfield, Illinois. This office is responsible for the reviewing, drafting and issuance of all NSR and Title V permits in Illinois (termed construction permits and Clean Air Act Permit Program (CAAPP) permits, respectively).[2] EPA staff met with IEPA's supervisory staff for the NSR and Title V permit programs on March 13-14 and March 14-15, 2017, respectively. EPA provided IEPA with written questionnaires addressing various NSR and Title V permit program implementation topics prior to the on-site evaluation. In addition to preliminary responses provided at the site visit, IEPA provided responses to the Title V and NSR questionnaires on April 15 and May 17, 2017, respectively.

This final report summarizes EPA's findings and conclusions regarding IEPA's compliance with the statutory and regulatory requirements for NSR and Title V permitting programs, based on IEPA's answers to the questionnaires, EPA's discussions with IEPA staff during the March 2017 face-to-face meetings, follow up discussions regarding responses, and EPA's staff knowledge of the programs based on past EPA experience reviewing IEPA's permits and programs. However, this program evaluation is not comprehensive in its scope, and did not evaluate all facets of IEPA's implementation of its air pollution control permit programs.

EPA found that through a combination of various organizational, permit process and permit quality improvements, including hiring additional staff, new user fees promulgated on January 1, 2012, staff incentives, and aggressive internal performance measures, IEPA has significantly improved its issuance rate for Title V permits, and has met all of the Title V permit backlog reduction targets of the 2014 work plan. However, we also identified several areas where improvements are needed. Specifically, we found that Illinois' EPA-approved Nonattainment NSR (NNSR) rules do not currently address all federal requirements that apply to particulate matter with an aerodynamic diameter less than or equal to 2.5 micrometers ($PM_{2.5}$) as required by 40 C.F.R. § 51.165. Also, although IEPA has made improvements to its documentation of permit decisions, IEPA is not consistently providing response to comments documents to EPA at the time Title V permits are proposed for EPA's 45-day review period. We have summarized these and other findings, as well as our recommendations, in Section 3.0 of this report.

[1] EPA conducted previous evaluations of IEPA's Title V and NSR programs in 2004 and 2010.
[2] In Illinois, the Title V program is called the Clean Air Act Permit Program (CAAPP). In this report, EPA may use the term "CAAPP" to refer to Illinois' Title V permit program.

1.0. NSR Program Evaluation

1.1. Introduction

Established as part of the 1977 Clean Air Act Amendments, the NSR permitting program protects air quality when stationary sources of air pollution are newly constructed or modified. NSR permitting assures that new or modified industrial and commercial sources of air pollution are as clean as possible, and advances in pollution control occur concurrently with industrial expansion. A new major source or a major source making a major modification in areas that meet the National Ambient Air Quality Standards (NAAQS) must obtain a Prevention of Significant Deterioration (PSD) permit while new major sources or major sources making a major modification in areas that do not meet one or more of the NAAQS must obtain a NNSR permit prior to construction. Smaller (new non-major) sources and non-major modifications at major sources may also be required to obtain a permit if they meet certain criteria of a state's air pollution regulations.

IEPA administers permitting under the federal PSD program at 40 C.F.R. § 52.21 under a PSD delegation agreement that IEPA and EPA signed on March 8, 1980, and amended on April 14, 1982.[3] The PSD rules apply in attainment and unclassifiable areas. EPA approved Illinois' NNSR regulations into the State Implementation Plan (SIP) on September 27, 1995 (60 FR 49778). EPA approved revisions to the NNSR rules on May 13, 2003, to better track the language of sections 182(c)(6), (7), and (8) of the Clean Air Act (CAA), and to make other revisions consistent with that effort (68 FR 25504).[4] Illinois' NNSR rules, which are found at Title 35 of the Illinois Administrative Code (35 IAC), Part 203, apply in nonattainment areas as codified at 40 C.F.R. § 81.314. The NNSR rules apply in all areas designated as nonattainment areas.

Two organizational units within IEPA's Air Permit Section – the "State" and "Construction" Units – process all applications for NSR permits received at IEPA. As of September 18, 2017, the State Unit consisted of 6 permit analysts and 2 Unit Managers while the Construction Unit consisted of 8 permit analysts and a Unit Manager. The State Unit processes applications for both construction permits and operating permits (i.e., Federally Enforceable State Operating Permits (FESOPs) and Lifetime Operating Permits) for non-Title V sources. The Construction Unit primarily processes applications for construction permits for projects located at Title V sources, including all PSD and NNSR permits. Two senior analysts in the Construction Unit were recently designated as "Lead Workers" each of whose current responsibilities includes mentoring of junior staff.

[3] Illinois recently began work on a regulatory package to incorporate PSD permitting requirements into the Illinois SIP. When State PSD regulations have been approved by EPA as part of Illinois' SIP, the current delegation agreement will be terminated

[4] The changes approved by EPA dealt with how one determines whether a proposed change at a source is a major modification. In particular, Illinois amended 35 IAC Part 203 so that it does not conflict with EPA's ''*Notice of Proposed Rulemaking, Prevention of Significant Deterioration (PSD) and Nonattainment New Source Review (NSR),*'' 61 FR 38249 (July 23, 1996). IEPA committed to undertaking a review of Illinois' NSR rules upon final EPA NSR rulemaking (68 FR 25504, citing IEPA comments to the Pollution Control Board, November 6, 1997).

IEPA and EPA conduct monthly conference calls to discuss pending PSD and NNSR permitting actions. On a quarterly basis, IEPA also provides EPA with a spreadsheet that contains a list of all pending PSD permit applications consistent with the Fiscal Year 2016/2017 Performance Partnership Agreement between IEPA and EPA. Additionally, IEPA and EPA hold a monthly conference call to discuss programmatic permitting issues. During these conference calls both agencies share permitting information, identify issues of potential concern, and discuss permit program issues.

This section summarizes our findings and recommendations from our review of IEPA's NSR program. The findings and recommendations contained in this section are based on IEPA's answers to the NSR questionnaire; EPA staff review of three construction permit files selected as part of the evaluation; and EPA staff knowledge of IEPA's NSR program.

1.2. Follow-up from the 2010 NSR Evaluation

EPA last conducted an on-site evaluation of IEPA's NSR program on April 20-21, 2010, and issued a report summarizing its findings on March 8, 2012 (2010 NSR Report). While the 2010 NSR Report noted strengths in IEPA's implementation of the NSR program, it also identified areas needing improvement, and provided specific recommendations for addressing those areas. As part of the 2017 evaluation, we followed up on each of our recommendations from the 2010 NSR Report to determine whether IEPA had made any progress on the identified issues. The following sections describe our 2017 findings relating to the 2010 NSR Report recommendations:

1.2.1. Streamlining to Reduce the Amount of Time and Resources Needed to Issue a Construction Permit

In the 2010 evaluation report, EPA requested IEPA to fully implement the findings of its 2007 study[5] to help accelerate the minor construction permitting process. EPA also recommended that IEPA continue to make every effort to issue major PSD/NNSR permits within 180 days of receiving a complete permit application. During our 2017 evaluation, IEPA informed us that it continues to collect data on permitting timelines as recommended by the 2007 study. IEPA staff estimated they currently average approximately 50-60 days to process a minor NSR application from start to finish, which is a slight improvement from the average of 66 days in 2007 but still short of IEPA's original goal of 38 days. During our 2017 evaluation, IEPA stated that the 38-day goal was a historical goal that is no longer relevant for the time period addressed by the current evaluation. EPA is not aware of any current efforts being undertaken by IEPA to further accelerate the minor construction permitting process. IEPA has been issuing all PSD permits within 180 days of receiving a complete application, well within the timeframe required by EPA's rules.[6]

[5] In 2007, IEPA conducted a streamlining study of its minor construction permitting program in order to reduce the amount of time and resources needed in issuing minor source permits from 66 days to 38 days.
[6] *See* Guidance on Timely Processing of PSD Permits, October 15, 2012, available at: https://www.epa.gov/sites/production/files/2015-07/documents/timely.pdf

IEPA has implemented several improvements to its application processing procedures, including staff training, reorganization of the Construction Unit to improve effectiveness, and implementation of an overtime-based expedited review process for some permit applications. Illinois recently adopted into its regulations a permit-by-rule (PBR) for small natural gas-fired boilers with a heat input rating of no more than 100 million British thermal units per hour (mmBtu/hr). IEPA has submitted the new regulation to EPA for review and approval into the Illinois State Implementation Plan (SIP). This PBR will serve as a substitute for project-specific construction permits for new boilers that are eligible for coverage under the PBR.

In July 2011, the Illinois legislature enacted an "Expedited Review Program" for use by construction and operating permit applicants seeking more rapid application processing outside the normal flow of work.[7] Applications for NSR permits make up most of the applications whose review has been expedited under this program. The expedited review process does not impact public participation on the associated applications. If public participation is required by IEPA's rules, a draft permit and project summary must still be prepared; the duration of the comment period is not abbreviated; and a public hearing will still be held if needed. IEPA stated that the expedited review program has boosted morale for some of its staff as overtime work on an expedited project is voluntary and the number and timing of expedited applications has so far generally been reasonable. EPA recommends that IEPA continues to be mindful when negotiating under this program contracts and tolling agreements for complex projects (such as PSD and NNSR projects, applications that rely on the demand growth exclusion or netting, and projects with significant public interest) to ensure that negotiated timelines properly account for any additional processing time that IEPA staff may need to fully consider and address concerns raised by the public.

1.2.2. Identification of Changes Between the Draft and Final Issued Permit

To address issues raised in the 2008 *ConocoPhillips* remand order issued by the Environmental Appeals Board (EAB), [8] the 2010 NSR Report recommended that IEPA identify, at the time it issues final permits, any changes it makes between the draft and issued permits as a result of public comments. EPA also recommended that IEPA provide a strong permitting record to support its Best Available Control Technology (BACT) analyses and other permitting decisions in order to facilitate and expedite the EAB appeal review process.

During our 2017 evaluation, we noted that IEPA generally identifies in the response to comments (RTC) significant changes it makes between draft and issued permits as a result of public comments. We also found that IEPA has significantly improved its documentation of its BACT decision-making process. IEPA has largely addressed these concerns.

[7] *See* 415 ILCS 5/39.14.
[8] *ConocoPhillips Company*, PSD Appeal No. 07-02, 13 E.A.D. 768 (June 2, 2008).

1.3. 2017 Evaluation Findings

1.3.1. RACT/BACT/LAER Clearinghouse (RBLC) Entries

The RBLC database is EPA's collection of case-specific information on the air pollution technologies that have been required by state and local permitting agencies to reduce the emission of air pollutants from stationary sources. The information in the RBLC is provided by state and local permitting agencies.

As part of its Environmental Performance Partnership Agreement with EPA, IEPA committed to enter data into the RBLC in a timely manner on PSD/NSR permits issued for new major sources and major modifications including the "application accepted date" and the "permit issuance date," along with the BACT/LAER determinations. IEPA currently has one senior permit analyst who enters all BACT/LAER determinations into the RBLC once the permit is issued and becomes effective regardless of whether construction of the project actually begins. The timing of RBLC entries has recently changed from IEPA's prior practice where it only entered BACT/LAER information after the project had actually been built. As of the date of this report, IEPA had entered into the RBLC all BACT/LAER determinations for issued and effective permits. In addition, at EPA's request, IEPA has begun the process of securing with EPA's RBLC coordinator data entry privileges for a second analyst so that it will have two analysts that can complete entries and field questions about entries. Having a second analyst with data entry will facilitate timely entry of quality and consistent data to the RBLC. EPA appreciates the changes IEPA has made to the timing of entering information into the RBLC as it promotes nationally consistent and timely BACT/LAER determinations.

1.3.2. Permit Content

IEPA recently changed what it includes in construction permits. In an effort to avoid establishing unnecessary limits in construction permits and to simplify the subsequent processing of Title V permit applications, if the potential emissions of a new unit are intrinsically less than the PSD and, if applicable, NNSR significant emission thresholds, the permit will not set limits on the unit's emissions. Instead, IEPA will formally memorialize the potential emissions of the emission unit in the permit as an informational attachment.

EPA appreciates IEPA's efforts to simplify the subsequent incorporation of construction permit terms into the source's Title V permit by not establishing unnecessary limits in construction permits, and believes that this practice is consistent with PSD and NNSR rules.

1.3.3. Public Involvement Procedures & Electronic Availability of Permit Records

IEPA's procedure for public comment periods for NSR permits are found in 35 IAC Part 252. IEPA public notices all PSD and NNSR permits with the exception of

revisions to major NSR permits that involve changes that would be considered similar to administrative amendments or minor modifications under the Title V program.

IEPA does not public notice all minor NSR permits. Public comment periods are held for minor NSR permits whose limits and requirements would significantly constrain the annual emissions of a project or the source. IEPA requires public comment periods for proposed projects that rely on "netting" to show that the project would not be a major modification (i.e., when contemporaneous emissions reductions are used to offset some or all of the proposed and contemporaneous emission increases). IEPA also holds public comment periods if the permitted increase in emissions of any regulated pollutant (in tons per year) from the project is greater than 80 percent of the applicable major new source or major modification threshold. IEPA may public notice other minor NSR permits on a case-by-case basis.

IEPA launched a new website (database) in 2017 that will house all future publicly-noticed construction and operating permits. The new database, which is available at http://www.epa.illinois.gov/public-notices/boa-notices/index, will replace EPA's online database of IEPA's publicly-noticed construction and operating permits.[9] Currently, any construction or operating permits public noticed on or after January 1, 2017 are available through IEPA's new database. IEPA is working to transfer the older permit information that currently exists in EPA's website to IEPA's new website. IEPA continues to post issued permits to its searchable "Document Explorer" website: http://external.epa.illinois.gov/DocumentExplorer/Attributes.

IEPA is also in the process of electronically imaging entire permit records of projects for which final action has been taken. Once imaged, these records are stored in an internal electronic database called "DocuWare" that is available to most technical staff. IEPA expects the electronic imaging process to facilitate proper organization of application files with access by IEPA staff to application material eventually available electronically. We commend IEPA's continuing efforts to make entire permit records electronically accessible internally. Timely access by IEPA staff to permit records could potentially reduce the resources needed to respond to public information requests.

1.3.4. Response to Comments Procedures

For NSR permits for which IEPA holds a public comment period, with a few exceptions, IEPA generally issues responses to all "significant comments" at the time it issues the NSR permit. Significant comments include comments that relate to the substance of the construction permit for a project, and involve matters such as applicability of emission standards, the approach to PSD and/or NNSR applicability, proposed BACT or LAER determination, the approach to air quality analyses, and proposed compliance procedures. In practice, significant comments also include public comments that are not related to the air pollution control construction permit

[9] EPA will be disinvesting in the database software used to house IEPA's publicly-noticed permits by the end of 2017.

for a project but express other concerns about a proposed project and its impacts (e.g., land, water or noise impacts). Comments related to typographical errors (including errors in numbering of conditions or erroneous cross-references), corrections of grammar or spelling, editorial changes to improve clarity, etc., would not necessarily be considered significant. If a few comments are received from only one or two individuals, IEPA may not issue an RTC but may address such comments in the body of the notification letter that is sent to individual(s) that submitted comments.

If comments were submitted only by the applicant, IEPA will typically not issue an RTC but will instead discuss the comments and any resulting permit changes in a "calculation sheet" that is kept in the permit file and provide the applicant with an annotated version of the draft permit that includes IEPA's responses to the applicant's comments. IEPA's standard practice is to identify in the RTC (if one is issued) all "significant changes" IEPA has made between the draft permit and the issued permit. Members of the public who participated in the public comment period for the proceeding are notified of the issuance of a permit, including the availability of the RTC for the proceeding.

EPA appreciates IEPA's efforts to be responsive to comments from the public while reducing administrative burden when comments are only received from the applicant. As IEPA navigates this balance, EPA reminds IEPA that pursuant to 40 C.F.R. § 124.17(a)(2) and the ConocoPhillips remand order discussed in section 1.2.2, above, IEPA should continue to issue a RTC at the time that any final PSD permit decision is issued that briefly describes and responds to "all significant comments" on the draft permit raised during the public comment period, including oral comments made at any public hearing.

1.3.5. Outreach

IEPA has an environmental justice (EJ) policy that provides for enhanced public outreach for applications for NSR permits for projects located in disproportionately affected communities (termed "EJ areas").[10] IEPA developed a screening tool, called "EJ START," to identify whether projects and sources addressed by permit applications and other proposed IEPA actions are in locations that meet IEPA's criteria to be classified as "EJ areas." In general, for IEPA to consider an area an EJ area, the area must have at least twice the state-wide average for minority and/or low-income population for the area within a one-mile radius from the source or activity, based on the latest U.S. Census, American Community Survey 5-year estimates (currently 2011-2015). IEPA's current levels for an area to be considered an EJ area for minority or low-income population are currently 75% and 63.2%, respectively. IEPA has a procedure, commonly referred to as "EJ Notification" to notify potentially concerned individuals of the receipt of applications for projects at sources that are located in EJ areas. This procedure occurs independently of the procedures for public comment periods on applications. Additionally, the public notice for the draft permit will specify that the project is located in an EJ area. For those applications for which

[10] IEPA's EJ policy can be found at http://www.epa.illinois.gov/topics/environmental-justice/index

the public expresses concern about the proposed projects, IEPA develops a project-specific program of outreach in coordination with the concerned individuals or their representatives.

IEPA has recently engaged in enhanced outreach to address community concerns on several notable construction projects. For some of these projects, permit decisions were substantively altered in response to comments from the public. IEPA provided EPA with the following examples of projects in which IEPA undertook enhanced public outreach and, in some cases, substantially altered its permit decisions as a result of such outreach:

- **H. Kramer, Chicago** – IEPA held a community meeting to listen to public concerns with H. Kramer's application for a new secondary lead rotary melting furnace to replace one of its existing furnaces. As a result of the meeting, the applicant agreed to permanently shut down its existing furnace before commencing construction on the new furnace.

- **KCBX, South Burley Avenue facility, Chicago** – IEPA denied KCBX's application for construction of additional conveyors at a former bulk terminal for petroleum coke based, in part, on public comments indicating that the proposed conveyors would worsen violations of applicable state emission standards by the source.

- **Metropolitan Biosolids Management, Stickney** (application for a revision to the construction permit for a facility that dries sewage sludge to facilitate use of biogas in the thermal oil heaters that serve the three indirectly heated sludge dryers) – Upon further investigation in response to public comments, IEPA learned that the facility was no longer capable of firing used oil in the thermal oil heaters. Accordingly, IEPA issued a revised permit that, while providing for firing of biogas in the thermal oil heaters, no longer provided for firing of any used oil in the heaters.

IEPA is committed to working with the regulated sources to navigate the CAA requirements that apply to those sources. IEPA regularly attends industry-wide meetings and meets with applicants one-on-one. EPA commends IEPA's efforts to engage with the public and with regulated sources.

1.3.6. Permit Issuance Timeliness

Under Section 165(c) of the CAA, IEPA must take action on a PSD application within one year of the date that the application is complete. Under Section 39 of the Illinois Environmental Protection Act (415 ILCS 5/39), IEPA must act on all new non-PSD NSR permit applications within 90 days of receipt unless a public comment period is required, in which case action must be taken within 180 days. During our site visit, IEPA staff estimated that they currently issue permits within approximately 50-60 days, on average.

IEPA enters the subject of permit applications or descriptions of proposed projects in its permit application tracking system, "ICEMAN." This database also identifies the permit analyst assigned to the project. Access to electronic copies of issued permits is directly available to permit analysts, as well as other IEPA staff, from this database. The ability of permit analysts to readily identify and access previous permits for similar emission units and projects helps foster consistency in permit conditions for similar projects.

IEPA has made improvements to its permit issuance timeliness through various efforts, including:

- Additional staffing – there are currently 9 staff in the Construction Unit (including 1 manager) and 8 in the State Unit (including 2 managers);

- Changes to the organizational structure – the Construction Unit was reorganized into 2 senior analysts and 2 lead workers;

- Training for staff –staff in the Construction Unit currently participate in cross organizational permit assignments with the CAAPP and State Units; and

- Implementation of measures that facilitate complete applications – pre-application phone calls and meetings, "welcome calls" by analysts to applicants upon receipt of applicants, effective utilization of e-mail to communicate with applicants, formal notices of incompleteness for wholly inadequate applications, peer review of working drafts of documents, and sharing of preliminary drafts of permits with applicants.

EPA commends IEPA on its average permit issuance timeframes. IEPA has made bold steps through its reorganization to further improve permit timeliness. IEPA does note the following obstacles that have affected timely processing of permit applications: 1) the continuing adoption of complex federal new source performance standards and national emission standards for hazardous air pollutants; 2) NAAQS for nitrogen dioxide (NO_2) and sulfur dioxide (SO_2) that apply on an hourly basis; 3) permitting of nitrogen oxides (NOx) and SO_2 as precursors to $PM_{2.5}$; 4) permitting of greenhouse gases (GHGs); 5) alternative provisions for startup, shutdown and malfunction and breakdown; 6) the expectations for practical enforceability of emission limitations and other provisions of permits; and 7) various administrative steps involved in the processing of permit applications, such as fees, EJ notifications for all applications in EJ areas, the expedited application review program, and preparing application files for electronic imaging after final action on the permit is taken. EPA is committed to working with IEPA to address these obstacles as they present themselves. We are available to provide training and/or technical assistance on a permit-by-permit basis.

1.3.7. Permit Reviews

IEPA provided EPA with the following three construction permits to review as part of this program evaluation, each addressing one of the following implementation areas: project aggregation, project netting and the demand growth exclusion:

- Enbridge Energy, Limited Partnership (Enbridge) Flanagan Terminal Expansion Project (Permit #13070008, June 29, 2015), with a focus on project aggregation;

- Exxon-Mobil Oil Corporation (Exxon-Mobil) FCCU Feed Dewatering Project (Permit #14070042, April 16, 2015), with a focus on the application of the demand growth exclusion; and

- Marathon Petroleum Company LP (Marathon) Gas Storage Cavern Project (Permit #15010003, March 20, 2015), with a focus on project netting.

(a) Enbridge Flanagan Terminal Expansion Project.

The Flanagan Terminal Expansion Project involves an expansion of the Flanagan Terminal, located near Pontiac, Illinois, that would enable the terminal to handle additional crude oil. The project involves construction of 4 new external floating roof storage tanks with double seals, a new outbound connector to Pipeline 78 with associated pig launcher and sump tank, piping and components to serve the new tanks and outbound connector, an emergency generator, a pipeline over-pressure relief system and associated surge tank, an increase in the nominal capacity of the inbound connector from Pipeline 61, and a decrease in the nominal capacity for the outbound connector to Pipeline 63. IEPA previously approved a project for the facility in 2012 through Construction Permit #12050026 (issued June 18, 2012).[11] This project included the construction of 6 external floating roof crude oil storage tanks. On July 8, 2013, Enbridge submitted a permit application to install additional equipment, including 4 new external floating roof tanks with double seals, a new outbound connector to Pipeline 78, piping and components to serve the new storage tanks and outbound connector, and other changes to the capacity of existing connectors that would increase the nominal capacity the inbound connector from Pipeline 61 and decrease the nominal capacity of the outbound connector to Pipeline 63. IEPA approved Enbridge's application through Construction Permit #13070008 (issued January 8, 2014). On June 29, 2015, IEPA approved revisions to Construction Permit #13070008 to address additional equipment but IEPA did not increase any of the emission limits originally included in this permit. IEPA determined that the project (as approved in 2012, 2014 and 2015) did not constitute a major stationary source by itself, or a major modification of an existing major stationary source, under the PSD program. Therefore, IEPA did not require Enbridge to obtain a PSD permit.

[11] IEPA simultaneously issued Lifetime Operating Permit #78110025 on this date, which incorporated all of the permit terms from Construction Permit #12050026.

IEPA appears to have appropriately "aggregated" into one project the projects approved by the 2012, 2014 and 2015 permit actions. In addition, the permit record includes emission limits and operational requirements designed to ensure the potential emissions of volatile organic materials (VOM) from the existing, unmodified, equipment never exceeded the major stationary source threshold of 100 tons per year.[12] Our review of the permit record also found that IEPA included in the 2012, 2014 and 2015 construction permits emission limits and operational requirements to limit the potential emissions of VOM from all emission units associated with the project to less than 100 tons per year. Specifically, IEPA limited the potential VOM emissions from the new emission units and the units that were already under construction (combined) to 80 tons per year, which ensured that the project did not constitute a major stationary source by itself. It was appropriate for IEPA to include such limits in the permit, including appropriate monitoring, testing, recordkeeping and reporting requirements, to ensure the project is not a major project for purposes of PSD.

Going forward, IEPA should continue to ensure that it includes appropriate limits during each permit stage to ensure the project's PTE never exceeds the applicable major source thresholds.

(b) ExxonMobil FCCU Feed Dewatering Project.

IEPA granted ExxonMobil a construction permit (Permit #14070042) on April 16, 2015 to install a new cold feed settling drum, pump and associated piping, valves and instrumentation, a larger impeller on a second existing pump, and perform other modifications at ExxonMobil's Joliet, Illinois, refinery. The equipment associated with the project would remove water from certain feed for the FCCU,[13] which would enable an increase in the annual throughput of the FCCU and downstream units. IEPA determined that the project was subject to NNSR as a consequence of a projected increase in NOx emissions of about 400 tons per year; however, IEPA determined that none of the emission units associated with the project were subject to Lowest Achievable Emission Rate (LAER) requirements. IEPA explained that none of the emission units affected by the project would undergo a physical change or change in the method of operation. With respect to the applicability of PSD requirements, IEPA concluded that the project did not constitute a major modification based, in part, on an application of the "demand growth

[12] In Illinois, volatile organic compounds (VOC) are regulated as VOM. Under 40 C.F.R. § 52.21(b)(1)(i)(a), Enbridge's Flanagan terminal is subject to a major source threshold of 100 tons per year of any regulated NSR pollutant because it falls into the source category "petroleum storage and transfer units with a total storage capacity exceeding 300,000 barrels."

[13] 40 C.F.R. § 60.101a defines the FCCU as "a refinery process unit in which petroleum derivatives are continuously charged and hydrocarbon molecules in the presence of a catalyst suspended in a fluidized bed are fractured into smaller molecules, or react with a contact material suspended in a fluidized bed to improve feedstock quality for additional processing and the catalyst or contact material is continuously regenerated by burning off coke and other deposits." The FCCU includes the riser, reactor, regenerator, air blowers, spent catalyst or contact material stripper, catalyst or contact material recovery equipment, and regenerator equipment for controlling air pollutant emissions and for heat recovery.

exclusion" provision of 40 C.F.R. § 52.21(b)(41)(ii)(*c*) to emission increases from downstream units. In response to comments, IEPA stated that "excludable emissions" from downstream units are "based on actual, sustained, annual production that has already occurred in absence of the proposed project… [and] …are clearly unrelated to the project." RTC for Permit #14070042 at 20-21. The RTC also explained that ExxonMobil calculated "excludable emissions" using "the highest, recent 12-month demonstrated operating rates, rather than the highest one-month operating rate." RTC for Permit #14070042 at 21.

The PSD regulations at 40 C.F.R. § 52.21(b)(41)(ii)(*c*) provide that in determining the projected actual emissions and calculating any increase in emissions that results from a particular project an applicant "[s]hall exclude … that portion of the unit's emissions following the project that an existing unit could have accommodated during the consecutive 24-month period used to establish the baseline actual emissions … and that are also unrelated to the particular project, including any increased utilization due to product demand growth." This provision thus establishes two criteria that a source must meet for any emissions to be excluded from its determination of projected actual emissions: (1) the emissions could have been accommodated by an existing unit during the baseline period; and (2) the increase is unrelated to the project. The two prongs are distinct and must both be satisfied.

It is unclear from our review of the permit record whether the emissions excluded from the projections satisfied both criteria of 40 C.F.R. § 52.21(b)(41)(ii)(*c*). Specifically, it is unclear whether IEPA reviewed historical utilization data to determine how the projected market demand compares with historical utilization of the affected units and to determine, based on historical data, how such demand would affect utilization of the affected units regardless of the project. EPA cautions that the demand growth exclusion is an aspect of the PSD rules that sources and their consultants often appear to misunderstand. Sources may overestimate the adjustments to projected actual emissions that are appropriate with this exclusion. It is necessary that the emissions excluded from the projections satisfy both criteria of 40 C.F.R. § 52.21(b)(41)(ii)(*c*). EPA recommends that IEPA exercise particular care as applicants propose to use the demand growth exclusion and require that such applications include sufficient historical utilization information to clearly demonstrate that both prongs for this exclusion, as discussed above, have been satisfied

(c) Marathon Petroleum Company LP (Marathon) Gas Storage Cavern Project.

On March 20, 2015, IEPA approved Construction Permit #15010003 that authorized the construction of a gas storage cavern and associated piping at Marathon's Robinson, Illinois, refinery. The cavern is equivalent to a pressure tank whose emissions are routed to a flare. The cavern would operate along with the refinery's existing butane storage spheres to accumulate butane material, which is a feedstock for the Alkylation Unit and is used in gasoline blending. The permit record shows that while the project would not cause an increase of throughput either at the Alkylation Unit or at the gasoline blending operations, emissions of various pollutants

would increase as a result of fugitive emissions from the new piping components and flare emissions from the pressure vents located at the top of the cavern. In addition, IEPA estimated that the project would cause a decrease in SO_2 emissions from one existing flare (Flare #6).

The permit record shows that IEPA appropriately omitted emissions decreases from consideration in "Step 1" of the NSR applicability analysis.

1.3.8. $PM_{2.5}$ Requirements

(a) 2008 implementation rule requirements.

On May 16, 2008, EPA issued a final rule governing the implementation of the NSR program for $PM_{2.5}$. *See* 73 FR 28321 (2008 NSR Rule). The 2008 NSR Rule finalized several new requirements for SIPs to address sources that emit direct $PM_{2.5}$ and other pollutants that contribute to secondary $PM_{2.5}$ formation. One of these requirements is for NSR permits to address pollutants responsible for the secondary formation of $PM_{2.5}$, also known as precursors. The 2008 NSR Rule identified precursors to $PM_{2.5}$ as SO_2 and NOx (unless the state demonstrates to the Administrator's satisfaction or EPA demonstrates that NOx emissions in an area are not a significant contributor to that area's ambient $PM_{2.5}$ concentrations). As it relates to determining a net emissions increase or the potential of a source to emit pollutants, the 2008 NSR Rule defined ''significant'' for $PM_{2.5}$ to mean a rate of emissions that would equal or exceed any of the following emissions rates: 10 tpy of direct $PM_{2.5}$; 40 tpy of SO_2; and 40 tpy of NOx (unless the state demonstrates to the Administrator's satisfaction or EPA demonstrates that NOx emissions in an area are not a significant contributor to that area's ambient $PM_{2.5}$ concentrations). *See* 40 C.F.R. §§ 51.166(b)(23)(i) and 51.165(a)(1)(x)(A). This rulemaking also provided that beginning January 1, 2011, condensable PM (i.e., PM that is formed when gases condense at ambient temperatures) is to be included as part of emissions measurements for regulation of $PM_{2.5}$ and PM_{10}. *See* 77 FR 65107 (2012 Rule), 40 C.F.R. §§ 51.166(b)(49)(i)(a) and 51.165(a)(1)(xxxvii)(D).[14] Illinois had up to three years from the publication of the 2008 NSR Rule (i.e., May 16, 2011) to submit a revised SIP incorporating these NSR requirements into its NNSR rules.[15]

Since IEPA implements the federal PSD program at 40 C.F.R. § 52.21, EPA's new requirements for PM_{10} and $PM_{2.5}$ immediately took effect for purposes of PSD permitting and a revision to Illinois' SIP was not otherwise needed. However, IEPA's SIP-approved NNSR rules do not currently address the above $PM_{2.5}$ requirements as specified in 40 C.F.R. § 51.165. In addition, 40 C.F.R. § 51.165, as

[14] On October 25, 2012, EPA completed rulemaking that confirms that condensable PM is to be included as part of emissions measurements for regulation of $PM_{2.5}$ and PM_{10}. *See* 77 FR 65107.

[15] There are currently no areas in Illinois that are designated nonattainment for PM_{10}. The Metro-East St. Louis metropolitan area in Illinois (comprising Madison, Monroe and St. Clair Counties and the Village of Baldwin in Randolph County) is currently designated nonattainment for $PM_{2.5}$ based on the 1997 Annual NAAQS for $PM_{2.5}$. *See* 40 C.F.R. § 81.314.

recently revised at 81 FR 58010 (August 24, 2016), provides that volatile organic compounds (VOC) and ammonia must be regulated as precursors to $PM_{2.5}$ beginning on April 15, 2017, with respect to any construction permit issued for $PM_{2.5}$, VOC or ammonia in a $PM_{2.5}$ nonattainment area. *See also* 40 C.F.R. Part 51, Appendix S, paragraph II(A)(31)(ii)(b)(3). IEPA is in the process of updating Illinois' NNSR rules to include necessary revisions pertaining to $PM_{2.5}$ precursors and condensable $PM_{2.5}$ and PM_{10}. For purposes of NNSR permitting for $PM_{2.5}$, until the completion of these revisions, IEPA will continue to rely on Appendix S to 40 C.F.R. Part 51 – Emission Offset Interpretative Ruling – to ensure that emissions of $PM_{2.5}$ and precursors from the construction and modification of stationary sources do not cause or contribute to a violation of the $PM_{2.5}$ NAAQS.

(b) Air quality analysis.

Ambient $PM_{2.5}$ data used for PSD NAAQS demonstrations in Illinois is predominantly collected by IEPA's ambient air quality monitoring network and analyzed and reported by the Cook County Department of Environmental Control (CCDEC). On December 18, 2014, following a regularly scheduled technical audit of this laboratory as required by regulation, EPA invalidated, for NAAQS demonstration purposes, the ambient $PM_{2.5}$ data obtained from $PM_{2.5}$ monitors that IEPA maintains through its State/Local Air Monitoring Station (SLAMS) network and processed by CCDEC during the period 2011 through 2013. *See* 80 FR 2206, January 15, 2015. Contemporaneously, EPA -designated the entire state of Illinois as "unclassifiable" with respect to the 2012 annual $PM_{2.5}$ NAAQS.[16] EPA explained that it made this determination because of serious deficiencies in the quality control and quality assurance procedures employed by the CCDEC for processing $PM_{2.5}$ filters. Since the determination of background concentrations is a critical component of the PSD air quality analyses, invalidation of existing ambient $PM_{2.5}$ monitoring data meant that PSD applicants in Illinois no longer had access to readily available, quality-assured and representative $PM_{2.5}$ air quality data for use in their air quality analyses. To address this, EPA and IEPA worked with applicants for several years to estimate background $PM_{2.5}$ concentrations for each project location, on a case-by-case basis, using data from alternative monitoring networks for which issues over the handling of samples are not present. Although this process may have caused some delays in processing individual permit applications, it likely resulted in the use of more conservative background $PM_{2.5}$ concentrations since data from more developed or urban areas were often used to represent background ambient concentrations in less developed areas. IEPA has assured EPA that the issues with the handling of samples collected by IEPA's statewide ambient $PM_{2.5}$ monitoring network have been corrected and that, beginning in 2018, there should again be acceptable data to determine design values for $PM_{2.5}$ air quality from IEPA's monitoring network.

[16] The MetroEast Area continues to be designated nonattainment for $PM_{2.5}$ based on the 1997 annual NAAQS for $PM_{2.5}$.

1.3.9. Ozone NAAQS Implementation Requirements

On February 3, 2017 (effective March 6, 2017), EPA found that Illinois is among 15 states and the District of Columbia that have failed to submit SIP revisions in a timely manner to satisfy certain requirements for the 2008 ozone NAAQS that apply to nonattainment areas and/or states in the Ozone Transport Region (OTR). *See* "Findings of Failure To Submit State Implementation Plan Submittals for the 2008 Ozone National Ambient Air Quality Standards (NAAQS)," 82 FR 9158 (February 3, 2017). IEPA is aware of this finding and is working to provide EPA by the deadline in the finding with a certification that Illinois' NNSR rules at 35 IAC Part 203 contain all of the relevant elements required by 40 C.F.R. § 51.165.

1.3.10. IEPA's Concerns and Recommendations

As part of our evaluation, we asked IEPA to identify specific impediments it has faced with the implementation of the NSR program in Illinois, and ways in which EPA could help improve IEPA's implementation of the NSR program. The following are solely IEPA's opinions and do not represent EPA position or policy on any of the identified issues.

(a) ***Modeling compliance with the NO_2, SO_2 and $PM_{2.5}$ NAAQS.***

IEPA has struggled with modeling compliance with the 1-hour NO_2 NAAQS in urban areas. During the site visit, IEPA cited Universal Cement (Chicago) as an example of a project that posed significant modeling challenges. IEPA attributes these challenges to the large number of discrete sources of NOx emissions, and to errors in the inventory for short-term NOx emission rates.

IEPA also expressed that it has been challenging under PSD to deal with EPA's evolving guidance for how air quality impact analyses should be conducted for secondary $PM_{2.5}$ and ozone. IEPA recommended that when EPA adopts, pursuant to Section 108 of the CAA, new or revised NAAQS that are not supported by the existing models and methods for conducting the air quality analyses needed for PSD permitting, the development of practical models and methods to conduct analyses addressing those NAAQS should quickly follow the adoption of those NAAQS. Preferably, IEPA would like the development of such models and methods to be well underway before the rulemaking adopting those new NAAQS is completed.

(b) ***Emissions offsets for NNSR projects.***

Given the rarity of major NNSR projects in Illinois, a formal offset bank is not maintained. IEPA is concerned that locating creditable offsets for NNSR permitting may soon become problematic for projects in nonattainment areas, especially projects in the Chicago and Metro-East St. Louis ozone nonattainment areas. To resolve this issue, IEPA suggested that EPA lift restrictions on the use of past shutdowns. In addition, for emissions of NOx and/or SO_2 from new power plants, IEPA suggested

that EPA could recognize that emission offsets are now implicit as emissions of NOx and/or SO_2 from power plants in Illinois are addressed by the Cross State Air Pollution Rule.[17]

(c) Outdated EPA permitting guidance.

IEPA would like EPA to keep its federal rules and guidance, including 40 C.F.R. §§ 52.21, 51.165 and 51.166, up to date with appropriate revisions to reflect applicable decisions of the D.C. Circuit Court. For example, to ensure practical enforceability of emission limits, IEPA relies on EPA's guidance for "Limiting Potential to Emit in New Source Permitting," June 1989, as the basis for adding supporting provisions that accompany annual limits on emissions. IEPA routinely sends this guidance document to applicants that, when responding to the preliminary drafts of the construction permits for proposed projects, object to the inclusion of such provisions in the permits. However, given this guidance dates to 1989, IEPA suggests that EPA issue a current guidance document affirming the principles that the EPA set forth in 1989 are still applicable.

IEPA staff also said that EPA's Region 7 database currently contains a number of broken links. Finally, IEPA would like EPA to revise the draft 1990 NSR Manual to address the various changes to PSD and NNSR over the last 25 years.

(d) EPA's comments on draft permits.

IEPA would like EPA to continue to work with IEPA to reach agreement on generic permitting concerns so as to reduce the number of EPA's comments on individual drafts of permits.

(e) RBLC entries.

The RBLC includes an option for entry of draft BACT/LAER determinations for permits that have not yet been issued (still in the review stages), and/or permit entries that are incomplete (i.e., key information is missing). During the site visit, EPA suggested to IEPA that they should consider entering BACT/LAER information at the time the draft permit is public noticed. However, IEPA expressed concerns that staff have had difficulties with revising information once it is entered into the RBLC. Specifically, IEPA stated that the submitted information is often "locked" for weeks thus preventing IEPA staff from editing the information. For this reason, IEPA is concerned that entering draft BACT/LAER determinations would not be an effective use of time and resources.

IEPA also explained in its response to the NSR questionnaire that lack of sufficient staff resources compared to its existing permit workload often impedes its ability to timely enter information into the RBLC. In addition, the increasing complexity of BACT determinations has increased the amount of effort that it takes for IEPA to

[17] https://www.epa.gov/csapr/cross-state-air-pollution-rule-csapr-regulatory-actions-and-litigation.

submit BACT determinations to the RBLC. As discussed in section 1.3.1, above, IEPA is in the process of registering a second analyst with EPA so that two people can submit information to the RBLC.

2.0. Title V Program Evaluation

2.1. Introduction

IEPA's Title V operating permit program for major sources, which is established to meet the requirements of the CAA and 40 C.F.R. Part 70, is found in 415 ILCS 5/39.5. The program is called the CAAPP. EPA gave final full approval of Illinois' operating permit program on December 4, 2001 (66 FR 62946).

IEPA has a total of 11 staff that write permits within the CAAPP Unit and are working to fill several vacancies. Of the current 11 staff, 2 are designated as "Lead Workers" and are responsible for training and mentoring other permit writers.

IEPA and EPA conduct monthly conference calls on the Title V program to discuss the issuance and status of Title V permits. Additionally, IEPA and EPA discuss programmatic permitting issues during the calls. The calls are for gathering permitting information, identifying issues of potential concern, and initiating discussion on issues. Information on guidance is conveyed to IEPA during the calls as well. Additionally, EPA and IEPA meet as necessary to discuss Title V permitting issues that arise. EPA staff collaborate with IEPA permit writers on individual permits as needed.

This section summarizes EPA's findings and conclusions from our review of IEPA's Title V program. The findings and conclusions in this report are based on IEPA's answers to the Title V questionnaire; EPA staff review of two Title V permit files supplied by IEPA; and EPA staff knowledge of IEPA's Title V program based on experience with reviewing IEPA's permits. This information was compared to the statutory and regulatory requirements for Title V permit programs as outlined in the questionnaire.

2.2. Follow-up from the 2010 Title V Evaluation

In our September 30, 2010 Title V Report (2010 Title V Report), we found that although IEPA had taken steps to address the concerns raised by EPA in the 2004 program evaluation, IEPA's permit issuance rates and documentation of its decision making was unacceptable. EPA required IEPA to provide EPA with an assessment of the effectiveness of the programs it had put in place to improve permit issuance, an evaluation of its efforts to meet the stated goal to reduce the backlog by 10 percent by October 2011, and a detailed plan for how it would aggressively reduce its backlog. EPA required IEPA to pay particular attention to the documentation of its decision making both in statements of basis and responsiveness summaries, quickly resolve the 39 Title V permit appeals that had been pending before the Illinois Pollution Control Board (IPCB), and address the compliance assurance monitoring (CAM) requirements of 40 C.F.R. § 64.6(c) in the body of permits and incorporate conclusions of the approval within the Statement of Basis.

As part of the 2017 evaluation, we followed up on each of our recommendations from the 2010 Title V Report to determine whether IEPA had made any progress on the identified issues. The following sections describe our 2017 findings:

2.2.1. Permit Issuance Rates

In 2014, IEPA and EPA jointly agreed to a workplan (2014 workplan) that took bold steps to reduce the Title V permit backlog including a plan to issue Title V permits for coal-fired utilities. IEPA has significantly improved its issuance rate for Title V permits, and has met all of the Title V backlog reduction targets of the 2014 work plan. IEPA reduced the number of backlogged Title V renewal permits from 422 permits (or 75 percent of IEPA's Title V permits universe) as of December 31, 2010 to 52 permits (or 12 percent of the Title V permits universe) as of December 31, 2016.[18] We recommend that IEPA continue to build on its success in issuing backlogged Title V permits to achieve a backlog ratio of no more than 10 percent of the Title V permits universe.

2.2.2. Permit Quality and Documentation of Permit Decisions

IEPA has generally improved the quality of information within a Statement of Basis supporting monitoring in a permit. In our 2017 evaluation, EPA noted that the level of detail provided by IEPA within responsiveness summaries is appropriate, and that IEPA substantively addresses the concerns that have been raised. IEPA takes a clear position on comments, either in support or opposition, and completes the response by providing the reasoning behind the decision.

2.2.3. Permit Appeal Procedures

At the time of the 2010 Title V Report, there were 39 Title V permits that had been appealed and were pending before the IPCB. Under then-existing IPCB procedures, permits appealed before the IPCB were automatically stayed in their entirety throughout pendency of the appeal. The 2010 Title V Report recommended that IEPA work to resolve the appeals so that the associated permits could become effective. During our 2017 evaluation, we found that IEPA had resolved the 39 appeals and issued most of the affected permits. IEPA resolved the concern regarding the IPCB staying Title V permits in their entirety during an appeals process. In 2010, Illinois enacted legislation that provides for the severing and staying of only the portions of the Title V permit subject to appeal (*see* 415 ILCS 5/40.2(f)).

2.2.4. CAM Requirements Within the Body of Permits

IEPA has addressed the concern regarding including the CAM indicator ranges within the body of the permit. The latest permit model contains a section dedicated solely to CAM, and includes the table that would be populated with information including the monitoring approach, the selected indicator ranges, quality improvement plan threshold levels, the monitoring frequency, and other CAM related requirements. In the new model Title V permit, IEPA has reserved section 7.5 for CAM. All CAM-

[18] Data as reported in EPA's Title V Operating Permits System (TOPS).

related information for a facility subject to CAM is now directly provided in Title V permits.

2.2.5. Review and Conclusions for CAM approval

In the 2010 Title V Report, EPA found that the Statement of Basis does not contain any information regarding the rationale of IEPA's approval of the CAM plan. IEPA relies solely on the Title V application for the justification of the monitoring approach selected and the indicator ranges chosen. Title V regulations require that each Title V permit must be accompanied by a statement that sets forth the legal and factual basis for the draft permit conditions (including references to the applicable statutory or regulatory provisions). *See* 40 C.F.R. § 70.7(a)(5) and 415 ILCS 5/39.5(8)(b). Our 2017 evaluation revealed some improvement in this area, but we restate the concern again here because additional work needs to be done in this area. To comply with these requirements, IEPA should provide the conclusions of its CAM plan approvals within the Statement of Basis.

2.2.6. Follow-Up on Other Recommendations from the 2010 Title V Report

In addition to the recommendations detailed above, in the 2010 Title V Report EPA followed-up on older reports and provided recommendations that IEPA:

- Continue to ensure periodic monitoring is adequately addressed in permits, and the Statement of Basis includes useful information on justification of the monitoring;
- Continue its ongoing efforts to incorporate non-applicability determinations within Title V permits;
- Provide a response to all public comments on a draft Title V permit prior to the 45-day EPA review period for the proposed permit;
- Continue to ensure that applicants are incorporating all or parts of previous application forms that were incorporated during past permitting actions; and
- Address the FESOP backlog, which had grown to 251 in June 2010.

Our current evaluation of these recommendations is as follows:

(a) Permit and Statement of Basis Content.

Although EPA may have comments on individual permits, IEPA has generally improved the quality of information within the Title V permit and the Statement of Basis. IEPA incorporates non-applicability determinations within the Title V permit with sufficient detail to communicate the basis for the non-applicability

determination. Complex non-applicability determinations are further discussed within the Statement of Basis.

IEPA maintains model templates for the Title V permit and the Statement of Basis. IEPA overhauled the current Model Title V permit in 2011 and revised it in 2016 to address formatting changes. The model template for the Statement of Basis was overhauled in 2012 and revised in 2015 to provide a discussion regarding the Single Source Status of a permittee. Section 2.3 of the Statement of Basis includes an analysis of the Potential to Emit across the various facilities that comprise a single source; a generic discussion to address the single source rationale; and a discussion of how adjacency must be defined in terms of physical proximity, not functionality, due to recent developments in federal case law. Additionally, in 2016, IEPA revised the Statement of Basis model template to more completely address compliance and enforcement activity, in addition to formatting changes. The changes to the model document provide for the permit writers to enter information that is more relevant as well as supporting of monitoring of terms and conditions and improves the enforceability of the permit.

(b) Response to comments.

EPA originally noted this concern in the 2004 Title V report. IEPA officially provides a Responsiveness Summary on Title V permits at the time of permit issuance. For comments submitted by the Permittee, IEPA responds via a "Model Calculation" sheet. However, IEPA is not consistently providing a response to all comments received during the public comment period prior to the start of EPA's 45-day review period. Without the permitting authority's response to significant comments, the permit record as a whole is inadequate for EPA to sufficiently evaluate the adequacy of the proposed permit terms. *See*, for example, *In the Matter of Scrubgrass Generating Company, LP*, Order on Petition Number III-2016-5 at 12 (May 12, 2017). Additionally, EPA has proposed rulemaking that clarifies that permitting authorities are required to respond to significant comments received during the public comment period for draft Title V permits, and to provide that response with the proposed Title V permit to the EPA for the agency's 45-day review period.[19] Thus, it is important for IEPA to provide a Responsiveness Summary to EPA at the time EPA's 45-day review period begins so that, consistent with *Scrubgrass,* EPA and the public have adequate information to sufficiently evaluate the adequacy of the proposed permit terms. We recommend that IEPA provide all responses to comments prior to the beginning of the 45-day proposed period of a Title V permit.

(c) Application forms.

To ensure that application forms continue to be up-to-date, IEPA has made the following changes to Title V applications since 2010:

[19] *See Revisions to the Petition Provisions of the Title V Permitting Program, Proposed Rule*, 81 FR 57822 (August 24, 2016)

- Form 292-CAAPP (fees) was revised to reflect the increases in Title V fees. Within the next year, IEPA expects to reassess the application forms to determine if additional changes to them are necessary.

- Form 200-CAAPP (completeness review checklist) was revised to specify additional program elements that must be addressed in the application before it can be deemed administratively or technically complete.

At the time a Title V permit writer begins reviewing an application, if additional information is needed to adequately write the permit, the permit writer requests the necessary information by e-mail or phone. If the source does not provide a sufficient response to this request, a written request for the additional information letter is mailed out to the source. Whenever information on the facility's process is missing and/or the application is incomplete such that an appropriate permit cannot be written, IEPA should continue the process of expeditiously sending the formal notifications. When a source remains unresponsive, IEPA submits a notification referred to as a "Notice of Intent to Deny", to inform the source of the potential denial and rescission of any active Title V permit for the source.

(d) FESOP backlog.

IEPA has addressed the FESOP concerns cited in the 2010 Title V Report, including the reduction of the backlog of FESOPs. On April 7, 2014,[20] EPA approved IEPA's request to extend the FESOP term from 5 years to 10 years. This extension will assist IEPA in the maintenance of a low permit backlog.

2.3. 2017 Evaluation Findings

2.3.1. Title V Permit Issuance Rate

The 2014 workplan set milestones for the Title V permit backlog and established milestones for issuing coal-fired power plant permits. In 2014, EPA and IEPA also entered into a Memorandum of Understanding to facilitate the respective roles and issuance of Title V permits.

IEPA develops 6-month work plans for a 12-month future workload when looking ahead at the permit issuance schedule. As of July 18, 2017, the Title V permit backlog was 51 permits. IEPA's goal is to reduce the backlog to 32 by December 2017. IEPA has plans to address the larger and more complex sources whose permits are still pending. Since the less complex Title V permits can be issued much faster, IEPA plans to issue those prior to refocusing their efforts on the more complex Title V permits.

[20] *See Approval and Promulgation of Air Quality Implementation Plans; Illinois; 10-Year FESOP Amendments, Direct Final Rule.* 79 FR 18997 (April 7, 2014)

Of the complex Title V permits that IEPA has yet to issue, 7 of them are for coal-fired power plants. Due to the 2005 permit appeals, the initial permits issued to these sources never became final. IEPA plans to issue Title V permits for all of the coal-fired power plants as soon as possible, but no later than the by the end of 2018.

IEPA is also aware of certain impediments on the horizon such as: the high staff turnover and difficulty in finding engineers as replacements, concerns with communities for particular sources located in environmental justice areas, EPA's interest in IEPA's permit record documentation, and others. IEPA has the plans and process in place to address our joint Title V permit backlog goals, and is working to minimize the impact of the impediments that it has identified. EPA is committed to our permit program partnership and providing support to IEPA in addressing barriers as they arise.

2.3.2. Title V Permit Quality

IEPA employs a number of strategies to ensure consistency in permit quality, including:

- The Model Statement of Basis and Permit are in a guideline format that is practical and facilitates the permit writing process for a permit writer. The two different documents also complement each other and further facilitate the process of finalizing a Title V permit and Statement of Basis for public notice. IEPA provides training for both new and seasoned permit writers.

- Use of a spreadsheet that provides information regarding each Title V permit, including information regarding the emission unit and applicable requirements. Permit writers use this spreadsheet to maintain consistency across sources within similar source categories or sources that include similar emission units.

- IEPA implemented several efforts to streamline processes to assure consistency in the quality of Title V permits, including the creation of the "lead worker" position.

- Lead workers review Title V permits completed by other permit writers, as well as the Statement of Basis, and perform a review of the internal "ICEMAN" permit database to ensure that all applicable requirements (such as and including construction permit terms and conditions) are appropriately addressed within the permit.

- IEPA developed workgroups to streamline the permit issuance process. The workgroups were developed to write template permits for 6 different source categories, which account for a quarter of all Title V sources in Illinois. IEPA was able to issue 150 Title V permits since 2014 as a result of these efforts. The templates facilitated the issuance of permits for these sources and will also serve as training tools for newer engineers in the future. IEPA plans to implement a

refinery workgroup later in 2017 to facilitate the issuance of 4 refinery Title V permits.

2.3.3. Off-permit Plans

(a) Availability of off-permit plans.

If a source relies on an "off-permit" plan, for assessing or monitoring the compliance of the source with its emission limitations, for example, the plans must be a part of the Title V permit and/or its record.[21] Since the terms of the permit are reliant on the plans' elements in demonstrating compliance, the enforceability of the permit is complete when the appropriate elements are clearly a part of the permit record at the time of public comment. IEPA generally incorporates plans by reference into the permit (which makes them a part of the permit record), but includes the plans (and contents thereof) in the repository. IEPA should consider either including the relevant contents of these plans within the permit, or making the off-permit plans available online along with the permit and Statement of Basis at the time the Title V permit is public noticed. Currently, the plans are only available within the repository which is not easily accessible. A member of the public may only acquire the plan by traveling to IEPA's offices and/or the public library where the relevant documents were sent. After the permit is issued, the plans are only available through the Freedom of Information Act (FOIA) process.

(b) Revision of off-permit plans.

Sometimes a source could experience a change to its facility that may prompt a change to Title V permit language. Other times the changes may only affect the language within an off-permit plan that may be incorporated by reference. As discussed above, the plans are incorporated by reference, and are an extension of the permit. After a permit is issued final, any changes to the plan must be evaluated to determine if a permit revision is needed to implement the change. If any such change to a source necessitates a revision to the off-permit plan, and that change significantly affects the monitoring that was evaluated during the time the permit was drafted and public noticed, then IEPA must follow the procedures for a significant modification to the permit consistent with the Title V permit program modification procedures under 40 C.F.R. Part 70 and 415 ILCS 5/39.5.

IEPA believes that off-permit plans may be revised without the need for a significant modification to the Title V permit and/or the need for public notice. If a Title V permit relies on a plan to assure compliance with the applicable requirements, then the contents of the plan are, by extension, a part of the permit. Therefore, if a plan has been incorporated by reference and a change within the plan meets the criteria of a significant modification, the change to the contents of the plan is by default a change to the permit itself. A change to a permit that meets the criteria for a

[21] *See In the Matter of: Alliant Energy – WPL Edgewater Generating Station*, Order on Petition Number V-2009-02, August 17, 2010.

significant modification must meet all requirements of 40 C.F.R. Part 70 and 415 ILCS 5/39.5, including those for applications, public participation, and review by EPA. IEPA must make the revised permit available for public notice and comment consistent with 40 C.F.R. Part 70 and 415 ILCS 5/39.5 before issuing the final permit.

2.3.4. EJ Considerations

As discussed in section 1.3.5, above, IEPA recently adopted a new EJ policy that consists of an enhanced public notification process for projects that are located in disproportionately affected communities. IEPA identified three different Title V permit examples where the permit process was revised to address EJ concerns following the newly adopted policy. The Title V permits that were revised due to the EJ process include: Meyer Steel Drum, BWAY Corporation, and Akzo Nobel. As a result of the EJ process, the changes that were made include: extending the comment period, holding a public hearing, enhancing the permit terms, and re-public noticing the permit where necessary.

2.3.5. EPA Title V Permit Review as Part of 2017 Evaluation

We reviewed two recently issued Title V permits as part of our evaluation of IEPA's Title V program with a focus on the topics discussed during this evaluation. We also reviewed relevant permit records. The two Title V permits and relevant records were reviewed for the following sources:

- US Silica Company (Permit #95060046, January 13, 2015), Title V permit with significant public interest; and

- Ameren Missouri Venice Energy Center (Permit #95090017, December 28, 2016), Title V permit located in an EJ area.

No major issues were found with the review for the Ameren Missouri Venice Energy Center permit. We have included a discussion for the US Silica Company permit review:

US Silica Company.

The review of this permit yielded many items useful for discussion for this report. This Title V permit had significant public interest. US Silica operates a sand mine which has the potential to emit significant PM emissions. The source has controls such as baghouses on their processes, and has various material handling units and storage piles that are located on the facility's property. As there are SIP requirements that restrict the emissions of fugitive PM from crossing the property boundary line of the source, the permit does not contain means of demonstrating compliance with these requirements, such as language requiring compliance demonstrations for fugitive PM emissions from material storage piles used in other recent permits issued

by IEPA. Additionally, the Title V permit and related permit documents were not available online.[22]

EPA is also concerned that the Statement of Basis used vague and overly general language to justify the adequacy of monitoring requirements included in the permit. Given the high level of public interest in this facility, the permit should clearly identify all applicable requirements, and include monitoring/compliance procedures for each applicable emission limit as required by 40 C.F.R. Part 70. In addition, the Statement of Basis should clearly explain why the monitoring in the permit is adequate to assure compliance with each applicable requirement based on site-specific factors.[23]

2.3.6. IEPA's Concerns and Recommendations

(a) Petitions to the Administrator

Title V regulations at 40 C.F.R. § 70.8(d) allow for a member of the public to petition the EPA Administrator to object to a Title V permit on objections that were raised during the public comment period. In response to such a petition, the CAA requires the Administrator to issue an objection if a petitioner demonstrates that a permit is not in compliance with the requirements of the CAA. During the 2017 evaluation, IEPA noted that responding to objections required substantial expenditure of effort by technical and legal IEPA staff, significantly straining its resources. IEPA is concerned that any future petition orders can result in similar strains on the agency's limited resources. To minimize this outcome, IEPA plans to work closely with community groups and EPA on contentious permits that are of significant interest to the community groups with the goal of resolving all possible issues prior to issuance of a final permit.

[22] IEPA has a plan to address this concern going forward. *See* Section 1.3.3.
[23] *See In the Matter Of: CITGO Refining and Chemicals*, Order on Petition Number VI-2007-01, May 28, 2009.

3.0. Summary of Key Findings and Recommendations

3.1. Program Strengths

3.1.1. IEPA has implemented a number of improvements to its permit processing procedures, which have helped improve permit issuance rates and ensure timely processing of permit applications. These improvements include staff training, reorganization of the Construction and CAAPP Units to improve effectiveness, implementation of an overtime-based expedited review process for construction permit applications, aggressive internal performance measures, and working in partnership with EPA in drafting permits. IEPA's new "lead workers" work closely with junior staff during the drafting of permit conditions and generally serve as mentors for new and less experienced staff to facilitate timely processing of permit applications. Through these improvements, IEPA has significantly improved its issuance rate for Title V permits, and has met all of the Title V backlog reduction targets of the 2014 work plan.

With respect to construction permits, IEPA has made significant improvements to its response to comments process for PSD and NNSR permits. Specifically, IEPA consistently includes enough detail in each response to enable the public to understand IEPA's rationale for the permit conditions. The RTC generally identifies any changes IEPA has made between the draft and final issued permits. The "Expedited Review Program," which IEPA promulgated in 2011, provides a mechanism to prioritize urgent construction permit applications, and funding for any overtime work needed to expedite permit issuance. The program has boosted morale for some of IEPA's staff as overtime work on an expedited project is voluntary and the number and timing of expedited applications has so far generally been reasonable. IEPA also recently adopted into its regulations a PBR for small natural gas-fired boilers, which is expected to further streamline the process of obtaining a construction permit for small gas boilers.

3.1.2. In addition to the above very positive permit processing changes, IEPA has made a number of improvements to permit quality since the 2010 program evaluation. IEPA has begun adding, as appropriate, both initial and periodic stack testing requirements to its construction permits. IEPA's current practice ensures that permittees can demonstrate compliance with construction permit requirements throughout the lifetime of the permit. IEPA continues to use the Title V process to supplement monitoring as necessary pursuant to 40 C.F.R. Part 70 and 415 ILCS 5/39.5.

With respect to Title V permits, these improvements include addressing periodic monitoring in the Statement of Basis, providing written responses to comments before certain proposed permits are issued, and providing training to the permit analysts on the issues raised in the 2010 evaluation, including the development of engineering instructions to help permit analysts with periodic monitoring, non-applicability justifications and development of the Statement of Basis. IEPA also added engineering instructions and a section for non-applicability justifications to the model

Title V permit and Statement of Basis templates, and began providing training to permit analysts on the issues raised in the 2010 evaluation. To address Illinois SIP's prohibition on emissions of fugitive particulate matter leaving a source's property boundary, IEPA recently started requiring frequent visible inspections of material piles. IEPA has implemented this strategy within the coal-fired power plant permits and other source categories that include material piles that are located near the property boundary. These efforts have improved the quality of the permits and have helped reduce the number of comments and petitions filed on issued permits.

3.2. Areas in Need of Improvement

3.2.1. In 2008, EPA finalized several new requirements for SIPs to address sources that emit direct $PM_{2.5}$ and other pollutants that contribute to secondary $PM_{2.5}$ formation. One of these requirements is for NSR permits to address pollutants responsible for the secondary formation of $PM_{2.5}$, also known as precursors. Since IEPA implements the federal PSD program at 40 C.F.R. § 52.21, IEPA automatically implemented the above $PM_{2.5}$ requirements once they became effective. However, IEPA's SIP-approved NNSR rules do not currently address the above $PM_{2.5}$ requirements as specified in 40 C.F.R. § 51.165. IEPA is aware of this and is in the process of updating its rules to include necessary revisions pertaining to $PM_{2.5}$ precursors and filterable and condensable $PM_{2.5}$ and PM_{10}.

3.2.2. Although IEPA has made improvements to its RTC procedures, IEPA is not consistently providing RTC documents to EPA at the time Title V permits are proposed for EPA's 45-day review period. IEPA should develop a process for resolving concerns before the permit is issued for comment. If written comments are received during the 30-day public comment period, IEPA should provide its written responses to the written comments received at the time of proposing the Title V permit for EPA review.

3.2.3. IEPA should improve its documentation of its decision-making in the Statement of Basis to comply with 40 C.F.R. § 70.7(a)(5). While IEPA has made significant improvements to its Statement of Basis template, IEPA staff have used standard/generic language contained within the template to justify monitoring requirements for each permit without additional analysis of how those generic justifications apply to the specific applicable requirements and permittee for which the monitoring is being established. IEPA should build upon the improvements it has recently made on the monitoring procedures for fugitive dust sources (such as fence-line monitoring for visible emissions from material storage piles) and should consider site-specific facts in its periodic monitoring justifications.

3.2.4. To comply with CAM requirements (40 C.F.R. Part 64), IEPA must ensure that the Statement of Basis for every Title V permit that includes a CAM plan approval includes the conclusions of IEPA's approval of the CAM plan. A CAM plan approval is a key part of the monitoring used to demonstrate that an emission unit is in compliance with applicable requirements. Therefore, IEPA should not rely solely

on the application for the approval of the CAM plan, and should provide within the Statement of Basis its reasoning analysis in approving the CAM plan.

3.3. Ongoing Projects

3.3.1. In 2017, EPA found that Illinois is among 15 states and the District of Columbia that have failed to submit SIP revisions in a timely manner to satisfy certain requirements for the 2008 ozone NAAQS that apply to nonattainment areas. IEPA is aware of this finding and is working to provide EPA by the deadline in the finding with a certification that its NNSR rules at 35 IAC Part 203 contain all of the elements required by 40 C.F.R. § 51.165.

3.3.2. In 2014, following a regularly scheduled technical audit of the ambient monitoring program required by regulation, EPA invalidated, for NAAQS demonstration purposes, ambient $PM_{2.5}$ data that had been collected by IEPA during the period of 2011 through 2013 and processed by the CCDEC laboratory. To address this, EPA and IEPA worked with affected applicants to estimate background $PM_{2.5}$ concentrations for the project locations, on a case-by-case basis, using data from alternative monitoring networks for which issues over the handling of samples are not present. IEPA expects that, beginning in 2018, there will again be acceptable data to determine design values for $PM_{2.5}$ air quality from IEPA's monitoring network.

3.3.3. IEPA continues to make significant progress with issuing Title V permits for coal-fired power plants. Of the 13 remaining coal-fired power plants in Illinois,[24] as of September 11, 2017, IEPA had issued final Title V permits that contain all currently applicable requirements to 6 plants.[25] EPA is encouraged that IEPA plans to complete the processing of permits for all of these plants by the end of 2018.

3.3.4. IEPA's public noticing and permit record filing procedures continue to improve. IEPA launched a new public website (database) in 2017 that will house all future publicly-noticed permits. IEPA is in the process of electronically imaging entire permit records of projects for which final action has been taken, which will improve timely access to information and potentially reduce the resources necessary to respond to information requests. We applaud IEPA's efforts in creating and launching the new permits database, however, the website continues to have sporadic reliability and responsiveness issues. IEPA is aware of these issues and is working to ensure that draft permits are posted online by the day before the public notice is first published or the comment period is first announced.

[24] Remaining "existing" plants include: three Midwest Generation plants (Powerton, Waukegan & Will County); nine Dynegy plants (Baldwin, Coffeen, Duck Creek, Edwards, Havana, Hennepin, Joppa, Kincaid and Newton); City Water, Light and Power (CWLP)'s Dallman Generating Station; and SIPCo's Marion Station.
[25] As of September 11, 2017, Coffeen, Newton, Kincaid, Joppa, Powerton and Dallman (CWLP) have Title V permits that contain all currently applicable requirements.