



Economic Impact Analysis for the Revisions to the Prevention of Significant Deterioration and Title V Greenhouse Gas Permitting Regulations and Establishment of a Significant Emission Rate for Greenhouse Gas Emissions Under the Prevention of Significant Deterioration Program; Proposed Rule

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under the Prevention of Significant Deterioration Program; Proposed Rule

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EXECUTIVE SUMMARY

ES.1 Introduction

This rule essentially provides regulatory relief and does not include direct regulatory provisions for any industrial entities. The U.S. Supreme Court has limited the EPA's greenhouse gas (GHG) regulatory authority for air permitting purposes to "anyway sources"; a facility or emission source that is otherwise subject to Prevention of Significant Deterioration (PSD) permitting based on its emissions of one or more non-GHG, regulated New Source Review (NSR) air pollutants. EPA is proposing a significant emissions rate (SER) for GHGs under the PSD program that would establish a *de minimis* threshold level below which Best Available Control Technology (BACT) is not required for an "anyway" source's GHG emissions increase. If not for provisions that remain in EPA's definition of "subject to regulation" at this time—provisions which we are proposing to remove as part of this proposal—consistent with the definition of "significant" under the PSD regulations, and in the absence of this proposed rulemaking, any GHG emissions increase would require a newly constructed "anyway" source, or a major modification at an existing "anyway" source, to undergo PSD GHG BACT review. The resource requirements for GHG permitting would therefore consist of the additional, incremental BACT review for GHG emissions increases above the GHG SER (Significant Emissions Rate) at "anyway" PSD projects, and the resulting permit requirements from this BACT review that would need to be added to the facilities' PSD and title V permits associated with those "anyway" projects. The proposed rule *would remove the requirement of conducting GHG BACT analyses for sources with GHG emissions increases less than the proposed GHG SER.*

The EPA estimated the savings resulting from avoided PSD and title V permitting costs for sources and permitting authorities as a result of this proposed rulemaking. This analysis focuses on the savings related to "anyway" sources whose GHG emission increases will fall below 30,000 tons per year (tpy), 45,000 tpy and the proposed 75,000 tpy carbon dioxide equivalent (CO₂e) GHG SER levels.

ES.2 Summary of Results

For affected sources, the avoided permitting cost or savings for PSD permits is approximately \$23,532 dollars per permit (in 2014 dollars). Total regulatory cost avoided relative to no SER is about \$870 thousand dollars at the 75,000 tpy CO_{2e} SER level for an estimated 37 permits, close to \$520 thousand dollars for 22 permits at the 45,000 tpy CO_{2e} level and about \$350 thousand dollars for 15 permits at the 30,000 tpy CO_{2e} level. State, local, and tribal permitting authorities are estimated to expend \$4,400 dollars per permit to add GHG BACT requirements to an “anyway” industrial PSD permit. Thus, permitting authorities annual savings are approximately \$165 thousand dollars at the 75,000 tpy CO_{2e} SER level, about \$100 thousand dollars at the 45,000 tpy CO_{2e} level, and over \$65 thousand dollars at the 30,000 tpy CO_{2e} level.

Avoided cost for sources subject to title V experiencing regulatory relief is approximately \$2,470 dollars per permit (in 2014 dollars) for adding GHG requirements to a new title V permit, and \$520 dollars per permit for adding a revision to an existing title V permit. Total annual avoided cost at the proposed 75,000 tpy CO_{2e} SER level is in the order of \$20 thousand dollars for an estimated 37 permits, close to \$10 thousand dollars for 22 permits at the 45,000 tpy CO_{2e} level and about \$10 thousand dollars for 15 permits at the 30,000 tpy CO_{2e} level. Regulatory cost avoided relative to no SER to State, local, and tribal permitting authorities is estimated at \$2,632 dollars per permit for adding GHG requirements to a new title V permit, and \$504 dollars per permit for revisions to existing title V permits. At the proposed level of 75,000 tpy CO_{2e} permitting authorities avoided costs total about \$20 thousand dollars, close to \$10 thousand dollars at the 45,000 tpy CO_{2e} level and in the order of \$10 thousand dollars at the 30,000 tpy CO_{2e} level.

Total annual avoided cost for sources for PSD and title V amounts to be approximately \$890 thousand dollars at the 75,000 tpy CO_{2e} GHG SER level, close to \$530 thousand dollars at the 45,000 tpy CO_{2e} level and about \$360 thousand dollars at the 30,000 tpy CO_{2e} level. Total annual avoided cost for permitting authorities is expected to be approximately \$185 thousand dollars at the 75,000 tpy CO_{2e} level, about \$110 thousand dollars at the 45,000 tpy CO_{2e} level,

and close to \$75 thousand dollars at the 30,000 tpy CO₂e level. Because the costs of the regulation are savings for potential sources, no market impacts were estimated.

1 BASELINE DESCRIPTION AND ESTIMATE OF INCREMENTAL PERMITS

This rule is providing regulatory relief and does not result in direct costs for any industrial entities. Details regarding the history and background of this rule, as well as the legal basis for this regulation can be found in the preamble.

The first step in estimating the cost savings of this rule is to estimate the number of affected entities. The U.S. Supreme Court has limited the EPA's GHG regulatory authority for air permitting purposes to "anyway sources"; a facility or emission source that is otherwise subject to PSD permitting based on its emissions of one or more non-GHG, regulated NSR air pollutants. Therefore, the resource requirements for GHG permitting will consist of the additional, incremental BACT review for GHG emissions increases above the GHG SER at "anyway" PSD projects, and the resulting permit requirements from this BACT review that will need to be added to the facilities' PSD and title V permits associated with those "anyway" projects. This Economic Impact Analysis (EIA) focuses on the cost savings for "anyway" sources whose GHG emission increases will not exceed the SER.

It is difficult to estimate the number and characteristics of PSD permitting actions that will occur in a given future year. This process is further complicated in this exercise by having to determine which of those "anyway" PSD actions would include GHG emission increases above a given GHG SER option. It is difficult to predict PSD permitting actions since these actions are dependent on continuously evolving, case-by-case business decisions to build new facilities, or modify existing ones, across various industry types. The exact make-up and extent of these business decisions, and thus the form and make-up of potentially permitted projects, varies from year to year and across different industry types. Therefore, this analysis begins with an estimate of future annual permitting activity based on a review of past permitting activity and on projections of the likely number of projects that will require GHG-related permitting actions at different GHG SER options. See Attachment A for details on how these estimates were

conducted and the related uncertainties involved. Given these uncertainties the results of this analysis should be considered as illustrative and should not be interpreted as a precise projection

Four options were considered in this analysis. The baseline option is a “No Action” case where EPA does not take action to set a GHG SER. If not for provisions that remain in EPA’s definition of “subject to regulation” at this time, under the present definition of “significant” under the PSD regulations, and in the absence of this proposed rulemaking, *any* GHG emissions increase would require a newly constructed major source, or a major modification at an existing facility, to undergo PSD GHG BACT review. Thus, the “No Action” case scenario is equivalent to setting a GHG SER of “0” tpy CO₂e or no SER¹. Three additional cases were analyzed where “anyway” facilities are required to incorporate GHG BACT review requirements into their permits: the proposed GHG SER of 75,000 tpy CO₂e and evaluated alternatives of 30,000 tpy and 45,000 tpy CO₂e potential to emit (PTE)².

Table 1-1 shows our estimates of the number of PSD permitting actions involving GHG BACT review for each SER level and by type of activity. As a consequence to these actions, we assume an equal number of title V permits would be affected since the GHG BACT requirements resulting from the PSD review will need to be added to each facility’s title V permit: a newly constructed major source will require a new title V permit, while a major modification at an existing major source is assumed to result in a revision to an existing title V permit.

¹ Carbon dioxide equivalent is a measure used to compare and summarize the emissions from various greenhouse gases based upon their global warming potential.

² A GHG SER level above 75,000 tpy CO₂e was not considered and is not included in this analysis because it would not meet the fundamental principles for developing a de minimis level. Further details regarding the basis for the GHG SER levels chosen for analysis can be found in the preamble or this rulemaking.

Table 1-1 Estimated Annual PSD and Title V Permitting Actions at Different SER Levels³

Level	Total “anyway” PSD permits subject to GHG BACT review	Newly Constructed	Modified
Total			
Baseline “No action”	103	28	75
30,000 tpy GHG SER	88	28	60
45,000 tpy GHG SER	81	28	53
75,000 tpy GHG SER	66	28	38
Avoided Action			
Baseline “No action”	0	0	0
Avoided at 30,000 tpy GHG SER	15	0	15
Avoided at 45,000 tpy GHG SER	22	0	22
Avoided at 75,000 tpy GHG SER	37	0	37

Note: tpy = tons per year; SER = significant emission rate

2 COST SAVINGS OF REGULATORY RELIEF

2.1 Introduction

EPA estimated the regulatory relief, or avoided PSD and title V permitting costs, for sources that will have cost savings from this rulemaking. This analysis focuses on the avoided costs for “anyway” sources whose GHG emission increases will fall below the 30,000 tpy, 45,000 tpy and the proposed 75,000 tpy CO_{2e} levels, as compared to no SER. Details about avoided costs are outlined in Attachment A and include:

- Avoided costs to sources:
 - information collection requirements to add GHG to PSD permits required for new or modifying sources of GHG, and
 - information collection costs to add GHG to new or existing title V permits if not for this rule
- Avoided costs to permitting authorities:
 - information collection requirements to add GHG to PSD permits required for new or modifying sources of GHG, and

³ For additional detail on the estimation of the permitting actions, please refer to Appendix A.

- information collection costs to add GHG to new or existing title V permits if not for this rule

Within this section of the EIA we are providing an illustrative monetary estimate of statutory permitting requirements to show the savings that hypothetically result from this rulemaking. For the sake of simplicity, we refer to this illustrative monetary estimate as the monetized cost savings of this rulemaking. It is important to note that these estimates of cost savings do not include the savings from the avoided costs for the GHG BACT control or mitigation process that is ultimately adopted and implemented by the permitted facility as part of the BACT decision since these decisions, and ultimately the costs, can vary widely from site to site based on unique facility characteristics and operating conditions and cannot be predicted with any certainty or specificity.

Attachment A contains information about how the time and costs associated with permit activities are derived and the sources for that information. Significant uncertainties exist in the following estimates because of the lack of an extensive historical record and permitting experience on which to base resource needs to consider sources of GHG emissions in permitting. These factors are discussed more fully in Section 4 of this EIA. It is important to note that, given the uncertainty in estimates about future permitting actions that entities might take, these estimates must be considered illustrative only.

2.2 Regulatory Costs Avoided Associated with the PSD Program

Table 2-1 shows a summary of the savings for sources at the proposed 75,000 tpy CO₂e GHG SER level, as well as the two evaluated alternatives of 30,000 tpy, and 45,000 tpy CO₂e. The avoided permitting cost for PSD permits is approximately \$23,532 dollars per permit (in 2014 dollars). Total estimated annual savings is about \$870 thousand dollars at the 75,000 tpy CO₂e SER level, close to \$520 thousand dollars at the 45,000 tpy CO₂e level and about \$350 thousand dollars at the 30,000 tpy CO₂e level. Details of how these data were estimated can be found in Attachment A: Tables 7.1, 7.2 and 7.3.

State, local, and tribal permitting authorities will also benefit from this rule by avoiding the administrative costs of processing permits that include GHGs for “anyway” sources annually. Savings to State, local, and tribal permitting authorities are shown in Table 3. Permitting authorities are estimated to expend an additional \$4,400 dollars per permit to process a new “anyway” PSD permit. Annual avoided permitting costs are \$165 thousand dollars at the 75,000 tpy CO_{2e} SER level, about \$100 thousand dollars at the 45,000 tpy CO_{2e} level, and over \$65 thousand dollars at the 30,000 tpy CO_{2e} level. For more information on the estimates of avoided regulatory costs for PSD permits, see Attachment A: Tables 6.1, 6.2 and 6.3.

2.3 Savings for Title V

Savings for sources subject to title V experiencing regulatory relief are summarized in Table 2-1. The avoided permitting cost is around \$2,470 dollars per permit for adding GHG requirements to a new permit, and \$520 dollars per permit for adding GHG requirements through a revision to an existing permit. Total annual avoided cost for title V permits at the proposed 75,000 tpy CO_{2e} SER level are approximately \$20 thousand dollars, slightly over \$10 thousand dollars at the 45,000 tpy CO_{2e} level and around \$10 thousand dollars at the 30,000 tpy CO_{2e} level. Details of how these data were estimated can be found in Attachment A: Tables 7.1, 7.2 and 7.3.

Savings for State, local, and tribal permitting authorities for title V permits are shown in Table 2-2. Avoided title V permitting costs are estimated to be \$2,632 dollars per permit for adding GHG requirements to a new permit, and \$504 dollars per permit for revisions to existing permits. At the proposed SER level of 75,000 tpy CO_{2e} annual avoided title V permitting costs total in the order of \$20 thousand dollars, close to \$10 thousand dollars at the 45,000 tpy CO_{2e} level and about \$10 thousand dollars at the 30,000 tpy CO_{2e} level. For more information on the estimates of avoided costs for PSD permits, see Attachment A: Tables 6.1, 6.2 and 6.3.

2.4 Total Cost Savings

Total annual savings for sources for PSD and title V are estimated to be approximately \$890 thousand dollars at the 75,000 tpy CO_{2e} GHG SER level, close to \$530 thousand dollars at the 45,000 tpy CO_{2e} level and about \$360 thousand dollars at the 30,000 tpy CO_{2e} level (see

Table 2-1). Total annual avoided costs for permitting authorities are expected to be approximately \$185 thousand dollars at the 75,000 tpy CO₂e level, about \$110 thousand dollars at the 45,000 tpy CO₂e level, and close to \$75 thousand dollars at the 30,000 tpy CO₂e level (See Table 2-2).

Table 2-1 Summary of Savings to Sources from Adding GHG Requirements to Permits at Different GHG SER Levels (Annual)

Activity	Regulatory Cost Avoided at 75,000 tpy SER			Regulatory Cost Avoided at 45,000 tpy SER			Regulatory Cost Avoided at 30,000 tpy SER		
	Additional Cost per Permit (2014\$)	Number of Permits	Total Avoided Cost (2014\$)	Additional Cost per Permit (2014\$)	Number of Permits	Total Avoided Cost (2014\$)	Additional Cost per Permit (2014\$)	Number of Permits	Total Avoided Cost (2014\$)
PSD Permits	\$23,532	37	\$870,684	\$23,532	22	\$517,704	\$23,532	15	\$352,980
Title V Permits									
New Permit	\$2,470	0	\$-	\$2,470	0	\$-	\$2,470	0	\$-
Permit Revision	\$520	37	\$19,240	\$520	22	\$11,440	\$520	15	\$7,800
Total Title V			\$19,240			\$11,440			\$7,800
Total Additional Costs			\$889,924			\$529,144			\$360,780

Table 2-2 Summary of Savings to Permitting Authorities from Adding GHG Requirements to Permits at Different GHG SER Levels (Annual)

Activity	Regulatory Cost Avoided at 75,000 tpy SER			Regulatory Cost Avoided at 45,000 tpy SER			Regulatory Cost Avoided at 30,000 tpy SER		
	Additional Cost per Permit (2014\$)	Number of Permits	Total Avoided Cost (2014\$)	Additional Cost per Permit (2014\$)	Number of Permits	Total Avoided Cost (2014\$)	Additional Cost per Permit (2014\$)	Number of Permits	Total Avoided Cost (2014\$)
PSD Permits	\$4,400	37	\$162,800	\$4,400	22	\$96,800	\$4,400	15	\$66,000
Title V Permits									
New Permit	\$2,632	0	\$-	\$2,632	0	\$-	\$2,632	0	\$-
Permit Revision	\$504	37	\$18,648	\$504	22	\$11,088	\$504	15	\$7,560
Total Title V			\$18,648			\$11,088			\$7,560
Total Additional Costs			\$181,448			\$107,888			\$73,560

3 IMPACTS OF COST SAVINGS

This rulemaking does not impose economic impacts on any sources or permitting authorities, but should instead be viewed as cost savings for “anyway” emission sources. Because no businesses or governmental entities are expected to incur positive costs as a result of this rule, there is not a significant impact on a substantial number of small entities (SISNOSE). Because the savings are small and spread among many sources, the market impacts of this rule will be minimal.

4 LIMITATIONS AND UNCERTAINTIES

Uncertainties exist in the affected “anyway” source permit counts at different GHG SER levels used to estimate regulatory relief due to the inability to accurately predict future PSD permitting activity at “anyway” sources. These affected “anyway” source permit counts are multiplied by the permit avoided cost estimates to add GHG requirements in order to derive the benefits (regulatory relief) estimates for the rule. Specific uncertainties in the estimates of affected “anyway” PSD permitting actions, avoided cost estimates and other limitations of the benefits analysis are discussed below.

4.1 Uncertainties in Estimates of Affected Sources

It is difficult to predict with any certainty the number and characteristics of “anyway” PSD permitting actions that will occur in a given future year, which is further complicated in this exercise by having to determine which of those “anyway” PSD actions would include GHG emission increases above a given GHG SER option. It is challenging to predict PSD permitting actions since these actions are dependent on continuously evolving, case-by-case business decisions to build new facilities, or modify and expand existing ones, across various industry types. The exact make-up and extent of these business decisions, and thus the form and make-up of potentially permitted projects, varies from year to year and across different industry types. The methodology and estimates used to support this analysis are our best representation of future annual permitting activity, based on review of past permitting activity and projections of the likely number of projects that will require GHG-related permitting actions at different GHG SER

options. A full description of the assumptions and uncertainties in the estimates of affected sources is provided in Attachment A.

4.2 Uncertainties in Permitting Costs

The primary reference sources for our estimate of additional hours and costs for permitting GHGs are the most recent Information Collection Requests (ICRs) for the PSD and title V programs. Hours and costs associated with the addition of GHG permitting have been factored into the ICRs and these same assumptions are used in this analysis for establishing a GHG SER level. Both of these documents focus on the average resource requirements per permitting activity for permitting authorities and sources. Thus, some permitting activities will inherently require more time and cost while others will require less depending on the specific composition of the project being permitted.

4.3 Additional Uncertainties

Historically we have not been able to predict what technologies and types of equipment these sources will be using for production and emissions controls. It is also not possible to predict whether permitting authorities would choose end-of-pipe emissions controls or seek measures in line with energy efficiency, fuel switching and the use of renewable energy as BACT. These decisions are made on a case by case basis and could be very different. Thus, it is not possible to monetize the cost of BACT across the universe of permitted sources or even develop a representative case. Because the level of reduction from applying BACT will be determined on a case by case basis, it is also difficult to quantify the negative impacts from CO₂ emissions over time for different thresholds.

ATTACHMENT A

Documentation for Estimates of Permitting Actions for Economic Impact Analysis for GHG SER Rulemaking

1. Introduction

This document summarizes an assessment of the estimated resource requirements for permitting authorities to include GHG BACT review and permitting related requirements under the Prevention of Significant Deterioration (PSD) and title V permitting programs based on different GHG significant emission rate (SER) options for the PSD program. The analysis was performed for GHG SER options based on a carbon dioxide equivalent (CO₂e) basis, which represents the sum of the six primary GHG with their respective global warming potentials (GWP) applied. Time and costs associated with permit activities are derived from existing ICRs for the title V and PSD programs.

To estimate permitting resource requirements for both the PSD and title V programs, we needed to first estimate the number of affected PSD permitting actions, namely “anyway” PSD permitting actions that will require GHG BACT review at a given GHG SER. As discussed in the proposal, the US Supreme Court has limited the EPA’s GHG regulatory authority for air permitting purposes to “anyway sources”; an “anyway source” refers to a facility or emission source that is otherwise subject to PSD permitting based on its emissions of one or more non-GHG, regulated NSR air pollutants. As a result of this ruling, the EPA also cannot require title V permits based solely on a facility’s GHG emissions alone. As a result, the resource requirements for GHG permitting will consist of the additional, incremental BACT review for GHG emissions increases above the GHG SER at “anyway” PSD projects, and the resulting permit requirements from this BACT review that will need to be added to the facilities’ title V permits associated with those “anyway” projects. It is difficult to predict with any real certainty the number and characteristics of PSD permitting actions that will occur in a given future year, which is further complicated in this exercise by having to determine which of those “anyway” PSD actions would include GHG emission increases above a given GHG SER option. It is difficult to predict PSD permitting actions since these actions are dependent on continuously evolving, case-by-case business decisions to build new facilities, or modify existing ones, across various industry types. The exact make-up and extent of these business decisions, and thus the form and make-up of potentially permitted projects, varies from year to year and across different

industry types. The methodology and estimates provided below represent our best representation of future annual permitting activity, based on review of past permitting activity and projections of the likely number of projects that will require GHG-related permitting actions at different GHG SER options.

2. Estimate of PSD Permitting Actions at Different GHG SER Option Levels

This section describes the basic methodology we used to estimate the different types and quantities of permitting actions that would need to address GHGs under the PSD and title V permitting programs. The estimated costs summarized in Section 3 are based on the inputs of permitting actions estimated using the methodologies described in this section. In developing our methodology, we established different applicability options under which “anyway” GHG emission sources would be regulated. These GHG applicability thresholds reflect different options for GHG SER values considered for the proposed rulemaking.

We developed our analysis around four major GHG SER options: 1) a “No Action” baseline option, which refers to a scenario where EPA does not take action to set a GHG SER, and per existing EPA PSD regulations the GHG SER value would default to 'any increase' in emissions, essentially equating to a GHG SER of '0' tpy CO_{2e}; 2) a 30,000 tpy CO_{2e} level; 3) a 45,000 tpy CO_{2e} level; and, 4) a 75,000 tpy CO_{2e} level. We believe an analysis of these option levels and associated GHG permitting activity provided a good representation of the relative and incremental permitting costs across the range of options considered.

Since GHG permitting is limited to “anyway” projects, i.e., projects that would otherwise require PSD permits for conventional pollutants, our analysis of GHG-impacted permitting actions all have an inherent background constraint to the number of total PSD permitting actions that would occur in a given year; i.e., the total number of PSD permitting actions that involve GHGs cannot exceed the total number of PSD actions that would be occurring “anyway” for conventional, non-GHG pollutants since permits cannot be triggered for GHG emissions alone. Our review⁴ of recent PSD permitting activity over the four year period of 2011-2014, inclusive, shows an annual average total PSD permitting activity level of 153 permits per year nationwide.

⁴ This review included permitting counts obtained from a review of State air permitting websites, EPA regional office tracking data, and permit information reported to EPA’s RACT/BACT/LAER Clearinghouse (RBLC). Appendix A contains a listing of the overall PSD permit and GHG BACT review counts used for this analysis.

Therefore, there is a theoretical maximum number of “anyway” PSD permitting actions that could even possibly involve GHG BACT review, which equates to approximately 153 permits per year based on the annual average of the last four years. Over the same four year period our review showed a total of 265 “anyway” permits containing a GHG BACT review, or an annual average total of approximately 66 permits per year nationwide.

It is important to reiterate the uncertainty in estimating PSD actions again here; while we believe this number of 153 annual permitting actions is a reasonably accurate representation of recent PSD permitting activity nationwide, since it is based to a large extent on actual state-reported permit data, annual permitting activity can fluctuate depending on prevailing economic conditions and, even more importantly and difficult to predict, the individual status of facilities in a given industrial sector. However, we note that the range across the 4-yr period on which the average is based was a low of 127 to a high of 179 PSD permits per year. We do have confidence in this general order-of-magnitude of permit activity based on our recent program experience and we believe the 153 annual average value to be our best estimate of near-term, future annual PSD permitting activity for use in the GHG SER option analysis.

Table 1 shows our estimates of PSD permitting actions at each of the analyzed GHG SER option levels. The estimates of permitting actions show the total estimated “anyway” source PSD permits that would be subject to GHG BACT review, along with the breakdown of this total into those actions involving newly constructed facilities and those involving modifications at existing facilities. Following the table is a description of the methodology and assumptions used to estimate permitting actions at each of the option scenarios. Since the only actual historical data we have on GHG permitting is related to the 75,000 tpy CO_{2e} option level, it is not possible at lower level options to base these assumptions on an historical record. Therefore, a number of assumptions are based on professional judgement of PSD program staff who have worked with actual permit data. However, based on our level of confidence in the total possible number of annual PSD permitting actions, and our knowledge of historical GHG “anyway” permitting actions under the Tailoring Rule permitting level of 75,000 tpy GHG, we feel these two numbers provide a well-defined boundary around the levels of permitting that would be expected at any intermediate levels.

Table 1. Estimates of PSD Permitting Actions Involving GHG BACT Review (Annual)

Option/Scenario	Estimated annual avg. “anyway” PSD permits subject to GHG BACT review	# of annual PSD permits for newly constructed facilities	# of annual PSD permits for modifications at major source facilities
"No Action" baseline	103	28	75
30,000 tpy GHG SER	88	28	60
45,000 tpy GHG SER	81	28	53
75,000 tpy GHG SER	66	28	38

The "No Action" baseline option refers to a scenario where EPA does not take action to set a GHG SER level. If not for provisions that remain in EPA’s definition of “subject to regulation” at this time, under the present definition of “significant” under the PSD regulations, and in the absence of this proposed rulemaking, *any* GHG emissions increase would require a newly constructed major source, or a major modification at an existing facility, to undergo PSD GHG BACT review. Thus, the “No Action” case scenario is equivalent to setting a GHG SER of “0” tpy CO₂e. As such, the values for permitting actions for the “No Action” baseline scenario are the estimated “anyway” PSD actions that would involve *any* GHG emissions (for newly constructed sources) or GHG emission increases for modification projects at existing major sources. The value of 103 represents approximately 67% of the total estimated annual PSD “anyway” source permitting actions (153). The value of 103 is the estimated PSD “anyway” permits that would require a GHG BACT review at a ‘zero’ GHG significance level. The value of 67% was estimated based on the assumption that 33% of “anyway” PSD permits involve projects with strictly non-GHG emission sources, such as VOC or PM-only sources that would not likely involve GHG emissions. For example, the construction and modification activities associated with VOC or PM-only permits generally consist of non-GHG related emission sources, such as PM dust or VOC’s from coatings and tanks emissions. The other 67% of permits would principally represent combustion-related equipment or processes where any fossil fuel combustion could potentially result in non-zero GHG emissions. This assumption is based on a review of the EPA’s RACT/BACT/LAER Clearinghouse (RBLC) permitting database for 2011-2014. This assumption is also consistent with our findings from sample reviews of “anyway” permitting actions at likely GHG source categories over the last four years, where it is evident

that combustion unit-related projects are responsible for the majority of PSD actions being triggered.

For estimating the affected permitting actions at the GHG SER option levels of 30,000 and 45,000 tpy CO₂e, we applied a linear interpolation between the estimates for the “No Action” baseline and the 75,000 tpy CO₂e level. Since our estimates of GHG affected permits at these two end-points represent our best known levels of permitting activity since they are based on a historical record, we believe the use of linear interpolation between these two points provides our best estimate of the level of PSD permitting activity involving GHGs at other GHG SER option points. As discussed above, the uncertainty in predicting future PSD permitting actions in general, and additionally what actions might be involved at different GHG SER option levels, makes it impossible to predict with any certainty how many GHG BACT reviews would be involved at hypothetical GHG permitting levels. However, we have confidence that the two end-point estimates (i.e., the scenarios for the “No Action” baseline and 75,000 tpy CO₂e options), provide a reasonably well-defined boundary around the levels of permitting that would be expected at any intermediate levels because they are based on actual permitting experience. The use of linear interpolation assumes that the permitting activity involving GHGs would track linearly between these option levels such that as the GHG SER level becomes lower, the number of “anyway” PSD permits involving GHG BACT review increases. Appendix B shows the derivation of the interpolated results for the GHG SER option levels of 30,000 tpy and 45,000 tpy CO₂e.

An overarching assumption for all scenarios is that we anticipate that all newly constructed facilities that require “anyway” PSD permits, and which therefore must be ‘major’ PSD sources for one or more non-GHG pollutants, will have sufficient GHG emissions to require GHG BACT review at any of the alternative thresholds evaluated. Our program experience with PSD permitting has shown that newly constructed, major source industrial facilities generally included multiple combustion units as part of the overall facility design, which results in high levels of combustion-related GHG emissions, often many times greater than 75,000 tpy CO₂e. We assume for our analysis, therefore, that any additional GHG BACT reviews that would be excluded from higher level GHG SER options are related to modification projects involving existing major source facilities. Modifications can involve such activities as adding a combustion unit to an existing facilities to expand production, or modifying an existing production process to

increase its capacity. The number of permits for new facility construction used for each threshold is based on a review of the GHG permits issued to date.

3. Estimate of Stakeholder Burden at Different GHG SER Option Levels

The permitting action estimates above, along with the current ICRs for both the PSD and title V programs, were used to determine the associated burden at the GHG SER option levels. In both programs, the ICRs identify the average burden hours per permit by activity as well as the total national estimated hours required to operate the programs and issue permits annually. In both programs, activities for permitting authorities include reviewing permit applications, providing for public review of a proposed project, and issuing a permit based on consideration of all technical factors and public input. Source activities involve conducting the necessary research, performing the appropriate analyses, and preparing the permit application with documentation to demonstrate that a project meets all the applicable statutory and regulatory requirements. For the purpose of this analysis, the focus is on the additional time and cost required to conduct GHG BACT review and incorporate the resulting requirements into permits.

a. PSD Permitting Burden Annual Estimates

The 2012 ICR for the New Source Review (NSR) program estimates the burden associated with all aspects of preconstruction permit programs, including the time and cost required to prepare and issue a PSD permit.⁵ The ICR uses a weighted average burden (in hours) per permit for both permitting authorities and sources to determine the average national annual burden for the NSR program. Since this analysis is concerned with the additional burden imposed by the BACT review for GHGs in “anyway” PSD permits, it is important to distinguish between the average burden (in hours) for permits with and without GHGs. Therefore, this analysis relies on the ICR’s supporting documentation that provides the calculations used to arrive at the weighted averages identified in the ICR, along with the breakdown of the hours per activity needed to issue PSD permits with and without GHGs.

⁵ Information Collection Request for Prevention of Significant Deterioration and Non-Attainment Area New Source Review (Renewal), EPA ICR Number 123.29, OMB Control Number 2060-0003, 2012. A copy of this document is available in the docket EPA-HQ-OAR-2011-0901.

For permitting authorities, the estimated burden to issue an average PSD permit that does not require GHG BACT review is 335 hours. An “anyway” PSD permit requires an additional 50 hours, or an average 385 hours total, to include GHGs. This additional time is divided among permitting activities most closely associated with BACT, including answering respondent questions, reviewing data submissions, and application approval. For a detailed breakdown of permitting activity, please refer to Appendix C.

Table 2 depicts the additional permitting burden for permitting authorities to add GHG requirements into “anyway” PSD permits at different GHG SER option levels. Using a staff labor cost of \$88 per hour, the additional burden at the “No Action” baseline option is estimated to require permitting authorities to spend approximately \$453,000 to include GHG requirements in all “anyway” PSD permits. At the 30,000 tpy CO_{2e} option level the additional cost to permitting authorities is anticipated to be around \$387,000 nationally, while at the 45,000 tpy CO_{2e} and 75,000 tpy CO_{2e} options the additional burden equates to approximate costs of \$356,000 and \$290,000 respectively.

Table 2. Additional Permitting Authority Burden to Add GHG Requirements to PSD Permits (Annual)				
	Burden Hours per Permit	Affected Permits	Total Burden (hours)	Total Additional Cost (\$2014)^a
"No Action" Baseline				
Add GHG Requirements to 'Anyway' PSD Permit	50	103	5,150	\$453,200
30,000 tpy GHG SER				
Add GHG Requirements to 'Anyway' PSD Permit	50	88	4,400	\$387,200
45,000 tpy GHG SER				
Add GHG Requirements to 'Anyway' PSD Permit	50	81	4,050	\$356,400
75,000 tpy GHG SER				
Add GHG Requirements to 'Anyway' PSD Permit	50	66	3,300	\$290,400
^a Salaries from the NSR ICR adjusted to 2014 dollars using "Employer Costs for Employee Compensation, Table 4: Employment Costs for State and Local Government Workers" U.S. Dept. of Commerce, BLS, December 2014. (http://www.bls.gov/news release/pdf/ecec.pdf ; http://www.bls.gov/news release/ecec.t04.htm) 100% overhead assumed.				

For sources, the estimated burden to issue an average PSD permit that does not require GHG BACT review is 984 hours. An “anyway” permit requires a source to spend an additional 222 hours to include GHGs, or an average of 1,206 hours total. The background supporting documentation indicates that sources spend, on average, 120 hours obtaining guidance on data needs and 102 hours for the preparation of the BACT analysis for a non-GHG permit. It is

expected that sources with activities exceeding the GHG SER level would need to spend an equal amount of time for these two activities to conduct BACT review for GHGs. For a detailed breakdown of permitting activity, please refer to Appendix C.

Table 3 compares the additional source burden required to conduct BACT review for GHG emissions increases above different GHG SER level options for “anyway” PSD permits. Using a wage rate of \$106 per hour, the additional burden at the “No Action” baseline option is estimated to require “anyway” sources to spend approximately \$2.4 million to conduct BACT review for GHGs all “anyway” PSD permits. At the 30,000 tpy CO₂e option level the additional cost to “anyway” sources is anticipated to be under \$2.1 million nationally, while at the 45,000 tpy CO₂e and 75,000 tpy CO₂e options the burden equates to approximate costs of \$1.9 million and \$1.6 million respectively.

Table 3. Additional Source Burden to Add GHG Requirements to PSD Permits (Annual)				
Activity	Burden Hours per Permit	Affected Permits	Total Burden (hours)	Total Additional Cost (\$2014)^a
"No Action" Baseline				
Add GHG Requirements to 'Anyway' PSD Permit	222	103	22,866	\$2,423,796
30,000 tpy GHG SER				
Add GHG Requirements to 'Anyway' PSD Permit	222	88	19,536	\$2,070,816
45,000 tpy GHG SER				
Add GHG Requirements to 'Anyway' PSD Permit	222	81	17,982	\$1,906,092
75,000 tpy GHG SER				
Add GHG Requirements to “Anyway” PSD Permit	222	66	14,652	\$1,553,112
^a Salaries from the NSR ICR adjusted to 2014 dollars using "Employer Costs for Employee Compensation, Table 2: Employment Costs for Civilian Workers by Occupational and Industry Group (Professional and Related)" U.S. Dept. of Commerce, BLS, December 2014. (http://www.bls.gov/news release/pdf/ecec.pdf ; http://www.bls.gov/news release/ecec.t02 htm). 110% overhead assumed.				

b. Title V Burden Annual Estimates

The 2015 Title V ICR estimates burden associated with all aspects of the operating permit program, including the time and cost required to prepare and issue an operating permit.⁶

⁶ Information Collection Request for State Operating Permit Regulations (Renewal), EPA ICR Number 1587.12, OMB Control Number 2060-0243, 2015. A copy of this document is available in the docket EPA-HQ-OAR-2004-0015.

Newly constructed major sources or sources designated newly major due to a modification are required to apply for and be issued a title V permit in order to operate. If the new source is an “anyway” source, additional time will be necessary to incorporate the GHG requirements from the “anyway” PSD permit into the title V permit. If an existing source undergoes a modification that requires BACT review for GHG emission increases above the GHG SER at “anyway” PSD projects, the title V permit for the source would need to be revised in order to incorporate the new GHG requirements.

According to the ICR, the average permitting authority burden to issue a new title V permit is 474 hours. For a source needing to add GHG requirements from an “anyway” PSD permit, the ICR estimates the incorporation into the title V permit will increase the average burden by 10%, or by an additional 47 hours. A detailed breakdown of burden per permitting activity is located in Appendix C. For a permitting authority to revise an existing title V permit to incorporate requirements from a new PSD permit, a significant permit revision may be required, which is estimated to take 94 hours. If the permit in question is an “anyway” PSD permit, this analysis assumes a significant permit revision is required and will need an additional 10% of time above the 94 hours, or 9 hours, to incorporate the GHG requirements into the title V permit.

Table 4 presents the additional permitting burden for permitting authorities to incorporate the requirements resulting from GHG BACT review for “anyway” PSD permitting actions into title V permits at different GHG SER option levels.⁷ Using a staff labor cost of \$56 per hour, the additional burden at the “No Action” baseline option is estimated to require permitting authorities to spend approximately \$112,000 to include GHG requirements from all “anyway” PSD permits into title V permits. At the 30,000 tpy CO₂e option level the additional cost to permitting authorities is anticipated to be around \$104,000 nationally, while at the 45,000 tpy CO₂e and 75,000 tpy CO₂e options the burden equates to approximate costs of \$100,000 and \$93,000 respectively.

⁷ As a consequence of “anyway” PSD permitting actions involving GHG BACT review estimated in Table 1, an equal number of title V permits are assumed to be affected since the GHG BACT requirements resulting from the PSD review will need to be incorporated into a title V permit. For newly constructed major sources, this will require adding GHG BACT requirements to a new title V permit; for existing major source, a PSD major modification is assumed to result in a corresponding title V permit revision.

Table 4. Additional Permitting Authority Burden to Incorporate GHG Requirements into Title V Permits (Annual)				
Activity	Burden Hour per Permit	Affected Permits	Total Burden (hours)	Total Additional Cost (\$2014)^a
"No Action" Baseline				
Add GHG Requirements to New Title V Permit	47	28	1,316	\$73,696
Add GHG Requirements to Title V Permit Revision	9	75	675	\$37,800
Total Additional Burden			1,991	\$111,496
30,000 tpy (associated with 15,000 tpy PSD GHG SER)				
Add GHG Requirements to New Title V Permit	47	28	1,316	\$73,696
Add GHG Requirements to Title V Permit Revision	9	60	540	\$30,240
Total Additional Burden			1,856	\$103,936
45,000 tpy (associated with 45,000 tpy PSD GHG SER)				
Add GHG Requirements to New Title V Permit	47	28	1,316	\$73,696
Add GHG Requirements to Title V Permit Revision	9	53	477	\$26,712
Total Additional Burden			1,793	\$100,408
75,000 tpy (associated with 75,000 tpy PSD GHG SER)				
Add GHG Requirements to New Title V Permit	47	28	1,316	73,696
Add GHG Requirements to Title V Permit Revision	9	38	342	19,152
Total Additional Burden			1,658	\$92,848
^a Labor cost for permitting authorities estimated at \$56.00 per hour. Information Collection Request for State Operating Permit Regulations (Renewal), EPA ICR Number 1587.12, OMB Control Number 2060-0243, 2015.				

According to the ICR, the average source burden to obtain a new title V permit is 391 hours. For a source needing to add GHG requirements from an “anyway” PSD permit, the ICR estimates the incorporation into the title V permit will increase the average burden by 10%, or by an additional 39 hours. A detailed breakdown of burden per permitting activity is located in Appendix C. For a source to incorporate requirements from a new PSD permit into its existing title V permit, it may need to undergo a significant permit revision, which is estimated to take 84 hours. If the permit in question is an “anyway” PSD permit, this analysis assumes a significant permit revision is required and will need an additional 10% of time above the 84 hours, or 8 hours, to incorporate the GHG requirements into the title V permit.

Table 5 compares the additional source burden associated with incorporating the requirements resulting from GHG BACT review for “anyway” PSD permitting actions into title V permits at different GHG SER option levels. Using a wage rate of \$65 per hour, the additional burden at the “No Action” baseline option is estimated to require “anyway” sources to spend approximately \$108,000 to incorporate GHG requirements from all “anyway” PSD permits into title V permits. At the 30,000 tpy CO_{2e} option level the additional cost to “anyway” sources is

anticipated to be around \$100,000 nationally, while at the 45,000 tpy CO_{2e} and 75,000 tpy CO_{2e} options the burden equates to approximate costs of \$97,000 and \$89,000 respectively.

Table 5. Additional Source Burden to Incorporate GHG Requirements into Title V Permits (Annual)					
Activity		Burden Hour per Permit	Affected Permits	Total Burden (hours)	Total Additional Cost (\$2014)
Actions Associated with "No Action" Baseline					
	Add GHG Requirements to New Title V Permit	38	28	1,064	\$69,160
	Add GHG Requirements to Title V Permit Revision	8	75	600	\$39,000
	Total Additional Burden			1,664	\$108,160
Actions Associated with 30,000 tpy PSD GHG SER					
	Add GHG Requirements to New Title V Permit	38	28	1,064	\$69,160
	Add GHG Requirements to Title V Permit Revision	8	60	480	\$31,200
	Total Additional Burden			1,544	\$100,360
Actions Associated with 45,000 tpy PSD GHG SER					
	Add GHG Requirements to New Title V Permit	38	28	1,064	\$69,160
	Add GHG Requirements to Title V Permit Revision	8	53	424	\$27,560
	Total Additional Burden			1,488	\$96,720
Actions Associated with 75,000 tpy PSD GHG SER					
	Add GHG Requirements to New Title V Permit	38	28	1,064	\$69,160
	Add GHG Requirements to Title V Permit Revision	8	38	304	\$19,760
	Total Additional Burden			1,368	\$88,920
<small>^aLabor cost for permitting authorities estimated at \$65.00 per hour. Information Collection Request for State Operating Permit Regulations (Renewal), EPA ICR Number 1587.12, OMB Control Number 2060-0243, 2015.</small>					

The following tables indicate the estimated annual avoided cost when comparing the “No Action” baseline to different GHG SER option levels. In Tables 6.1 through 6.3, the first three columns indicate the cost per permit and total cost to permitting authorities at the “No Action” baseline for PSD and Title V. The next three columns reflect the estimated costs for permitting authorities at the specified option level. In the final three columns, the avoided cost is estimated – the time and costs alleviated relative to the “No Action” baseline level by establishing a different GHG SER level.

The estimated annual avoided cost for sources at the different GHG SER option levels is presented in Tables 7.1 through 7.3 below. This information on avoided cost was used to compile the Economic Impact Analysis (EIA) for the proposed rule. Please see the EIA contained in the public docket for this GHG SER rule for a full explanation and description of the avoided cost that would be provided under the different GHG SER option levels.

Table 6.1. Estimated Regulatory Cost Avoided for Permitting Authorities Utilizing a 30,000 tpy GHG SER level (Annual)									
Activity	"No Action" SER			30,000 tpy GHG SER			Avoided Cost		
	Additional Cost per Permit (2014\$)	Number of Permits	Total Cost (2014\$)	Additional Cost per Permit (2014\$)	Number of Permits	Total Cost (2014\$)	Additional Cost per Permit (2014\$)	Number of Permits	Total Cost (2014\$)
PSD Permits									
Add GHG Requirements to 'Anyway' Permits	\$4,400	103	\$453,200	\$4,400	88	\$387,200	\$4,400	15	\$66,000
Title V Permits									
Add GHG Requirements to New Permit	\$2,632	28	\$73,696	\$2,632	28	\$73,696	\$2,632	0	\$0
Add GHG Requirements to Permit Revision	\$504	75	\$37,800	\$504	60	\$30,240	\$504	15	\$7,560
Total Additional Permitting Authority Costs			\$564,696			\$491,136			\$73,560

Table 6.2. Estimated Regulatory Cost Avoided for Permitting Authorities Utilizing a 45,000 tpy GHG SER level (Annual)									
Activity	"No Action" SER			45,000 tpy GHG SER			Avoided Cost		
	Additional Cost per Permit (2014\$)	Number of Permits	Total Cost (2014\$)	Additional Cost per Permit (2014\$)	Number of Permits	Total Cost (2014\$)	Additional Cost per Permit (2014\$)	Number of Permits	Total Cost (2014\$)
PSD Permits									
Add GHG Requirements to 'Anyway' Permits	\$4,400	103	\$453,200	\$4,400	81	\$356,400	\$4,400	22	\$96,800
Title V Permits									
Add GHG Requirements to New Permit	\$2,632	28	\$73,696	\$2,632	28	\$73,696	\$2,632	0	\$0
Add GHG Requirements to Permit Revision	\$504	75	\$37,800	\$504	53	\$26,712	\$504	22	\$11,088
Total Additional Permitting Authority Costs			\$564,696			\$456,808			\$107,888

Table 6.3. Estimated Regulatory Cost Avoided for Permitting Authorities Utilizing a 75,000 tpy GHG SER level (Annual)									
Activity	"No Action" SER			75,000 tpy GHG SER			Avoided Cost		
	Additional Cost per Permit (2014\$)	Number of Permits	Total Cost (2014\$)	Additional Cost per Permit (2014\$)	Number of Permits	Total Cost (2014\$)	Additional Cost per Permit (2014\$)	Number of Permits	Total Cost (2014\$)
PSD Permits									
Add GHG Requirements to 'Anyway' Permits	\$4,400	103	\$453,200	\$4,400	66	\$290,400	\$4,400	37	\$162,800
Title V Permits									
Add GHG Requirements to New Permit	\$2,632	28	\$73,696	\$2,632	28	\$73,696	\$2,632	0	\$0
Add GHG Requirements to Permit Revision	\$504	75	\$37,800	\$504	38	\$19,152	\$504	37	\$18,648
Total Additional Permitting Authority Costs			\$564,696			\$383,248			\$181,448

Table 7.1. Estimated Regulatory Cost Avoided for Sources Utilizing a 30,000 tpy GHG SER level (Annual)									
Activity	"No Action" SER			30,000 tpy GHG SER			Avoided Cost		
	Additional Cost per Permit (2014\$)	Number of Permits	Total Cost (2014\$)	Additional Cost per Permit (2014\$)	Number of Permits	Total Cost (2014\$)	Additional Cost per Permit (2014\$)	Number of Permits	Total Cost (2014\$)
PSD Permits									
Add GHG Requirements to 'Anyway' Permits	\$23,532	103	\$2,423,796	\$23,532	88	\$2,070,816	\$23,532	15	\$352,980
Title V Permits									
Add GHG Requirements to New Permit	\$2,470	28	\$2,498	\$2,470	28	\$69,160	\$2,470	0	\$0
Add GHG Requirements to Permit Revision	\$520	75	\$595	\$520	60	\$31,200	\$520	15	\$7,800
Total Additional Source Costs			\$2,426,889			\$2,171,176			\$360,780

Table 7.2. Estimated Regulatory Cost Avoided for Sources Utilizing a 45,000 tpy GHG SER level (Annual)									
Activity	"No Action" SER			45,000 tpy GHG SER			Avoided Cost		
	Additional Cost per Permit (2014\$)	Number of Permits	Total Cost (2014\$)	Additional Cost per Permit (2014\$)	Number of Permits	Total Cost (2014\$)	Additional Cost per Permit (2014\$)	Number of Permits	Total Cost (2014\$)
PSD Permits									
Add GHG Requirements to 'Anyway' Permits	\$23,532	103	\$2,423,796	\$23,532	81	\$1,906,092	\$23,532	22	\$517,704
Title V Permits									
Add GHG Requirements to New Permit	\$2,470	28	\$69,160	\$2,470	28	\$69,160	\$2,470	0	\$0
Add GHG Requirements in Permit Revision	\$520	75	\$39,000	\$520	53	\$27,560	\$520	22	\$11,440
Total Additional Source Costs			\$2,531,956			\$2,002,812			\$529,144

Table 7.3. Estimated Regulatory Cost Avoided for Sources Utilizing a 75,000 tpy GHG SER level (Annual)									
Activity	"No Action" SER			75,000 tpy GHG SER			Avoided Cost		
	Additional Cost per Permit (2014\$)	Number of Permits	Total Cost (2014\$)	Additional Cost per Permit (2014\$)	Number of Permits	Total Cost (2014\$)	Additional Cost per Permit (2014\$)	Number of Permits	Total Cost (2014\$)
PSD Permits									
Add GHG Requirements to 'Anyway' Permits	\$23,532	103	\$2,423,796	\$23,532	66	\$1,553,112	\$23,532	37	\$870,684
Title V Permits									
Add GHG Requirements to New Permit	\$2,470	28	\$69,160	\$2,470	28	\$69,160	\$2,470	0	\$0
Add GHG Requirements to Permit Revision	\$520	75	\$39,000	\$520	38	\$19,760	\$520	37	\$19,240
Total Additional Source Costs			\$2,531,956			\$1,642,032			\$889,924

Appendix A GHG BACT Review and PSD Permit Counts

A.1 2011-2014 “Anyway” PSD Permits with GHG BACT Review

1. NUCOR Corporation, St. James Parish, LA *m1*
2. We Energies, Rothschild, WI. (biomass co-gen boiler at a paper mill) *e1*
3. PacifiCorp Lake Side Power Plant, Utah County, UT *e2*
4. Mid-American Energy, George Neal South, Salix, IA (installation of pollution controls at a coal-fired power plant) *e3*
5. Mid-American Energy, George Neal South, Salix, IA (same as #4 but at different unit) *e4*
6. Wolverine Power, Rogers City, MI (biomass boilers) *e5*
7. Lafarge Cement, Ravena, NY *mn1*
8. Abengoa BioRefinery, Hugoton, KS *c1*
9. Wolverine Power, Sumpter Energy, Carleton Farms, MI *e6*
10. US Steel Keetac Iron & Taconite Plant, Keewatin, MN [*Delegated State Permit*] *m2*
11. Mid-American Energy, George Neal North, Sergeant Bluff, IA *e7*
12. Palmdale Hybrid Energy Center, Antelope Valley, CA [EPA] *e8*
13. Crawford Renewable Energy, Greenwood Township, PA *e9*
14. Eni Holy Cross Drilling Project, OCS Eastern GOM [EPA] *o1*
15. Hyperion Refinery and Energy Center, Union County, SD *r1*
16. Lower Colorado River Authority - Ferguson, Horseshoe Bend, TX [EPA] *e10*
17. Wolverine Power, Sumpter Power Plant, Belleville, Michigan *e11*
18. Hoosier Energy - Merom Station, Sullivan, IN *e12*
19. Port Dolphin Energy LNG Port, OCS Eastern GOM [EPA] *o2*
20. IPL Ottumwa Generating, Ottumwa, IA *e13*
21. Kennecott Utah Copper- Repowering, South Jordan, UT *m3*
22. US Nitrogen - Midway, Green County, TN *c2*
23. Beaver Wood Energy, Fairhaven, VT *e14*
24. University of Wisconsin - Charter Street, Madison, WI *e15*
25. Universal Cement, Chicago, IL [*Delegated State*] *mn2*
26. Carolina Cement, Castle Hayne, NC *mn3*
27. PyraMax Ceramics, Allendale, SC *mn4*
28. PyraMax Ceramics, Wrens, GA *mn5*
29. NRG Energy, Dover, DE *e16*
30. York Plant Holding, Springettsbury, PA *e17*
31. Pioneer Valley Energy Center, Westfield, MA [EPA] *e18*
32. Tenaska Christian County Generation IGCC, Taylorville, IL [*Delegated State*] *e19*
33. Entergy Louisiana LLC - Ninemile Point Plant, LA *e20*

Key:
Power Plant (including cogen) - e
Oil and Gas - o
Pulp, Paper and Wood Products- p
Chemicals Production- c
Metals – m
Refineries – r
Minerals - mn

34. Sabine Pass LNG LP, Cameron, LA *o3*
35. Westlake Vinyls, LA *c3*
36. Pryor Chemical Company, OK *c4*
37. Atlas Pipeline Mid-Continent West OK, LLC (WESTOK), OK *o4*
38. ETC Texas Pipeline, Natural Gas Processing Plant, Jackson County, TX [EPA] *o5*
39. Indiana Gasification, Spencer County, IN *c6*
40. BHP Billiton Petroleum, Sake Exploratory Project, OCS Eastern GOM [EPA] *o6*
41. Milwaukee Metropolitan Sewerage District, Milwaukee, WI *e21*
42. Essar Steel, Nashwauk, MN [*Delegated State*] *m4*
43. CARBO Ceramics, Millen, GA *mn6*
44. Effingham Power, Rincon, GA *e22*
45. Showa Denko Carbon, Dorchester County, SC *mn7*
46. Woodbridge Energy, NJ [*Delegated State*] *e23*
47. Phillips 66 Alliance Refinery, Plaquemine, LA *c7*
48. Williams Olefins, Geismar, LA *c8*
49. JM Huber, Huber Engineered Woods, GA *p1*
50. BASF FINA Petrochemical LP (BFLP), Port Arthur, TX [EPA] *c9*
51. Black Hills Power – Cheyenne Prairie Generating Station, Cheyenne, WY [EPA] *e24*
52. Cricket Valley Energy Center, Dover, NY *e25*
53. Newark Energy Center, Newark, NJ [*Delegated State*] *e26*
54. Exxon Mobil Point Thomson, North Slope, AK – Issued 8/20/12 *o7*
55. Sevier Power Project, UT *e27*
56. Enterprise Products – Eagleford Fractionation/DIB, Mont Belvieu, TX [EPA] *o8*
57. Next Generation Processing, LLC - Haven Gas Plant, KS *o10*
58. Pio Pico Energy Center, San Diego, CA [EPA] *e28*
59. Moxie Liberty, Asylum Township, PA *o11*
60. Graymont Limestone - Pleasant Gap, Spring Township, Center County, PA *mn8*
61. GSA Federal Research Center (White Oak), MD *e29*
62. CPV Energy, St. Charles, MD *e30*
63. Iowa Fertilizer Company, Wever, IA *c11*
64. Klausner Holding, Enfield, NC *p2*
65. North Springfield Sustainable Energy, North Springfield, VT *e31*
66. Gateway Cogeneration, Prince George, VA *e32*
67. Calpine, Deer Park, TX [EPA] *e33*
68. WE Energies Elm Road, Milwaukee, WI *e34*
69. Energy Answers (permit revision to include GHG), MD *e35*
70. Chevron Phillips Chemical Co., Cedar Bayou Plant, Baytown, TX [EPA] *c12*
71. Capitol Power (PAL), Washington, DC [EPA] *e36*
72. Moxie Patriot, Clinton Township, Lycoming County, PA *o12*
73. Calpine, Channel Energy Center, Pasadena, TX [EPA] *e37*

74. St. Joseph Energy Center, New Carlisle, IN *e38*
75. RockTenn-Solvay LLC, NY *m5*
76. Gerdau MACSTEEL, Monroe, MI *m6*
77. Equistar Chemicals, Methanol Unit, Channelview, TX [EPA] *c13*
78. Mid-Kansas Electric Co. – Rubart Station, KS *e39*
79. Sinclair Wyoming Refining, Sinclair, WY [EPA] *r2*
80. WBI Energy, Dakota Prairie, ND *r3*
81. Montana-Dakota Utilities, R.M. Heskett Station, Mandan, ND *e40*
82. Equistar Chemicals, La Porte, TX [EPA] *c14*
83. Gibson County Generating, Rutherford, TN *e41*
84. Magnetation, Reynolds, IN *m7*
85. Cargill Ethanol Plant, Fort Dodge, IA *c16*
86. Alcoa, Davenport Works, IA *m8*
87. Rio Grande Cement, Pueblo, CO *mn9*
88. LADWP Scattergood Generating Station, CA *e42*
89. Roxul USA, MS *mn10*
90. Energy Answers, Arecibo, PR [EPA] *e43*
91. Equistar Chemicals, Olefins 1 Expansion, Channelview, TX [EPA] *c18*
92. Equistar Chemicals, Olefins 2 Expansion, Channelview, TX [EPA] *c19*
93. Oregon Clean Energy Center, Oregon, OH *e44*
94. Green Bay Packaging, WI *p3*
95. Empire District Electric, KS *e45*
96. Hydrogen Electric California, Kern County, CA *e46*
97. Basin Electric Power, Pioneer Generating Station, ND *e47*
98. Kerr-McGee Gathering, CO *o16*
99. Consumers Energy, MI *e48*
100. Midland Cogen Venture, Midland, MI *e49*
101. Southern Minnesota Beet Sugar, MN [*Delegated State*] *c20*
102. Flint Hills Resources draft PSD permit- Rosemount, MN [*Delegated State*] *r4*
103. IPL Eagle Valley Generating Station, Martinsville, IN *e50*
104. Diamond Shamrock, Valero McKee Refinery, Sunray, TX [EPA] *r5*
105. Virginia Power and Light, Brunswick Plant, VA *e51*
106. Green Energy Partners – Stonewall Energy, VA *e52*
107. EN-Tire, White Deer Energy, PA *e53*
108. DSM Chemicals, GA *c22*
109. Klausner Holding, SC *p4*
110. Carroll County Energy, OH *e55*
111. Big River Steel, AR *m10*
112. La Paloma Energy Center, Cameron, TX [EPA] *e56*
113. Cargill –Blair, NE *c23*

114. Nucor Steel, NE *m11*
115. Anchorage Municipal Power and Light, Sullivan Plant Two, AK *e57*
116. Puget Sound Energy, Fredonia, WA *e58*
117. Air Liquide Large Industries, Bayou Generation Plant, TX **[EPA]** *c25*
118. Crosstex Processing Services, Eunice Gas Extraction Plant, LA *o18*
119. Shintech Louisiana, LLC., Hydrochloric Acid Production Furnace, LA *c26*
120. Shintech Louisiana, LLC, Plaquemine PVC Plant, LA *c27*
121. Crosstex Processing Services, Plaquemine NGL Fractionation Plant, LA *o19*
122. Basin Electric Power, Lonesome Creek Generating, ND *e59*
123. Kraton Polymers U.S. LLC, OH *c28*
124. BP-Husky Refining, LLC, OH *r6*
125. TECO Polk Station, FL **[EPA]** *e60*
126. Frontier El Dorado Refining, LLC, KS *r7*
127. Holly Corporation SLC Refinery, UT *r8*
128. CPV Valley, NJ **[Delegated State]** *e61*
129. Texas Eastern Transmission, PA *o20*
130. Garrison Energy Center, DE *e62*
131. Berks Hollow Energy, Berks, PA *e63*
132. Hickory Run Energy, Lawrence, PA *e64*
133. Frederick County Waste to Energy, MD *e65*
134. Future Power of PA, PA *e66*
135. Progress Energy Carolinas, NC *e67*
136. DuPont Johnsonville, TN *c29*
137. Ohio Valley Resources, Spencer, IN *c30*
138. Nucor Steel, Montgomery County, IN *m12*
139. Renaissance Power, MI *e68*
140. Lima Refinery, OH *r9*
141. PCS Nitrogen Ohio, OH *c31*
142. Mid America Midstream, Rose Valley, OK *o21*
143. Rohm and Haas, Deer Park, TX **[EPA]** *c32*
144. Occidental Chemical, Chemical Plant, Ingleside, TX **[EPA]** *c33*
145. Celanese Clear Lake, TX **[EPA]** *c34*
146. CF Industries Nitrogen, Port Neal, IA *c35*
147. TradeWind Energy, Lacey Randall Station, KS *e70*
148. Dyno Nobel Ammonia Plant, Jefferson Co., LA *c36*
149. Sunbury Generation LLC, Sunbury, PA *e71*
150. Equistar Chemical, Olefins, Corpus Christi, TX **[EPA]** *c37*
151. FGE Power, Westbrook, TX **[EPA]** *e75*
152. Lenzing Fibers, Mobile, Alabama *p5*
153. University of Alaska, Fairbanks, Alaska *e76*

154. Troutdale Energy Center, Multnomah County, OR *e77*
155. EFS Shady Hills Generating Station, FL [EPA] *e78*
156. New Hope Power Company Okeelanta Cogeneration [EPA] *e79*
157. Dow Chemical Freeport, TX [EPA] *c38*
158. Golden Spread Electric Cooperative, Antelope, TX [EPA] *e80*
159. Indeck Wharton Energy Center, TX [EPA] *e81*
160. Occidental Chemical Corporation, Ethylene Plant, Ingleside, TX [EPA] *c39*
161. PSEG Sewaren Generating, NJ [*Delegated State*] *e82*
162. Global Foundries, NY *m13*
163. Novelis Corporation, NY *m14*
164. C3 Petrochemicals, TX [EPA] *o25*
165. ONEOK Hydrocarbon, Mont Belvieu NGL Frac -3 & 4 [EPA] *o26*
166. Voestelpine, Portland, TX [EPA] *m15*
167. Formosa Plastics Corporation LDPE Plant, Point Comfort, TX [EPA] *c40*
168. Formosa Plastics Corporation Olefins Expansion, Point Comfort, TX [EPA] *c41*
169. Formosa Plastics Corporation Gas Turbines, Point Comfort, TX [EPA] *e83*
170. Invenergy Thermal Development, Goldsmith, TX [EPA] *e84*
171. OCI Beaumont, Nederland, TX [EPA] *e85*
172. Pinecrest Energy Center, Lufkin, TX [EPA] *e86*
173. Tenaska Roans Prairie Generating Station, Shiro, TX [EPA] *e87*
174. Green River Soda Ash , Green River, WY [EPA] *mn11*
175. Austin Energy Sand Hill Energy Center, Austin, TX [EPA] *e88*
176. CCI Corpus Christi, LLC, Nueces County, TX [EPA] *o27*
177. Natgasoline, LLC, Nederland TX [EPA] *c42*
178. Victoria Power Station, Victoria, TX [EPA] *e89*
179. Lon C. Hill Power Station, Corpus Christi, TX [EPA] *e90*
180. M&G Resins, PET Plant, Corpus Christi, TX [EPA] *c43*
181. M&G Resins, Utility Plant, Corpus Christi, TX [EPA] *e91*
182. Nuevo Midstream, Ramsey Gas Plant, TX [EPA] *o28*
183. Footprint Power, MA [*Delegated State*] *e92*
184. West Deptford Energy II, NJ [*Delegated State*] *e93*
185. FPL Lauderdale, FL *e94*
186. MS Silicon, MS *mn12*
187. Ember Clear, Adams Co., MS *c44*
188. Duke Energy, Lee Steam, SC *e95*
189. Cronus Chemicals Tuscola, IL [*Delegated State*] *c45*
190. Abengoa Bioenergy, Ethanol Expansion, IN *c46*
191. Jet Corr, Porter County, IN *p6*
192. Midwest Fertilizer, IN *c47*
193. Valero Renewables, MN [*Delegated State*] *c48*

194. Middletown Energy, OH *e96*
195. Linde Gas North America, OH *c49*
196. DTE Marietta, OH *e97*
197. Packaging Corp of America, WI *p7*
198. El Dorado Chemical Company, AR *c50*
199. Hobbs Generating Station, NM *e98*
200. Iowa State University Power Plant, Story, IA *e99*
201. IPL Allant Energy, Marshalltown Generating Station, IA *e100*
202. Iowa Fertilizer Company (major mod to original permit), IA *c51*
203. Mid-American Energy, Walter Scott Energy Center, Unit 3, IA *e101*
204. Solvay Chemicals, WY *c52*
205. Berry Petroleum (permit 1), SJV District, CA *o28*
206. Berry Petroleum (permit 2), SJV District, CA *o29*
207. Berry Petroleum (permit 3), SJV District, CA *o30*
208. Vintage Petroleum (permit 1), SJV District, CA *o31*
209. Vintage Petroleum (permit 2), SJV District, CA *o32*
210. E&B Natural Resources, SJV District, CA *o33*
211. McPherson Oil Company, SJV District, CA *o34*
212. Wild Horse GeoPower, Northern Sonoma district, CA *e102*
213. Sierra Pacific, Anderson, CA **[EPA]** *p8*
214. PGE Coyote Springs, OR *e103*
215. Guadalupe Power Partners, LP, Marion, TX **[EPA]** *e104*
216. Magellan Terminal Holdings, LP, Corpus Christi, TX **[EPA]** *o35*
217. Agrium, Kenai Nitrogen Operations, AK
218. Black Hills Power, Pueblo Airport Generating Station, CO
219. DCP Midstream, Lucerne Gas Processing Plant, Weld, CO
220. Boise White Paper, Clark County, AL (major?)
221. Georgia Pacific Breton LLC, Escambia County, AL
222. Kerr-McGee Gathering, Lancaster Plant, Weld, CO
223. Montville Power, CT – 2010?
224. Exxon Mobil Point Thomson, North Slope, AK – Issued 6/12/13
225. Exxon Mobil Point Thomson, North Slope, AK – Issued 1/23/15
226. Nucor, Decatur, AL
227. Corpus Christi Liquefaction Plant, TX
228. Colorado Bend Energy Center, Wharton Co., TX
229. Jacksonville Lime, Duval County, FL
230. Phillips 66 Lake Charles Refinery, Calcasieu, LA
231. Holland Board of Public Works, Ottawa, MI
232. Wolverine Power, Presque Isle Co., MI
233. CHS, Spiritwood Nitrogen Plant, Stutsman, ND

234. Abengoa BioRefinery, Ravenna, NE
235. Abengoa BioRefinery, York, NE
236. General Electric Aviation, Evendale Plant, Hamilton, OH
237. Koch Nitrogen, Enid Nitrogen Plant, Garfield, OK
238. Oiltanking Appelt Terminal, Harris Co., TX
239. Moundsville Power, Marshall Co., WV
240. FMC Granger Facility, Sweetwater Co., WV
241. Simplot Phosphates, Rock Springs Fertilizer Complex, WY
242. DAKOTA PRAIRIE REFINERY, DAKOTA PRAIRIE REFINING, Stark, ND
243. MAG PELLET LLC, White, IN
244. Magnolia Nitrogen Idaho LLC, American Falls, ID *c*
245. Phillips 66 Company, Roxana, IL *r*
246. Huber Engineered Woods LLC - Broken Bow OSB Mill, McCurtain, OK *p*
247. Mid America Midstream Gas Services LLC - Buffalo Creek Processing Plant, Beckham, OK *o*
248. Western Farmers Elec Coop - Mooreland Generating Station, Woodward, OK *e*
249. Northstar Agri Ind Enid, Garfield, OK *canola oil production*
250. Jordan Cove Energy Project, L.P., OR *e*
251. SunCoke Energy South Shore, Inc., Greenup, KY *coke production w/ elec gen*
252. Cash Creek Generating Station, Henderson, KY *e*
253. Cameron Interstate Pipeline LLC - Holbrook Compressor Station, Calcasieu Parish, LA *o*
254. Sundrop Fuels Louisiana - Rapides Station Facility, Boyce, LA *biofuels*
255. CCI Port Nickel - Braithwaite Methanol Plant, Plaquemine Parrish, LA *c*
256. South Louisiana Methanol - St. James Methanol Plant, St. James Parish, LA *c*
257. Methanex USA - Geismar Methanol Plant, Geismar, LA *c*
258. AM Agrigen Industries Fertilizer Plant, Kilona, LA *c*
259. Cheniere Creole Trail Pipeline LP - Gillis Compressor Station, Ragley, LA *o*
260. CF Industries - Donaldsonville Nitrogen Complex (Permit 772), Donaldsonville, LA *c*
261. Big Lake Fuels -Natural Gas to Gasoline Plant, Lake Charles, LA *c*
262. Cameron LNG - Cameron LNG Liquefaction project, Hackberry, LA *o*
263. Sasol North America - Lake Charles Cracker Project, Westlake, LA *c*
264. Columbia Gulf Transmission - Alexandria Compressor Station, Rapides Parish, LA *o*
265. Trunkline LNG - Lake Charles LNG Export Terminal, Lake Charles, LA *o*

A.2 RBLC and State Web Site Permit Data

State	2011 Summary Data		2012 Summary Data		2013 Summary Data		2014 Summary Data	
	PSD only	Data Source Chosen						
AK	2	RBLC	3	RBLC	1	RBLC	1	RBLC
AL	3	State	1	State	3	State	1	State
AR	1	State	1	RBLC	4	State	2	State
AZ	1	State	1	RBLC	0	State	0	State
CA	6	State	3	State	1	State	2	State
CO	1	State	1	State	1	RBLC	3	RBLC
CT	1	State	0	State	0	State	0	State
DE	1	State	1	RBLC	1	State	0	State
FL	5	State	6	State	4	State	5	State
GA	3	State	6	State	4	State	3	State
HI	0	State	0	State	0	State	0	State
IA	1	RBLC	6	RBLC	2	State	1	RBLC
ID	0	State	0	State	0	State	1	State
IL	0	State	0	State	0	State	4	State
IN	3	State	6	State	10	State	12	State
KS	6	State	3	State	8	State	2	State
KY	0	State	0	State	1	State	1	RBLC
LA	32	State	24	State	35	State	26	State
MA	1	State	0	State	0	State	1	State
MD	1	State	1	State	2	State	4	State
ME	0	State	0	State	0	State	0	State
MI	6	State	4	State	9	State	6	State
MN	3	State	4	State	4	State	4	State
MO	0	State	1	State	0	State	0	State
MS	2	State	5	State	1	State	2	State
MT	0	State	0	State	0	State	0	State
NC	7	State	7	State	7	State	2	State
ND	2	State	2	RBLC	4	RBLC	1	RBLC
NE	0	State	5	State	7	State	2	State
NY	0	State	6	State	6	State	3	RBLC
NJ	0	State	2	State	0	State	0	State
NH	1	RBLC	0	State	0	State	0	State
NM	1	State	0	State	2	State	2	State
NV	1	State	0	State	1	State	0	State
OH	4	State	4	State	7	State	4	State
OK	1	State	8	State	10	State	3	State
OR	2	State	0	State	1	State	1	State
PA	1	State	1	State	6	State	1	State
RI	3	State	0	State	0	State	0	State
SC	2	State	6	State	3	State	6	State
SD	0	State	0	State	0	State	0	State
TN	0	State	6	State	1	State	0	State
TX	11	State	15	State	17	State	30	State
UT	2	State	0	State	1	State	0	State
VA	0	State	5	State	2	State	2	State
VT	0	State	1	State	1	State	1	State
WA	3	State	1	State	5	State	2	State
WI	7	State	7	State	4	State	7	State
WY	0	State	2	RBLC	3	RBLC	4	RBLC
WVA	0	State	0	State	0	State	1	State
Total	127		155		179		153	

Four Year Annual Avg. = 153 PSD permits/yr

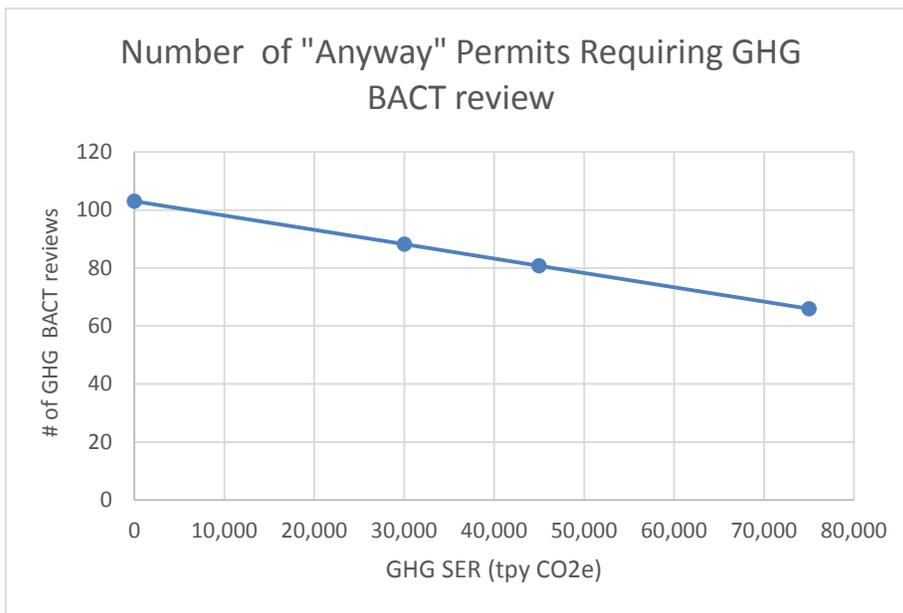
Appendix B. Calculation for “Anyway” Permits Requiring GHG BACT Review

GHG SER (tpy CO2e)	Number of "Anyway" Permits Requiring GHG BACT review	# of Newly Constructed Facilities	# of Modifications
0	103	28	75
30,000	88	28	60
45,000	81	28	53
75,000	66	28	38

Note: Total PSD permits/yr=153

Total "anyway" permits with possible GHGs= 103 (153 X .67)

Based on assumption that 33% of permits do not involve GHGs



Background Permit Info for Input to Excel Forecast Function:

GHG SER	Number of "Anyway" Permits Requiring GHG BACT review
0	103
75,000	66

Linear interpolation Excel Forecast Function results:

0	103
30,000	88
45,000	81

Appendix C. PSD and Title V Permitting Burden for Permitting Authorities and Sources

Table C-1. Average Permitting Authority Burden per PSD Permit

Permitting Authority PSD Activity	Hours per Permit	
	PSD Permits Non-GHGs Only ^a	Anyway Permits with GHGs ^b
A. Attend Preapplication Meetings	49	54
B. Answer Respondent Questions	27	37
C. Log In and Review Data Submissions	21	31
D. Request Additional Information	8	13
E. Analyze for and Provide Confidentiality for Processing	24	24
F. Prepare Completed Applications for Processing	40	40
G. File and Transmit Copies	8	8
H. Prepare Preliminary Determination	38	48
I. Prepare Notices for and Attend Public Hearings	43	43
J. Application Approval	50	55
K. Notification of Applicant of PA Determination	8	8
L. Submittal of Information of BACT/LAER to RBLC	19	24
Total	335	385
^a Hours per permit reflecting the effects of the Flexible Air Permitting (FAP) Rule (ICR 1230.26) and the PM2.5 Increments, SILs, and SMC Rule (ICRs 2276.02; 1230.31). These ICRs were approved before the onset of permitting for GHGs.		
^b A permitting authority will need 50 additional hours for the GHG-related activities for a PSD permit for an “anyway” source. These 50 hours have been divided among the activities, emphasizing those most likely to be associated with BACT.		

Table C-2. Average Source Burden per PSD Permit

Source PSD Activity	Hours per Permit	
	PSD Permits Non-GHGs Only ^a	Anyway Permits with GHGs ^b
A. Preparation and Planning		
Determination of Compliance Requirements	170	170
Obtain Guidance on Data Needs	120	240
Preparation of BACT Analysis	112	214
B. Data Collection and Analysis		
Air Quality Modeling	260	260
Determination of Impact on Air Quality Related Values	130	130
Post-construction Air Quality Monitoring	65	65
C. Permit Application		
Preparation and Submittal of Permit Application	60	60
Public Hearings	27	27
Revisions to Permit	40	40
Total Burden Hours	984	1206
^a Hours per permit reflecting the effects of the Flexible Air Permitting (FAP) Rule (ICR 1230.26) and the PM2.5 Increments, SILs, and SMC Rule (ICRs 2276.02; 1230.31). These ICRs were approved before the onset of permitting for GHGs.		
^b A source will spend an additional 222 hours for the GHG-related activities for an “anyway” PSD permit. Anyway sources need an additional "120 hours to 'obtain guidance on data needs' and 102 hours for the 'preparation of BACT analysis.'”		

Table C-3. Average Permitting Authority Burden per Title V Permit^a

Permitting Authority Title V Activity	Hours per Permit	
	Title V Permit Non-GHGs Only	Title V Permit Adding GHGs
Permit Application Review	110	121
Draft Permit Preparation	170	187
Comment Period Notification	11	12
Hold Public Hearings (2% of permits)	110	121
Interaction with the EPA	20	22
Analyze Public Comments and Prepare Final Permit (2% of permits)	44	48
Permit Issuance	9	10
Total Hours to Issue New Title V Permit	474	521
Significant Permit Revision	94	103
^a Adapted from Table 2 and Attachment 2. Information Collection Request for State Operating Permit Regulations (Renewal), EPA ICR Number 1587.12, OMB Control Number 2060-0243, 2015.		

Table C-4. Average Source Burden per Title V Permit^a

Source Title V Activity	Hours per Permit	
	Title V Permit Non-GHG Only	Title V Permit Adding GHGs
Prepare Application	330	363
Draft permits Interaction	50	55
Public Hearing Participation (2% of permits)	11	12
Total Hours to Obtain a New Title V Permit	391	430
Significant Permit Revision	84	92
^a Adapted from Table 2 and Attachment 2. Information Collection Request for State Operating Permit Regulations (Renewal), EPA ICR Number 1587.12, OMB Control Number 2060-0243, 2015.		

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