

I. BACKGROUND

In the spring of 2007, MassDEP embarked on an evaluation of the air plan approval program used to approve new and/or modified air emission sources in Massachusetts. This project is part of Governor Deval L. Patrick's initiative to improve the efficiency and effectiveness of environmental regulation through reduced timelines for decisions that are critical for development projects, while allowing the Department to concentrate its resources on the most pressing environmental concerns.

The resulting 2007 Air Permit Streamlining Study (2007 Study) is the latest effort in MassDEP's long history of evaluation of and continuous improvement to the air plan approval program. The focus of the 2007 evaluation was reducing permit review timelines, thereby promoting air plan approval of new or modified emission sources "at the speed of business." The study also evaluated how the Department reviews and approves emission limits that reflect Best Available Control Technology (BACT) and considered how the plan approval program could be made more efficient for renewable energy projects.

The air emission plan approval program, in effect since the early 1970s, has been periodically reviewed and revised to improve timeliness of plan approvals, reduce the permitting burden on industry and to improve environmental protection and enforceability. A significant step towards reducing permit burden to industry occurred in the late 1980s with adoption of performance standards for a number of equipment and process types. Since the late 1990s, the Department has continued to revise the program to establish additional performance standards and to further decrease the need for source specific plan approvals for certain types of equipment. Since implementation of these performance standards or "permits by rule", the average number of plan approval applications submitted in any given year has dropped from over 500 in 1988 to less than 200 in 2006.

The 2007 Study examined the technical review process for plan approval and the substance and quality of plan applications submitted to MassDEP for approval. An initial review was performed on all plan applications submitted between July 1, 2004 and December 31, 2006. This review looked at the quality and complexity of the plan applications, the process used to review and approve the applications, application processing speed, and the type of BACT analysis presented in the application. The initial review was augmented with eleven in-depth case studies where applicants, consultants and MassDEP staff were interviewed about the plan review and approval process. The 2007 Study was done in consultation with an Advisory Group comprised of consultants, legal professionals and interest groups (industry and environmental). The Advisory group met several times during the process and provided input on the scope of the study as well as study results, findings and recommendations for further action.

The 2007 Study findings revealed that while there is no fundamental flaw in the MassDEP air plan approval program, concern was raised regarding a lack of

transparency in the program that may leave plan applicants and industry uncertain regarding MassDEP's expectations in the plan approval process. The 2007 Study findings are summarized below.

2007 Study Findings

1. Between July 1, 2004 and December 31, 2006, MassDEP completed action on a total of 373 plan applications. The applications fell into four broad types.
 - 34 of the applications reviewed would no longer be required because of recently adopted performance standards, including plan applications for engines and turbines, to replace individual plan approvals.
 - Of the remaining applications, 55% were for expansion of production capacity and/ or energy or production flexibility at existing facilities.
 - 27% of the applications were submitted in response to an enforcement action on the part of MassDEP or in response to a nuisance complaint.
 - The remaining 15% of the applications were for revisions to existing plan approvals to meet new regulatory requirements, to submit information after construction was complete, or for facility maintenance projects.
2. The 2007 Study looked at “days to determination” as a measure of the timeliness of the Department’s plan approval. It was found that 79% of the applications were processed within 90 days (for a Limited Plan Application) or 120 days (for a Non-Major Comprehensive Plan Application) of the application start date¹. A number of factors were found to influence application processing speed, including:
 - Enforcement (plan applications submitted in response to MassDEP enforcement) generally took longer to approve,
 - Application quality and completeness (95% of all applications submitted were incomplete in some manner),
 - The need to conduct air quality modeling to demonstrate that a proposed operation would not cause or contribute to a condition of air pollution,
 - The complexity of the proposed process (engineering, multiple-agency approvals, regulatory issues),
 - The amount of dialog between the applicant and MassDEP necessary to resolve issues of control technology, BACT emission limits and/ or technical specifications such as stack height.

Of these factors, application quality and the BACT analysis dialog were the most significant in affecting “days to determination” and were therefore the target of many of the Study recommendations.

¹ The time limits reflect the elapsed review time targets in 310 CMR 4.0 (permit timelines) from application submittal date to approval date (in calendar days) if all aspects of the application are administratively and technically complete and the application fee is paid on day 1.

3. In the 2007 Study, the Department also looked for opportunities to adopt additional performance standards in lieu of site-specific plan review. The mix of plan applications submitted during the 2007 Study timeframe were very diverse, and the proposed operations were not consistent enough to identify performance standards that would remove site-specific plan approval requirements from large groups of sources or equipment types. Only five categories of projects had more than 3 applications during the study period, including concrete plants, crematoria, foam products manufacturing, snow melting at airports, and landfill gas to energy or odor control. The highest number of applications for any one category was for landfill gas combustion either to be used as an energy source or to control odors. Subsequent to the 2007 Study, it was suggested that performance standards be considered for replacement of rock crushing equipment at sand and gravel operations. Such a performance standard is proposed in these amendments.
4. The 2007 Study examined how emission limitations were determined and approved as BACT in the plan approval process. Here, some distinct categories of BACT approvals became evident. First, there were plan approvals that did not require a BACT analysis. These approvals were primarily for administrative changes to existing approvals, but also included plan approvals to remediate noise, dust or odor nuisance conditions. Where the plan application was to control such a nuisance condition, the level of control approved had to be sufficient to eliminate the nuisance, independent of cost. This level of control could be more stringent than BACT, as BACT is partly determined with consideration of cost.
5. In plan approvals where a BACT analysis was required, the 2007 Study identified three distinct approaches that have been used. A BACT analysis is traditionally an assessment of the available control technologies for a specific process, a technical feasibility assessment of the controls for the proposed equipment, and a cost assessment to determine which of the technically feasible options is also feasible in terms of cost. This is called a “Top-Down” BACT analysis. Only 17% of the plan approval applications contained this traditional Top-Down BACT analysis. In most cases, where a Top-Down BACT analysis approach was used, the process or control technology had not previously been reviewed or approved in the Commonwealth, or the applicant did not wish to use existing performance standards in the regulations.

The majority of the BACT analyses contained in plan applications were for sources proposing to emit volatile organic compounds (VOCs), and reflected information and guidance from the Department obtained through a pre-application meeting with project proponents. This guidance allowed BACT to be based on a cap on emissions that did not exceed 15 or 20 tons per year along with pollution prevention or best management practices. What is evident from the 2007 study is that add-on control equipment is not generally cost effective if the proposed VOC emissions are less than approximately 20 tons per year. In these cases, the Department would communicate this to the applicant at a pre-application meeting and the result would be an application with a “Statement BACT” consisting of pollution prevention, best management practices and an emission cap below 20 tons per year VOC.

Fifteen percent of the applications proposed the highest level of control (usually add-on control equipment previously approved at other sites) as BACT and did no further analysis of control options or cost. This is called a “Top-Case” BACT Analysis and the highest level of control was usually determined by review of previous Department plan approvals. Where plan applications proposed the highest level of control or Top-Case BACT, the Department review was limited to the engineering specifications of the proposed installation and control device. Further, any potential debate about control feasibility and cost was eliminated. In most cases, this approach led to faster plan approval.

6. One additional finding became apparent through the interview process as well as the assessment of plan application completeness: applicants and their consultants indicated concern with a lack of transparency in the plan approval process. Applicants who were interviewed recommended that the agency provide more written and on-line guidance to applicants, including more explicit guidance on plan application requirements and procedures to determine BACT. The concern that the state program lacks transparency and the limited amount of written plan application guidance available today may in large part help to explain why application incompleteness is such an issue and informed many of the resulting study recommendations. Application completeness and the lack of guidance on BACT were, in fact, the primary bottlenecks to permitting “at the speed of business”.

2007 Study Recommendations

The 2007 Study identified steps that MassDEP should take to reduce bottlenecks in the plan approval process and to increase the transparency of the air plan approval program through improved written guidance to plan applicants. Specifically, the study recommendations call for MassDEP to develop/implement the following:

1. Improve the quality of plan applications by providing more written guidance and revised/simplified application forms.
2. Update the agency’s guidance on how to perform a Top-Down BACT analysis.
3. Make public the Department’s BACT determinations for various process and equipment types (Top-Case BACT Approvals).
4. Define in guidance and regulation the various options that plan applicants have to define BACT, including performance standards, BACT as the highest level of control defined by previous MassDEP determinations, BACT that relies on use of a combination of activities such as pollution prevention, toxics use reduction and caps on allowable emissions, and the submittal of a traditional Top-Down BACT analysis.
5. Clarify the process for making administrative changes to previously issued plan approvals.
6. Clarify the control requirements for prevention and elimination of conditions of air pollution (nuisance).
7. Implement a standard plan approval format and standard record keeping and reporting provisions, and identify statewide “best practices” to be used to improve plan review.
8. Improve communications with consultants and applicants.

Applicants seeking approval of renewable energy projects would also benefit from these recommendations as increased transparency of the process will help them to know the requirements to which they will be subject. This includes more guidance on the “Top-Case” BACT determinations for renewable energy projects.

Implementation of the study recommendations began in November 2007 with the first meeting of a new “Air Permitting Forum”. The Forum is an open group of consultants, applicants and environmental interests that will meet periodically to provide input on MassDEP’s plans for implementing the study recommendations and to improve communications on the permitting process. The proposed amendments to the regulations presented below have been discussed with this group. Implementation of the study recommendations will include promulgation of these amendments and the release of new guidance and plan application forms in April 2008.

Summary of Proposed Regulatory Amendments

The proposed amendments to the regulations described below are intended to implement study recommendations number 4 through 6 above.

- **Amend 310 CMR 7.02(4), 310 CMR 7.02(5) and 310 CMR 7.02(6) to raise the threshold (from 5 to 10 tons annually) at which a Non-Major Comprehensive Plan Application (NMCPA) would be required.** With this change, a number of plan applications currently submitted on NMCPA forms would shift to the Limited Plan Application (LPA) category. The level of emission control required would not change, as approval of both the NMCPA and the LPA require BACT. However, smaller emission sources would be able to use a less complex application process with a faster review timeline.

This proposed amendment recognizes that there is little value-added in requiring expansive engineering and technical review information in applications for small sources of emissions. For these sources, the simplified LPA application was found to be sufficient for the plan application review and to determine emission limits and technical requirements that are protective of public health and the environment.

- **Amend 310 CMR 7.02(8) to better describe the “pathways” for defining the emission limitations that would be considered to be BACT.** All approvals for new/modified equipment issued by MassDEP require that the subject equipment meet an emission limitation that the Department determines and approves as BACT. In the case of some types of equipment/operations, the Department has already made a BACT determination and adopted that determination as a performance standard (e.g. see 310 CMR 7.03 or 7.26). The additional pathways for determining BACT proposed to be added to the regulation include:
 - Top-Down or case-by-case analysis of BACT

- BACT as defined by the Department in previous relevant decisions and as publicized in a new MassDEP BACT Registry/Clearinghouse and to be available through the MassDEP website.
 - BACT as a cap on emissions to less than 18 tons Volatile Organic Compounds (VOC)/ Halogenated Organic Compounds (HOC) and total Hazardous Air Pollutants (HAP) and/or 10 tons of a single HAP with the use of pollution prevention, best management practices and/or a limit on hours of operation or raw material use. The 18 tons threshold for VOC and HOC emission was established based on review of the three years of top-down BACT analysis numbers. In cases where add-on controls were analyzed for applicability as BACT, the cost of controlling less than 18 tons of VOC and/or HOC exceeded \$13,000 per ton (the threshold above which the control option is not considered economically feasible). Therefore, for applications from VOC/HOC emission sources less than 18 tons, pollution prevention and an enforceable short and long-term cap on emissions has been considered BACT.
- **Amend 310 CMR 7.02(8) to clarify the control technology requirements for abating a condition of air pollution.** This amendment would codify in regulation MassDEP's expectation for the level of control needed to abate a condition of air pollution. When the Department determines there is a condition of air pollution such as noise, dust or odor, MassDEP expects a level of control sufficient to eliminate the condition. This level of control may be more stringent than BACT, and abatement of a condition of air pollution is independent of cost considerations.
 - **Add 310 CMR 7.02(12) to define a new process for consolidating previously issued plan approvals into a single approval.** Owners/operators of facilities in Massachusetts are currently using the Non-Major Comprehensive Plan Application (NMCPA) to accomplish this objective even where there is no new/modified equipment or emission proposed and BACT has already been defined in previous plan approvals. The new section would provide a process to allow for consolidation and streamlining of recordkeeping, reporting and monitoring requirements of previously issued plan approvals where no new/modified equipment or operations is proposed. A consolidated plan approval would allow a company to take two or more plan approvals issued over time and combine them into a single document with a simplified table of emission limits and a single section addressing all of the recordkeeping and reporting requirements.
 - **Add 310 CMR 7.02(13) to define a process for making administrative amendments to previously issued plan approvals.** There is no defined process for making such amendments in the current regulations. As a result, some applicants are using the Limited Plan Application for this purpose. The new language identifies the types of changes that would be considered an

“administrative amendment”, the information the application must include and a streamlined process for submittal and approval.

- **Amend 310 CMR 7.03 with the addition of (26) Rock Crushing and Processing Operations- Existing Equipment Replacement.** This new section allows for the replacement of existing rock crushing and processing equipment without plan approval provided there is no increase in rock crushing capacity or emissions from the rock crushing and processing and that the other performance standards of the section are met. Other performance standards include installation of dust suppression equipment and a limit on opacity from the equipment to no more than 10% at any time. This provision would not be available if it is proposed to increase the overall processing capacity or emissions from the existing rock crushing and processing operation.

II. ECONOMIC IMPACTS

These amendments will implement recommendations for streamlining and reducing bottlenecks in the plan review process. As such, there will be some positive economic impacts. All existing facilities with plan approvals and new sources of air emissions will be affected.

As a result of raising the NMCPA threshold, new businesses or businesses that wish to expand with minimal emission impact will be able to obtain a plan approval through a less complex process. This should save small business approximately \$4,000 in permit preparation costs and \$1,400 in permit fees (per application). Additionally, these plan approvals will have a shorter timeline for review, allowing for faster permitting than under the current rules (review times may drop by up to 60 days). Approximately 24% of the applications submitted in the 2004 through 2006 period met the criteria for the simplified plan approval application (LPA). If this pattern persists into the future, approximately 27 applicants per year could take advantage of the simplified process proposed by these regulations.

In addition to the shift from NMCPA to LPA for smaller sources of emissions, MassDEP is proposing to allow applicants who previously used the NMCPA to consolidate plan approval requirements into a single document to use a new plan approval consolidation process. This is a voluntary application but industry representatives have indicated that MassDEP could receive 8-10 of these applications in the next few years. It is proposed to have a fee for this activity but the fee amount has not yet been determined. The fee evaluation has determined that the complexity of the facility wishing to consolidate existing plan approvals is the critical factor in determining work effort and the fee. As a result, the fee could be as high as the current fee for an NMCPA.

Administrative amendments are less frequent and constituted only 6% of the applications filed during the 2004-2006 period. MassDEP is proposing to exempt administrative amendments from plan approval and rely on notification only. This may affect 7-8

applications per year, and will save eligible businesses the cost of application preparation and permit fees (estimated at approximately \$600 per application).

The addition of a new performance standard for replacement of existing rock crushing and processing equipment will reduce the need for individual plan approvals for specific types of emission sources with a commensurate reduction in permit fees and plan approval preparation costs. There are 41 facilities in Massachusetts that have rock crushing and/or processing equipment and combined, these facilities handle upwards of 45 million tons of product per year. During the time period evaluated by the 2007 Study, there were 12 plan applications made related to materials handling. Of these applications, 6 applications were submitted to replace or upgrade existing permitted equipment. The plan application types were evenly divided between NMCPA and LPA. Assuming that this application rate and type will project into the future, addition of the new performance standard should result in a savings to industry of approximately \$7,400 per year in permit fees and upwards of \$30,000 per year in plan application preparation fees.

III. ENVIRONMENTAL IMPACTS

These amendments will not have a significant environmental impact, as BACT will continue to be the level of emission control or limitation required for all plan approvals.

IV. IMPACTS ON OTHER PROGRAMS

Toxics Use Reduction

Implementation of Toxics Use Reduction is a Department-wide priority. Toxics use reduction is defined as in-plant practices that reduce or eliminate the total mass of contaminants discharged to the environment. These amendments propose more streamlined plan approval, shorter approval timelines and/or reduced cost of permitting for facilities that propose emissions below certain limits. For VOC sources, the requirements could encourage more toxic use reduction and pollution prevention in order to take advantage of these reduced timelines and a less complex plan application (e.g. applying for an LPA as opposed to a NMCPA).

Air Toxics

In the past, air pollution control programs have focused on the six criteria pollutants: particulate matter, nitrogen oxides, sulfur dioxide, ozone, carbon monoxide, and lead. Recently, concern has been raised over the components of air pollution that are not specifically regulated by programs developed to control criteria pollutants. These compounds are collectively known as “air toxics”. The health effects of air toxics are wide ranging and can vary from long-term carcinogenic effects to short-term adverse health effects.

The Clean Air Act (CAA) requires the United States Environmental Protection Agency (EPA) to promulgate Maximum Available Control Technology (MACT) control

strategies for sources of toxic air emissions. The Department implements those MACT standards for sources with Operating Permits as EPA promulgates them in addition to controlling air toxics through programs aimed at controlling the traditional criteria pollutants. As these proposed amendments do not relax the control requirements for new/modified emission sources of traditional criteria pollutants such as carbon monoxide (CO), VOC and oxides of nitrogen (NO_x), they also limit emissions of air toxics.

Impacts on Cities and Towns (Proposition 2 1/2)

Pursuant to Executive Order 145, the Department must assess the fiscal impact of new regulations on the Commonwealth's municipalities. The Executive Order was issued in response to Proposition 2 1/2 (MGL c. 29 § 27C(a) that requires the state to reimburse municipalities for costs incurred as a consequence of new state laws and regulations).

The proposed amendments to the regulations will have no impact on cities and towns. The most frequent equipment change made by cities and towns are changes to boilers and emergency engines in schools and public buildings. The regulations already contain performance standards for boilers that allow many cities and towns to avoid site-specific plan approvals to the extent that their proposed boiler installation meets the performance standards. Other equipment not included in the regulations as performance standards is already subject to the plan approval process and this will not change with the proposed amendments.

MEPA

This proposed action is “categorically exempt” from the “Regulations Governing the Preparation of Environmental Impact Reports,” 301 CMR 11.00, because the proposed amendments will not change the overall level of emission control required of new and modified emission sources. All reasonable measures have been taken to minimize adverse impacts on the environment.

Agricultural Impacts

MGL, C 30A, Section 18 requires state agencies to evaluate the impact of proposed programs on agriculture within the Commonwealth. As the proposed amendments affect only industrial facilities, the Department has determined that the proposed regulations will have no adverse impact on agriculture in Massachusetts. The only impact on agriculture will be beneficial, as the current regulations as well as the proposed amendments helps Massachusetts to attain the National Ambient Air Quality Standard (NAAQS) for ozone, thus lowering crop damage attributable to high ozone concentrations in the summer.

V. IMPLEMENTATION

Implementation of the recommendations from the 2007 Air Permit Streamlining Study will require a short-term increase in the Department’s workload as staff spend time

developing the new tools and guidance required to improve transparency of the program and assist plan applicants. These amendments to the regulations are part of that short term effort.

Longer term, implementation of all of the recommendations of the 2007 Study should improve the quality of plan applications submitted for Department review and thereby reduce the time currently spent by the Department to review incomplete and inconsistent plan applications.

In addition to impacts on workload, there will be an impact on permit fee revenue collected by the Department. By raising the threshold for the NMCPAs, a portion of the plan applications that currently are submitted as NMCPAs will shift to LPAs. Based on the applications submitted in the 2004-2006 period, up to of 24% of the NMCPA applications could become LPA applications with a permit fee shifting from \$1,930 to \$525 per application. While it is impossible to predict the mix of applications for a future year, historical information indicates an estimated average annual NMCPA submittal rate of 27 per year. Department revenues from permit fees could therefore decline as a result of these amendments by approximately \$9,000.

In addition to the shift from NMCPA to LPA for smaller sources of emissions, MassDEP is proposing to allow applicants who previously used the NMCPA to consolidate plan approval requirements into a single document by using a new approval consolidation process. This is a voluntary application but we have assumed 8-10 of these applications in the next two years. The fee for this activity has not yet been defined. Therefore, at this time, a revenue impact cannot be determined.

Adoption of a new performance standard for replacement of existing rock crushing and processing equipment will reduce the need for individual plan approvals for specific types of emission sources. Elimination of plan approval will result in a reduction in permit fee income estimated at \$7,400 per year assuming that the past activity in this area persists into the future.

Commensurate with the revenue reductions the Department would also experience a minor workload reduction that would allow the Department to devote more staff time to review of larger emitting sources or compliance assessment, testing and inspection activities.

VI. PUBLIC PARTICIPATION

These proposed regulations will be subject to further public review and comment prior to promulgation. Public hearings to collect comments on the proposed amendments will be conducted under the provisions of Chapter 20A of the Massachusetts General Laws on ___TBD___ in Springfield and ___TBD___ in Boston. Testimony may be presented orally or in writing at the hearings. Written comments will be accepted until 5pm EST on ___TBD___.

Written testimony should be submitted to:

Department of Environmental Protection
Bureau of Waste Prevention
One Winter Street, 7th Floor
Boston, MA 02108
Attn: Laurel Carlson
Email address: Laurel.Carlson@state.ma.us

Copies of the proposed regulations and background information will be available for inspection during normal business hours at the MassDEP/ Bureau of Waste Prevention, One Winter Street, Boston, MA, at the four regional offices of MassDEP and on MassDEP's website at www.mass.gov/dep.

After public review and Department evaluation and response to comments, the final amendments will be submitted to the Secretary of State for promulgation. The amendments will also be submitted to the US Environmental Protection Agency for approval as a revision to the Massachusetts State Implementation Plan.

If there are any questions regarding the proposed amendments or this document, please contact Laurel Carlson at the above address.

VII. LEGAL AUTHORITY

Massachusetts General Laws, Chapter 111, Sections 142A-142O is the enabling legislation that gives MassDEP the authority to adopt regulations to prevent, control or abate conditions of air pollution to protect public health and welfare. The Commonwealth's regulations for the control of air pollution are promulgated at 310 CMR 7.00 "Air Pollution Control."