Potential to Emit Restrictions: Excerpts from Existing EPA Guidance
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The following excerpts are highlights from relevant EPA petition response Orders and EPA guidance documents which outline the important aspects of creating practically enforceable PTE limits that Region 5 relies on when reviewing these type of limits in permits.

Hu Honua Bioenergy Facility Title V petition response Order, No. IX-2011-1, February 7, 2014
http://www.epa.gov/region07/air/title5/petitiondb/petitions/hu_honua_decision2011.pdf

- I grant specifically in regard to the Petitioner's contention that HDOH has failed to ensure that the synthetic minor limits for CO and NOx, which were intended to restrict CO and NOx PTE below the major source threshold of 250 tpy, are enforceable as a practical matter. (page 9)

- The Final Permit for Hu Honua states that "CO and NOx emissions from the facility, including during boiler startups and shutdowns, shall not equal or exceed 250 tons per year, on any rolling twelve-month (12-month) period." ...However, the Final Permit does not specify how the facility's CO and NOx emissions shall be determined or measured for assessing compliance with these CO and NOx emission limits... and it is unclear whether all actual CO and NOx emissions must be considered in determining compliance with these limits, including emissions during other non-startup/shutdown operating conditions referenced in the permit, such as periods of "malfunction" or "upset conditions." (page 10)

- The EPA notes that the Final Permit does contain a condition... providing that the "permittee shall calculate and record the CO and NOx emissions from the facility, including during boiler startups and shutdowns, on a monthly and rolling twelve-month (12-month) basis." ...The Final Permit does not specify, however, how the CO and NOx emissions shall be calculated... or what information such calculations would be based upon. ...In addition, these conditions do not clearly provide that all actual facility CO and NOx emissions should be considered in determining compliance with the CO and NOx emission limits... and do not clearly state that emissions during other non-startup/shutdown operating conditions referenced in the permit (such as malfunction or upset) must be included in determining compliance with those limits. (page 10)

- ...the Final Permit does not appear to contain any monitoring or recordkeeping requirements that would allow for calculation or consideration of any CO and NOx emissions associated with the operation of the emergency generator at the facility in determining compliance with the CO and NOx emission limits... as currently provided in the Final Permit, the overall emission limits for CO and NOx... state that the source "shall not equal or exceed" 250 tpy, those facility-wide limits would be ineffective at ensuring that the source remains below the 250 tpy major source PSD threshold if any emission unit at the facility that emitted CO or NOx was not covered by those limits

and/or not subject to sufficient monitoring, recordkeeping, and reporting to ensure that those limits were enforceable as a practical matter. (page 11)

- ...EPA has previously explained that when a source accepts a source-wide PTE limit for a pollutant, all actual emissions of that pollutant from the source must be considered in determining compliance with the limit. Although HDOH treated the emergency generator as an "insignificant activity"... the emergency generator's actual CO and NOx emissions must be considered in determining the permit's compliance requirements. (page 11)

- This is consistent with the EPA's guidance explaining how to calculate PTE for emergency generators, as the EPA would not have needed to provide this guidance if the EPA believed that emissions from emergency generators did not need to be considered in PTE calculations. *See* John Seitz, Director, Office of Air Quality Planning and Standards, "Calculating Potential to Emit (PTE) for Emergency Generators" (Sept. 6, 1995)... (page 11, footnote 17)

- The permit contains two short term emission limits (lb/MMBtu) for CO and one for NOx from the boiler... and HDOH explained that multiplying these emission limits by the 2,800,000 MMBtu/yr limit shows that the facility will not exceed 250 tpy for CO and NOx.... However, the Final Permit explicitly provides that ...emission limits for NOx and one of those limits for CO do not apply during boiler startup and shutdown. ...Thus, HDOH has not provided a basis in the record to conclude that the 2,800,000 MMBtu per year heat input limit will ensure that CO and NOx emissions from the facility will not exceed 250 tpy. Because the relevant short-term CO and NOx emission limits do not apply at all times, they do not ensure that the emission rate from fuel consumption at the boiler will not exceed the lb/MMBtu levels that HDOH used to explain why the 2,800,000 MMBtu/yr limitation would ensure that CO and NOx emissions will not exceed 250 tpy. (page 11)

- I grant specifically ...that the Proposed Permit fails to ensure that individual and total HAP emissions will be below the respective 10 and 25 tpy major source thresholds. While HDOH included synthetic minor limits for HAP in the Final Permit, which were intended to restrict HAP PTE below the individual HAP major source threshold of 10 tpy and the total HAP major source threshold of 25 tpy, these limits are not enforceable as a practical matter. (page 16)

- The Final Permit for Hu Honua states that "the total of all HAPs emissions and any individual HAP emissions from the facility; including during boiler startups and shutdowns, shall not equal or exceed 25 tons per year and 10 tons per year, respectively, on any rolling twelve-month (12month) period." ...However, the Final Permit does not specify how the facility's individual HAP and total HAP emissions shall be determined or measured for assessing compliance with these individual HAP and total HAP emission limits... and it is unclear whether all actual individual HAP and total HAP emissions must be considered in determining compliance with these limits, including emissions during other nonstartup/shutdown operating conditions referenced in the permit, such as periods of "malfunction" or "upset conditions." (page 17)

- ...EPA notes that the Final Permit does contain a condition... providing that the 'permittee shall calculate and record the total of all HAPs and all individual HAP emissions from the facility, including during boiler startups and shutdowns, on a monthly and rolling twelve-month (12-month) basis." ...However, the Final Permit does not specify how the total HAP and individual HAP emissions shall be calculated... or what information such calculations would be based upon. ...In addition, these conditions do not clearly provide that all actual source-wide total HAP and individual HAP emissions should be considered in determining compliance with the total HAP and individual HAP emission limits... and do not clearly state that emissions during other non-startup/shutdown operating conditions referenced in the permit (such as malfunction or upset) must be included in determining compliance with those limits. (page 17)

- The EPA further notes that the Final Permit does not appear to contain any monitoring or recordkeeping requirements that would allow for calculation or consideration of any total HAP and individual HAP emissions associated with the operation of the emergency generator at the source in determining compliance with the total HAP and individual HAP emission limits (page 18)

- Although HDOH treated the emergency generator as an "insignificant activity"... the emergency generator's actual total HAP and individual HAP emissions must be considered in determining whether Hu Honua is subject to various requirements. (page 18)

- Although the federal definition of PTE for PSD includes the term "federally enforceable," following two court decisions, *National Mining Association v. EPA...* and *Chemical Manufacturers Ass'n v. EPA...*, the EPA clarified that the term "federally enforceable" as used in relation to the definition of PTE for the federal PSD program in 40 C.F.R. § 52.21(b)(4) should be read to mean "federally enforceable or legally and practicably enforceable by a state or local air pollution control agency." John Seitz, Director, Office of Air Quality Planning and Standards, and Robert Van Heuvelen, Director, Office of Regulatory Enforcement, "Release of Interim Policy on Federal Enforceability of Limitations on Potential to Emit" (Jan. 22, 1996), at 3. The term "federal enforceability" has also been interpreted to require practical enforceability. *See, e.g., In re Shell Offshore, Inc., Kulluk Drilling Unit and Frontier Discoverer Drilling Unit....* (page 9, footnote 14)

- The definition of PTE for HAP in 40 C.F.R. § 63.2 includes the term "federally enforceable." Consistent with the court decisions, *National Mining Association v. EPA...* and *Chemical Manufacturers Ass'n v. EPA...* permit terms to limit HAP emissions must be federally enforceable. (page 16, footnote 23)

- *See Cash Creek Order* at 15 (finding that a VOC limit was not enforceable as a practical matter where the state agency "failed to provide a reasoned explanation for how the compliance demonstration method associated with the VOC emissions limit, which is used to determine compliance with the source-wide VOC limit, accounts for all actual VOC emissions") (page 17)

Cash Creek Generation, LLC, Title V petition response Order, No. IV-2010-4 June 22, 2012
http://www.epa.gov/region07/air/title5/petitiondb/petitions/cashcreek_response2010.pdf

- ...Petitioners demonstrated that KDAQ failed to provide a reasoned explanation for how the compliance demonstration method associated with the VOC emissions limit, which is used to determine compliance with the source-wide VOC limit, accounts for all actual VOC emissions from the flare. ...An emission limit can be relied upon to restrict a source's PTE only if it is legally and practicably enforceable, and KDAQ acknowledges that Cash Creek would be above the significance level for VOC in the absence of an enforceable source-wide VOC limit. EPA is granting the petition regarding Petitioners' claim that the source-wide VOC limit is unenforceable, and, accordingly, that limit cannot be relied upon to determine that the source is below the relevant thresholds for VOC. (page 15)

- EPA grants the petition regarding Petitioners' argument that the VOC PTE limit is not enforceable because it simply assumes that the flare will achieve 99.5% combustion efficiency at all times. EPA recognizes that KDAQ indicated in its response to comments on the draft permit that it received confirmation from a flare vendor that this type of flare can achieve 99.5% destruction removal efficiency for VOC... EPA agrees with Petitioners that for the 36 tpy VOC limit to be enforceable, the permit must include conditions that are sufficient to ensure that the flare achieves a combustion efficiency of 99.5% or greater at all times that gases are vented to the flare. *See* Memorandum from Terrell E. Hunt, EPA, "Guidance on Limiting Potential to Emit in New Source Review Permitting" (June 13, 1989)... (page 17)

- ...As Petitioners correctly point out, there are no enforceable permit conditions that are designed to assure that the VOC combustion efficiency assumed in the compliance demonstration equation is achieved at all times that gases are vented to the flare. ...Moreover, the parametric monitoring required by the permit largely mirrors the flare requirements set forth in the New Source Performance Standards (NSPS*), and* EPA has never suggested that the flare requirements laid out in 40 C.F.R.60.18 are sufficient to ensure a continuous combustion efficiency of 99.5%. Although Cash Creek's permit requires development of and compliance with a flare operation plan and compliance assurance monitoring plan, neither KDAQ nor Cash Creek have identified and explained how its specific operational and monitoring requirements *will* ensure continuous compliance with a combustion efficiency of 99.5% or greater. (page 17)

Region 4 Objection to the proposed Title V permit for Quebecor World Franklin, August 29, 2002,
http://www.epa.gov/region07/air/nsr/nsrmemos/quebecor.pdf

- The basis of EPA's objection is that the permit does not include operational requirements and limitations to assure compliance with prevention of significant deterioration requirements...Therefore, the permit is not in compliance with 40 C.F.R. § 70.6(a)(1)... (page 1,)

- To appropriately limit potential to emit consistent with the opinion in the United States v. Louisiana-Pacific Corporation…, all permits must contain a production or operational limitation in addition to the emission limitation. This is true for all cases where the emission limitation does not reflect the maximum emissions of the source operating at full design capacity without pollution control equipment. (Enclosure, Recommendation)

- As stated in EPA's guidance memorandum of June 13, 1989, 'Guidance on Limiting Potential to Emit in New Source Permitting,' production and operational limits must be stated as conditions that can be enforced independently of one another. (Enclosure, Recommendation)

Potential to Emit (PTE) Guidance for Specific Source Categories, April 14, 1998
http://www.epa.gov/ttn/atw/pte/lowmarch.pdf

- State and local prohibitory rules and general permits must require records sufficient to ensure that the cutoff can be enforced. The EPA guidelines on 'practical enforceability' considerations are contained in a January 25, 1995 memorandum… (Table 1 note 3, Table 2 note 3, etc)

- For categories with annual limits, the cutoffs are listed as values not to be exceeded during any rolling 12-month period. The EPA is accepting, on an interim basis, the use of a 12-month period, rather than the shorter time periods recommended by EPA's June 1989 policy memorandum 'Guidance on Limiting Potential to Emit in New Source Permitting,' given that the guidelines provide for cutoffs at levels nominally 50 percent of the major source threshold. (page 5, footnote 3)

- The EPA reiterates its position that emission factors, such as those in EPA's AP-42 compilation, are based upon the average of the values from available testing, and are not generally recommended as the approach to characterizing emissions from any given source for purposes of applicability determinations. (page 5, footnote 4)

- Rather than eliminate any such source category from consideration under this memorandum, the EPA feels that a reasonable approach is to make use of the AP-42 emission factors, building in a margin of error to account for the uncertainty in the data. (page 5, footnote 4)

Effective Limits on Potential to Emit: Issues and Options, January 31, 1996
http://www.epa.gov/ttn/oarpg/t5/memoranda/pte131.pdf

- ...the Agency now is re-examining all aspects of EPA's historical policy on potential to emit limits. Accordingly, EPA is setting forth for serious discussion and consideration an option that would recognize "effective" state-enforceable requirements as limiting a source's potential to emit. (page 1)

- Three overarching considerations govern the "effectiveness" of PTE limits:
  - Enforceability as a practical matter. To be "effective," limitations must be written so that it is possible to verify compliance and to document violations when enforcement action is necessary.
  - Compliance incentive effectiveness... The "effectiveness" of a limit... is tied to the probability of an enforcement action in the event of a violation.
  - State program effectiveness. Whether the first two aspects of effectiveness are achieved is influenced by the effectiveness of a State program for issuing and enforcing PTE limits. (Attachment, page 3)

Release of Interim Policy on Federal Enforceability of Limitations on Potential to Emit, January 22, 1996
http://www.epa.gov/region7/air/title5/t5memos/pottoemi.pdf

- In National Mining Association v. EPA... the court addressed hazardous air pollutant programs under section 112. The court found that EPA had not adequately explained why only federally enforceable measures should be considered as limits on a source's potential to emit. Accordingly, the court remanded the section 112 General Provisions... The court did not vacate the section 112 regulations, that is, the court did not declare the regulations null and void. The regulations remain in effect pending completion of new rulemaking. (page 1)

- In Chemical Manufacturers Ass'n v. EPA... the court, in light of National Mining, remanded the PTE definition in the PSD and NSR regulations to EPA. The court also vacated the federal enforceability requirement of the PTE definitions in the PSD and NSR regulations. (page 2)

- Effects on Section 112. Because the court did not vacate the rule, the current part 63 regulations, requiring federal enforceability, remain in effect. (page 2)

- Effects on title V... industry challenges to the part 70 requirements are pending...[1] (page 2)

- Effects on PSD/NSR. Because the court vacated the rules, the requirements in the nationwide rules for PSD and major source NSR concerning federal enforceability are not in effect. In many cases, however, individual State rules implementing these programs have

[1] In Clean Air Implementation Project v. EPA, No. 96-1224 (D.C. Cir. June 28, 1996), the court vacated and remanded the requirement for federal enforceability for PTE limits under 40 C.F.R. part 70. The EPA has stated that the term "federally enforceable" in section 70.2 should now be read to mean "federally enforceable or legally and practicably enforceable by a State or local air pollution control agency" pending any additional rulemaking by the EPA. As stated in the August 1996 memorandum, the EPA interprets the court order vacating the part 70 definition as not affecting any requirement for federal enforceability in existing State rules and programs. Second Extension of January 25, 1995 Potential to Emit Transition Policy and Clarification of Interim Policy, July 10, 1998.

been individually approved in the State Implementation Plan (SIP). The court did not vacate any requirements for federal enforceability in these individual State rules, and these requirements remain in place. (page 2)

- ...the court's action does not affect FESOPs... Permits issued under such programs continue to be valid for purposes of limiting PTE. States are free to submit SIP revisions to remove such provisions in light of the vacatur, and to substitute mechanisms that are legally and practicably enforceable by the state for limiting potential to emit in some circumstances under the PSD/NSR program. (Attachment, page 5)

Guidance on Enforceability Requirements for Limiting Potential to Emit through SIP and 112 Rules and General Permits, January 25, 1995
http://www.epa.gov/rgytgrnj/air/title5/t5memos/potoem.pdf

- EPA provided specific guidance on federally enforceable[2] permit conditions in a June 13, 1989 policy memo "Limiting Potential to Emit in New Source Permitting" from John Seitz and in the June 28, 1989 Federal Register notice (54 FR 27274) Additional guidance can also be found in United States v. Louisiana Pacific... which led to these guidance statements and a number of other memoranda covering practicable enforceability as it relates to rolling averages, short-term averages, and emission caps. (page 6)

- In general, practical enforceability for a source-specific permit term means that the provision must specify (1) a technically accurate limitation and the portions of the source subject to the limitation; (2) the time period for the limitation (hourly, daily, monthly, annually); and (3) the method to determine compliance including appropriate monitoring, record keeping and reporting. (page 6)

- ...for potential to emit limitations, the standards set must be technically sufficient to provide assurance to EPA and the public that they actually represent a limitation on the potential to emit for the category of sources identified. Any presumption for control efficiency must be technically accurate and the rule must provide the specific parameters as enforceable limits to assure that the control efficiency will be met. (page 9)

- Without a verifiable plantwide emission limit, verifiable emission limits must be assigned to each unit or group of units subject to the subject to the rule or general permit. (page 10)

- EPA policy expresses a preference toward short term limits, generally daily but not to exceed one month. However, EPA policy allows for rolling limits not to exceed 12 months or 365 days where the permitting authority finds that the limit provides an assurance that compliance can be readily determined and verified (page 10)

[2] See the January 22, 1996 Release of Interim Policy on Federal Enforceability of Limitations on Potential to Emit above which explains the effects of the court cases on federal enforceability.

Memorandum from Terrell E. Hunt, EPA, Guidance on Limiting Potential to Emit in New Source Permitting, June 13, 1989
http://www.epa.gov/reg3artd/permitting/t5_epa_guidance.htm

- The federal regulations define "potential to emit" as: the maximum capacity of a stationary source to emit a pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the source to emit a pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of fuel combusted, stored or processed, shall be treated as part of its design if the limitation or the effect it would have on emissions is federally enforceable.[2] (page 1)

- ...any permit limitation can legally restrict potential to emit if it meets two criteria: 1) it is federally enforceable[2] as defined by 40 C.F.R. Sections 52.21(b)(17), 51.165(a)(1)(xiv), 51.166(b)(17), i.e., contained in a permit issued pursuant to an EPA-approved permitting program or a permit directly issued by EPA, or has been submitted to EPA as a revision to a State Implementation Plan and approved as such by EPA; and 2) it is enforceable as a practical matter. (page 2)

- In United States v. Louisiana-Pacific Corporation... The Judge concluded that ... not all federally enforceable[2] restrictions are properly considered in the calculation of a source's potential to emit. While restrictions on hours of operation and on the amount of materials combusted or produced are properly included, blanket restrictions on actual emissions are not. (page 3)

- The Court held that Louisiana-Pacific's permit conditions which limited carbon monoxide emissions to 78 tons per year and volatile organic compounds to 101.5 tons per year should not be considered in determining "potential to emit" because these blanket emission limits did not reflect the type of permit conditions which restricted operations or production... (page 3)

- ...all permits issued pursuant to 40 C.F.R. Sections 51.160, 51.166, 52.21 and 51.165 must contain a production or operational limitation in addition to the emission limitation in cases where the emission limitation does not reflect the maximum emissions of the source operating at full design capacity without pollution control equipment. Restrictions on production or operation that will limit potential to emit include limitations on quantities of raw materials consumed, fuel combusted, hours of operation, or conditions which specify that the source must install and maintain controls that reduce emissions to a specified emission rate or to a specified efficiency level. (page 5)

- An emission limitation alone would limit potential to emit only when it reflects the absolute maximum that the source could emit without controls or other operational restrictions. (page 7)

- ... there are two exceptions to the absolute prohibition on using blanket emission limits to restrict potential to emit... a federally enforceable permit containing short term emission

limits (e.g. lbs per hour) would be sufficient to limit potential to emit, provided that such limits reflect the operation of the control equipment, and the permit includes requirements to install, maintain, and operate a continuous emission monitoring (CEM) system and to retain CEM data, and specifies that CEM data may be used to determine compliance with the emission limit. (page 7)

- ...for volatile organic compound (VOC) surface coating operations where no add-on control is employed but emissions are restricted through limiting VOC contents and quantities of coatings used, emission limits may be used to restrict potential to emit... The source must be required to keep the records necessary for this calculation, including daily quantities and the VOC content of each coating used. (page 8)

- ...the time over which they [production or operation limitation] extend should be as short term as possible and should generally not exceed one month. (page 9)

- ... the limit should not exceed an annual limit rolled on a monthly basis. (page 9)

- Under no circumstances would a production or operation limit expressed on a calendar year annual basis be considered capable of legally restricting potential to emit. (page 10)

- When a source that is minor because of operating restrictions in a construction permit later applies for a relaxation of that construction permit which would make the source major, Section 52.21(r)(4) prescribes the methodology for determining best available control technology (BACT). (page 12)

- ...When permits require add-on controls operated at a specified efficiency level, permit writers should include, so that the operating efficiency condition is enforceable as a practical matter, those operating parameters and assumptions which the permitting agency depended upon to determine that the control equipment would have a given efficiency. (page 7)

- [Examples of permit restrictions which would not legally limit PTE]:

  - 8000 hours/year... If, instead of 8000 hours/year, the hourly restriction were stated as 666 hours/month, the permit would serve to keep the source a minor source, assuming the permit contains appropriate recordkeeping provisions. (page 18)

  - 249 tpy... This does not limit potential to emit since an operational or production restriction is necessary for the source to be restricted to 249 tpy. The permit must contain a restriction on hours of operation or capacity utilization which, when multiplied by the maximum emission rate for the CO sources at the plant, results in emissions of 249 tpy. (page 18)

  - fabric filter must be employed and maintained at 99% efficiency... Assuming that maintaining the fabric filter at 99% efficiency will result in emissions of less than 250

tpy, this permit would limit potential to emit if it also contained either 1) parameters that allowed the permitting agency to verify the fabric filter's operating efficiency or 2) a requirement to install and operate continuous opacity monitors (COMs) and a specification that COM data may be used to verify compliance with emission limits. (page 19)