

ISSUE: How to Handle Information from Permit Applications and Old/Previous Permit Conditions in Title V Operating Permits

BACKGROUND: The Clean Air Act (CAA) requires all major sources to apply for Title V permits and operate consistent with the specifications in the permit. Further the CAA requires Title V permits to contain all applicable requirements for each emission source. The permit is meant to consolidate all applicable requirements into a single document, establishing detailed requirements on emissions and related compliance activities such as monitoring, recordkeeping, and reporting.

The goal is to have every Title V operating permit be a single place to go that is simple, understandable, and trustworthy in that it contains all relevant information, tells the complete story of the source and is available to the public.

This issue is split into two (2) sub issues:

Sub issue 1: How to Handle Capacity, Throughputs and Descriptions from Applications. Is it necessary for capacity and throughputs to be enforceable limitations? Would capacity and throughputs need to be enforceable for all types of emissions units? When capacity and throughputs are included in descriptions of emission units are they applicable requirements?

Sub-issue 2: Adequately Incorporating Changes and Conditions from Previous Permits, Order and Other Legal Documents. Are conditions from old permits, legal documents and changes to requirements adequately incorporated into the Title V permit? Do all older permit conditions need to be included in the Title V permit?

PRESENT PRACTICES:

In Wisconsin, the descriptions of sources, including the maximum production capacity, heat input rates, dates of initial operation and modifications may be found in several places in a Title V operating permit:

1. Front Page/Preamble of the Permit:
2. Header of the tables containing the applicable requirements
3. Within the body of the permit as specific conditions
4. Finding of Fact document referring to application submittal dates
or sometimes the information is found outside the Title V operating permit:
5. Preliminary Determination review documents
6. In the application materials

Present practices are not always consistent with the goal of Title V operation permits being a single place to go that is simple, understandable and trustworthy to contain all relevant information.

PROPOSAL:

Three (3) changes to current Practice and Permit Policy are proposed along with two (2) guidance pieces for staff to follow:

1. Inclusion of a table in each permit to provide a detailed description of the emission units;
2. Provide guidance for when maximum capacity of an emission unit may be considered an applicable requirement;
3. Separating out the emission limitations according to each applicable requirement;
4. Inclusion of a section in the preliminary determination to highlight changes from previous review;
5. Provide examples of the types of changes to occur in a review and appropriate responses

Sub issue 1: Descriptions of Emission Units and Maximum Capacity as Enforceable Limitations

Is it necessary for capacity and throughputs to be enforceable limitations? Would capacity and throughputs need to be enforceable for all types of emissions units? When capacity and throughputs are included in descriptions of emission units are they applicable requirements?

ISSUE: Are the Descriptions of Emission Units submitted with the Application Materials Applicable Requirements and Enforceable Conditions?

Problem: The Clean Air Act requires Title V permits to contain all applicable requirements for each emission source. The permit is meant to consolidate all applicable requirements into a single document, establishing detailed requirements on emissions and compliance demonstration methods. Several petitions contend that descriptions of emission units are legally enforceable applicable requirements because size, maximum production rate, heat input capacity, fuel usage and date of installation/modification define the capacity of the unit to emit pollution. Other petitions and comments content question the authority to enforce the capacity as described in the header or application.

Proposal:

1. Include a *detailed* of the description of each emission unit to include maximum capacity; throughput and fuels will be included in each permit. Rename the existing Stack and Process Index to “Description of Emission Unit(s) Table”

Including details of the size of the unit(s), how the permittee will operate the unit, type of control equipment, and other information from the application will facilitate a single reference. This description table is not considered to contain ‘enforceable’ condition, but rather is a means of communicating and summarizing the information provided in the application and used to determine applicable requirements and compliance methods. Provides a summary for users of the permit(s) in a single document.

For Operation Permits – Include the detailed description in the Preamble of the Operation Permit replacing the Stack and Process Index with the “Description of Emission Unit(s) Table”. List the Emission units by order of appearance in the sections of the permit and include the Process number designation, description of control equipment and stack designation in addition to the capacity, fuels, date of last modification and other operating information from application

For Construction Permits – Include the Description of Emission Unit(s) Table” as new page prior to Part I Applicable Requirements

note – inclusion of the table in a page prior to the body of the permit will be a new page in the construction permit template.

Example Table:

“Description of Emission Units Table”	
<i>Note: The information describing the processes listed below is descriptive information for the units and stacks covered under this permit action and does not constitute an enforceable condition:</i>	
A.	Processes P10 and P11/Control Device C10, Stacks S10 — (2) Anaerobic Digesters: with Biogas Treatment System. Digesters are each 1.36 million gallon concrete vessels with membrane covers. Hydrogen sulfide removal by an iron sponge system, C10.
B.	Process P02, Stack S02 – Dual Fuel Fired Engine Generator Set: 1175 horsepower engine model year 2011. P02 is a Dual Fuel GE-Jenbacher engine. Natural gas is the secondary fuel.
C.	Boiler B06, Stack S01, Control Devices C03, C05 – Pulverized Coal Fired Boiler with rated heat input capacity of 875 mmBTU/hr. Controlled by an electrostatic precipitator, C03 and flue gas conditioning system, C05, installed 1984
D.	Process P21, Stack S20, Control Device C20 – Sand Dryer operations equipped with fabric filter control device C20. Maximum capacity of 55 tons sand per hour. Dryer rated at 30 mmBTU/hr.

Note that the General Conditions for all Construction Permit issued, require the owner/operator to construct the source in accordance with the application as approved by the Department. Sources which modify a source in violation of the conditions, or commences construction or modification of a source without applying for and receiving a permit shall be considered in violation of s. 285.60, Wis. Stats. See Part II, Section L.

2. Provide Guidance for When Descriptions and Capacity become Applicable Requirement and Inclusion as Conditions within the Body of the Permit

In general, descriptions of maximum capacity are not considered enforceable applicable requirements. There are however situations where the capacity defines the potential to emit or is relied on for demonstrating compliance with an emission limit. In these situations, the capacity may need to be included as applicable requirements. The examples below are intended to illustrate various scenarios:

A. Situations the Maximum Production Capacity; Heat Input Capacity, Age of Unit are **NOT** applicable enforceable requirements. For these examples, include this information in the “*Description of Emission Unit(s) Table*”.

- When the Description is used to determine the applicability of a standard.

Example: the application is for a Boiler with a maximum rated heat input capacity of 650 mmBTU/hr. The boiler fires pulverized coal as the primary fuel and distillate fuel oil for start-up. The emissions are controlled by fabric filter control device and low NOx burner.

Applicable emission limitations:

Particulate matter emissions: s. NR 415.06(2), Wis. Adm. Code – 0.10 lbPM/mmBTU heat input

Visible emissions: s. NR 431.05, Wis. Adm. Code and NSPS, s. NR 440.19(3)(a)2., Wis. Adm. Code

Sulfur Dioxide emissions: NSPS – 1.2 lb/mmBTU heat input

Ambient Air Quality Standards (NAAQS): s. NR 404./ s. NR 405, Wis. Adm. Code – pounds per hour emission limits. (annual, 3 hour and/or 24 hour average

The NSPS limitations are in terms of pounds pollutant per heat input capacity do not contain a total mass emission limit nor maximum heat input requirement. The permittee must meet the emission limits at all heat input capacities, therefore this type of emission limit does not require heat input capacity to be an enforceable

requirement. The size of the unit is used to determine applicability of the standard and appropriate emission limits.

The requirement to meet NAAQS are written in terms of pound per hour emission limits with averaging periods appropriate for the pollutant and limit. NAAQS are not an emission standard or limitation. Compliance with the NAAQS is measured as a pound per hour emission limit with use of the control device and monitoring /recordkeeping as compliance demonstration. The heat input capacity is not an underlying applicable requirement. The size of the unit is used with other data to calculate theoretical mass emission rates.

Petitions to reference for additional information: information on Petitions can be found at US EPA Region 7 Title V Petition Database: <http://www.epa.gov/region07/air/title5/petitiondb/petitiondb.htm>
The database can be searched several ways to find specific Petitions or subjects.

East Kentucky Power Cooperative, Inc. – William Dale Power Station.

Portland Generating Station – Upper Mount Bethel Township – Northampton Pennsylvania

Additional examples to be added as they occur....

B. When the Maximum Capacity is an Enforceable Applicable Condition

Example: if the heat input is contained in the Title I as an applicable requirement. Applicable requirements cannot be changed in a Title V permit. If the heat input capacity is contained as an applicable requirement in a Title I permit then it must be included in the Title V.

Example: capacity is used to limit the potential to emit (PTE). This is often done to limit the source to below an applicability threshold such as Title V status or to avoid PSD. Limits on PTE must be enforceable as a practical matter. See Sietz memo. Permit conditions which limit PTE are production limits, operational limits (control equipment with monitoring) or Emission limits alone provided they represent MTE or are backed up by short term mass emission rate and/or continuous emission monitoring (CEMs). In these cases, the capacity is relied upon to demonstrate the mass emission rate is attained on a continual basis.

Petitions to reference for additional information:

Alliant Energy – WPL Edgewater Generating Station;

http://www.epa.gov/region07/air/title5/petitiondb/petitions/edgewater_response2009.pdf

note: this petition addresses enforceable heat input (lb/mmBTU) emission limits imposed in a Title I PSD permit. These limitations remain in effect and enforceable in the Title V

Additional examples to be added as they occur....

Sub issue 2: Adequately Incorporating Changes and Conditions from Previous Permits, Order and Other Legal Documents.

Are conditions from old permits, legal documents and changes to requirements adequately incorporated into the Title V permit? Do all older permit conditions need to be included in the Title V permit?

Problem: The Clean Air Act requires Title V operating permits to contain all applicable requirements, documentation that changes and all legal requirements; Title I (PSD/NSR/minor source) permits, Orders, new Regulations are brought into the Title V permit is imperative. The following proposals are intended to provide guidance to review staff, better communicate with the public and to improve consistency across permits rather than to directly respond to EPA or a petition issue

Proposal:**3. Separate out Emission Limits in permit according to each Applicable Requirement.**

Listing each limitation as a separate limit based on the underlying authority from the applicable requirement provides a clear list of what limits apply to a specific unit. The compliance demonstration techniques and practices may be grouped together for simplicity; however, each limit should be listed. Provides a summary for users of the permit(s) in a single document and clarifies non-compliance by clearly stating the applicable requirement.

Example of Permit Limitation:

**PART I
APPLICABLE REQUIREMENTS**

A. Boiler Operations: (installed 1992)

Pollutant	a. Limitations	b. Compliance Demonstration	c. Recordkeeping and Monitoring Requirements
1. All Pollutants	<p>(1) The permittee may only operate three (3) Boilers as specified below:</p> <p>(a) B01: a 12.52 mmBTU/hr Cleaver Brooks boiler exhausted to stack S01;</p> <p>(b) B02: a 25.1 mmBTU/hr Cleaver Brooks boiler exhausted to stack S02; and</p> <p>(c) B03: a 25.1 mmBTU/hr Cleaver Brooks boiler exhausted to stack S02. [s. NR 406.10, Wis. Adm. Code and 285.60, Wis. Stats.]</p>	<p>(1) The permittee shall only fire natural gas or distillate fuel oil in these boilers. [ss. NR 407.09(1)(c)1.b., Wis. Adm. Code and 285.65(3) and 285.63(1)(a), Wis. Stats.]</p> <p>(2) The permittee shall keep and maintain records as required in this section. [ss. NR 407.09(1)(c)1.b., Wis. Adm. Code]</p>	<p>(1) The permittee shall maintain on site plans and specification of each boiler. [s. NR 439.04(1)(d), Wis. Adm. Code]</p>
<p>2. Particulate Matter Emissions (PM/PM10)</p> <p><i>Common Practice - consolidated emission limits</i></p>	<p>(1) Emissions from the boilers may not exceed:</p> <p>(a) Boiler B01: 0.60 pounds per hour;</p> <p>(b) Boiler B02 or B03: 1.2 pounds per hour.¹ [ss. NR 415.06(2)(a), & NR 404.04, Wis. Adm. Code, s. 285.65(3) Wis. Stats and 09-SML-026]</p> <p>(2) Emissions shall be exhausted through stacks meeting the parameters listed in I.E.1.a of this permit. [s. 285.65(3), Wis. Stats and s. NR 404.04, Wis. Adm. Code, 09-SML-026]</p>	<p>(1) The permittee shall only fire natural gas or distillate fuel oil in these boilers. [ss. NR 407.09(1)(c)1.b., Wis. Adm. Code and 285.65(3) and 285.63(1)(a), Wis. Stats.]</p>	<p>(1) The permittee shall keep monthly records of the type and amount of each fuel used. [s. NR 439.04(1)(d), Wis. Adm. Code]</p> <p>(2) The permittee shall maintain on site plans and specification of each boiler. [s. NR 439.04(1)(d), Wis. Adm. Code]</p>
<p>2. Particulate Matter Emissions (PM/PM10)</p> <p><i>Example for proposal:</i></p>	<p>(1) Emissions of fine particulate matter (PM10) from the boilers may not exceed:</p> <p>(a) Boiler B01: 0.60 pounds per hour;</p> <p>(b) Boiler B02 or B03: 1.2 pounds per hour. [s. NR 404.04, Wis. Adm. Code, s. 285.65(3) Wis. Stats and 09-SML-026]</p> <p>(2) Emissions of may not exceed 0.15 pounds per mmBTU heat input. [s. 415.06(2)(a), Wis. Adm. Code]</p>	<p>(1) The permittee shall only fire natural gas or distillate fuel oil in these boilers. [ss. NR 407.09(1)(c)1.b., Wis. Adm. Code and 285.65(3) and 285.63(1)(a), Wis. Stats.]</p> <p>(2) The permittee shall keep and maintain records of the heat input capacity of the boilers. [ss. NR 407.09(1)(c)1.b., Wis. Adm. Code and 285.65(3) and 285.63(1)(a), Wis. Stats.]</p>	<p>(1) The permittee shall keep monthly records of the type and amount of each fuel used. [s. NR 439.04(1)(d), Wis. Adm. Code]</p> <p>(2) The permittee shall maintain on site plans and specification of each boiler. [s. NR 439.04(1)(d), Wis. Adm. Code]</p>

¹ The facility requests to use this emission factor to determine particulate matter emission rate. Using this emission factor with the maximum capacity of the line is equivalent to the maximum theoretical emission rate in pounds per hour. At this emission rate the facility is able to attain and maintain ambient air quality standards for particulate matter.

A. Boiler Operations: (installed 1992)

Pollutant	a. Limitations	b. Compliance Demonstration	c. Recordkeeping and Monitoring Requirements
3. Nitrogen Oxides (NOx) <i>Common Practice - consolidated emission limits</i>	<p>(1) The total energy input to the Boilers may not exceed 16,500 mmBTU² per month as averaged over each consecutive 12 month period. [ss. NR 404.04 & 05, Wis. Adm. Code, s. 285.65(7) & 285.65(3), Wis. Stats., NSR Permit No.]</p> <p>(2) The stacks shall have the parameters listed in section I.E.1. of this permit. [s. 285.65(3), Wis. Stats and ss. NR 404.04 & 05, Wis. Adm. Code, 406.10, Wis. Adm. Code]</p>	<p>(1) To determine compliance with the emission limit the permittee shall calculate :</p> $F = \sum_{n=1}^{12} (NGn * 1000) + (Dn * 140)$ <p>where</p> <p>F is the total energy input, in mmBTU/month for all three boilers;</p> <p>NG is the natural gas input to the boilers, in million cubic feet per month;</p> <p>D is the distillate oil (diesel fuel) input to the boilers, 1000 gallons per month.</p> <p>n is each month</p> <p>[ss. NR 407.09(1), & NR 439.04, Wis. Adm. Code, NSR Permit No.]</p>	<p>(1) For each month, the permittee shall collect and record:</p> <p>(a) the type and amount of fuel supplied to all three boilers, in million cubic feet of natural gas or 1000 gallons of distillate fuel oil;</p> <p>(b) the actual monthly energy input to the boilers according to equation I.A.4.b.(1), in mmBTU per month; and</p> <p>(c) the average energy input to the boilers according to equation I.A.4.b.(1), as averaged over each consecutive 12 month period, in mmBTU per month; and</p> <p>(d) The permittee shall perform these calculations within ten (10) working days of the end of each month. [s. NR 439.04(1)(d), Wis. Adm. Code]</p>
3. Nitrogen Oxides (NOx) <i>Example for proposal:</i>	<p>(1) The total energy input to the Boilers may not exceed 16,500 mmBTU³ per month as averaged over each consecutive 12 month period. [s. 285.65(7) & 285.65(3), Wis. Stats., 09-SML-026]</p> <p>(2) The emission rate may not exceed 25.6 pounds per hour. ⁴s. NR 404.04 & 05, Wis. Adm. Code, NSR Permit no.]</p>		

² The permittee requests this limitation to maintain ambient air quality standards for NOx and to limit emissions from the source to less than major source thresholds for NOx. Emissions from this source contribute to the facility wide limitation for NOx in I.Z.1.a.

³ The permittee requests this limitation to restricting NOx emissions to below major source thresholds. Emissions from this source contribute to the facility wide limitation for NOx in I.Z.1.a.

⁴ The permittee requests this limitation to maintain ambient air quality standards for NOx, please see Ambient Air Quality Analysis in the Preliminary Determination.

4. Inclusion of a section in the preliminary determination to highlight changes from previous review.

The Preliminary Determination currently contains language prompting permit writers to list emission units by process number which have not changed and directs the reader to the original preliminary determination document. A new section in the preliminary determination titled “Changes to the Operation Permit since Issuance of Previous Permit” or “Changes Resulting From This Permit Action” will be added to the template. The new section will highlight revisions, modifications or deletions from the construction permit or previous operation permit. The new section will prompt the permit writer to provide the necessary review and documentation of the changes. The new section to be incorporated after the section titled “Source Description”.

Example of New Section to Preliminary Determination:

“CHANGES RESULTING FROM THIS PERMIT ACTION”

Changes were made as needed to correct any typographical errors, update code citations and use standard permit language. The preamble and title page were updated to the current standard language. Permit conditions that come from previously issued construction permits now include a reference to the underlying construction permit.

The following permits were issued during the term of the current operation permit. The conditions from each of these permits have been incorporated into the draft operation permit renewal. See the Preamble to the Draft Operation Permit for a list of the emissions units affected by each of these permits and their issuance dates.

Table of Permit Actions

Type of Permit Action	Permit/Order Number	Sources Covered & Description
Operation Permit Revision	737009020-P02	Total facility
Construction Permit	03-RV-248	Processes P23, P25
Revised Construction Permit	03-RV-248-R4	Processes P23, P25
Construction Permit exemption	10-MHR-184-exm	Process P33, s. NR 406.04(1q), wis. Adm. Code -Actuals based exemption

CONSTRUCTION PERMIT DESCRIPTION, APPLICABILITY, AND PRELIMINARY DETERMINATION FOR < YY-INT_### list permit being revised, or exemption and assign /log into WARP >

Use this section to describe any new permit actions which are required. Examples include:

- revisions to construction permit to include an adjustment to monitoring parameter (change in pressure drop range), changes to the time frames for compliance testing;
- exempt modifications to emission units
- modifications to emission units which require a construction permit action;- see templates for Integrated NSR/Operation Permit Reviews.

The section will include the following subsections:

- a) Construction Permit Description – includes date of application, type of actions and permit number

- b) Applicability – includes a statement of the reason the modification meets the requirements for exemption, revision, modification. Example for a Revision: The project is not a modification of the source under s. 285.01(26), Wis. Stats., because there is no physical change and/or no increase in emissions
- c) New or Changed Applicable Requirements – provide a description of the applicable requirements resulting from the changes.
- d) Affect on Source Status – if the change will affect the status of the facility under Title V or as an EPA Class Code
- e) Preliminary Determination – statement that the construction permit action will be included with the public notice for the operation permit meets the requirements for Department approval.

Example: *“The Wisconsin Department of Natural Resources has analyzed the request from PERMITTEE for the revision of construction permit YY-INIT-### and has preliminarily determined that the revision request is approvable. The proposed revised permit should meet applicable criteria for permit approval as stated in ss. 285.63 and 285.64, Wis. Stats. A final determination will be made after evaluating all comments received.*

5. Examples of common changes to address in operation permit reviews.

Inclusion of the changes which may have occurred subsequent to the previous review requires the reviewer to identify the applicable requirements and catalog the changes to the permit which address the Departments response to the change. All changes are to be reviewed first as to whether they are a modification to the source or meet the requirements to be excluded from modification or exempt under s. NR 406.04, Wis. Adm. Code. Below are examples of several types of changes and suggested responses:

1. Conditions in previous permits for emission units which no longer exist
2. New applicable requirements because of changes to the emission unit(s)
3. New or changed applicable requirements because of changes in regulations
4. Conditions for general limitations which are now contained in Part II of the permit
5. Changes to applicable requirements based on Air Management Policy (examples, limits previously set for allocation of air resource; what constitutes Good Combustion, changes resulting from use of new air dispersion modeling (AERMOD), etc.)

Situation 1. Conditions in previous permits for emission units which no longer exist. This situation can include emission units to which PSD requirements applied or may have been used in netting, removal of older emission units such as coal fired boiler and replacement with different technology where specific pollutants are no longer emitted, changes to source status because of removal of emission units.

Approaches and Practices	Concerns
<ul style="list-style-type: none"> • Remove emission unit from the Preamble and Body of permit. • Removal of permit conditions specific to a fuel no longer capable of being fired • Removal of permit conditions specific to a pollutant no longer capable of being emitted. 	<ul style="list-style-type: none"> • The PSD avoidance limitations/netting analysis for the project that reviewed these units remains as an applicable requirement. • How to account for historical record of emission units

Situation 2. Changes to conditions because of changes to the emission unit(s) or source.

Approaches and Practices	Concerns
<ul style="list-style-type: none"> Review change to emission unit to determine if it constitutes a modification (defn/ NR 405/ s. NR 406.04, Wis. Adm. Code) and proceed with review as appropriate PSD – requires separate PSD/NSR permit action concurrent with Title V, but outside of Title V Minor source under ch. NR 406, Wis. Adm. Code – requires separate construction permit action and can be concurrent with Title V Revision to Title V – review within context of Title V 	<ul style="list-style-type: none"> PSD avoidance to limitations which may be applicable and enforcement action for modifications subject to PSD For changes which are exempt from construction permitting, revision to Title V brings in all applicable requirements. Changes triggering construction permit actions can involve a fee

Situation 3. Changes to conditions because of changes to regulations. Examples of changes to regulations include newly promulgated Standards -New Source Performance Standards (NSPS) or National Emission Standards for Hazardous Air Pollutants (NESHAPS), changes to regulated pollutants – compounds added or deleted from list of HAPs or VOC and changes to federal code that have not been incorporated into Wisconsin’s State Implementation Plan (SIP)

Options / Practices	Concerns
<ul style="list-style-type: none"> Changes to applicable requirements are reviewed at the time of renewal of the Title V operating permit. Source is obligated to comply with requirements outside of the permit document 	<ul style="list-style-type: none"> For the period of time between promulgation of a standard and renewal of operation permit, all applicable requirements are not included in the Title V permit; therefore the goal of one document containing the complete story is not met. For changes to pollutants (i.e. pollutant is no longer considered a VOC or HAP, etc.), the source is legally required to control a pollutant that may no longer be required to control by an outside regulatory requirement but instead controls only because of the permit thus creating a more restrictive operating environment For changes to Federal regulations not part of Wis. SIP, creates dual and perhaps conflicting obligations for source. Timing of renewal or revision to operating permit can put sources at risk of non-compliance

Situation 4. Conditions for general limitations which are now contained in Part II of the permit

Options / Practices	Concerns
<ul style="list-style-type: none"> If general limitation is identical in Part II of the permit as the specific condition of the previous construction permit note the change in location in 	<ul style="list-style-type: none"> Some previously permitted processes may only have general limitations which once removed from the Part I table section makes it appear that

the preliminary determination and remove the language from Part I of the permit	there are no applicable requirements.
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Situation 5. Changes to applicable requirements based on Air Management Policy changes (examples, limits previously set for allocation of air resource; what constitutes Good Combustion, etc.)

Options / Practices	Concerns
<ul style="list-style-type: none"> • Review change to emission requirement to determine if removal/change would trigger a construction permit action. If a construction permit action is necessary the source proceeds with that action or chooses to keep the previous limit (if it is more restrictive). • If a construction permit action is not required, review the change to emission requirement to determine whether an operation permit revision is necessary and proceed with that action • All changes and reasons for changes noted in the preliminary determination for each permit action 	<ul style="list-style-type: none"> ▪ Changes triggering construction permit actions can involve a fee