NA-NSR Permit Considerations in DFR Nonattainment Area

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global **environmental** and **advisory** solutions

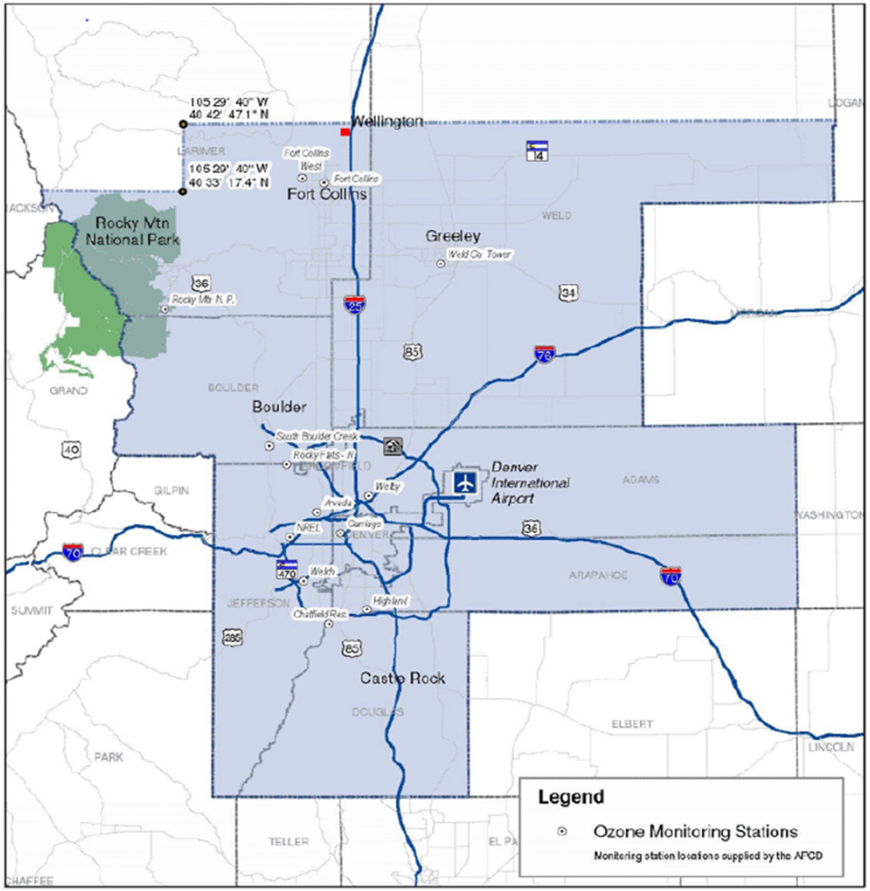
SLR

Disclaimer

- My opinion not SLR's opinion
- Based on best available data at the time of the presentation
- Each project is different and should be evaluated individually
- Potential non-attainment new source review (NA-NSR) projects should be discussed with permitting expert, legal counsel, and/or CDPHE prior to moving forward

Metropolitan Denver and North Front Range Nonattainment Area (NAA)

- The DFR NAA was redesignated to Serious NAA for the 1997 Ozone NAAQS on January 27, 2020.
- This dropped the threshold for a "Major" source to 50 tpy of NOx or VOC
- CDPHE estimated ~ 600 facilities are affected by this change in classification



AWMA New Source Review Manual

https://www.awma.org/nsrmanual

Existing Major Source

- Effective January 27, 2020
  - Existing Major Source is those permitted above 50 tpy for VOC or NOx in the Nonattainment
    - Includes totals from insignificant (non-APEN reportable) sources
    - An existing Minor Source can become an Existing Major
    - Title V Operating Permit
      - "Complete" application due 12 months after an Existing Major source becomes subject
    - Suggested to submit 6-9 months after Re-Classification if planned to stay > 50 tpy
  - Permit < 50 tpy VOC and NOx
    - Must be issued by January 27, 2021 or Title V Operating Permit application is also required
    - Suggested to submit 6-9 months after Re-Classification

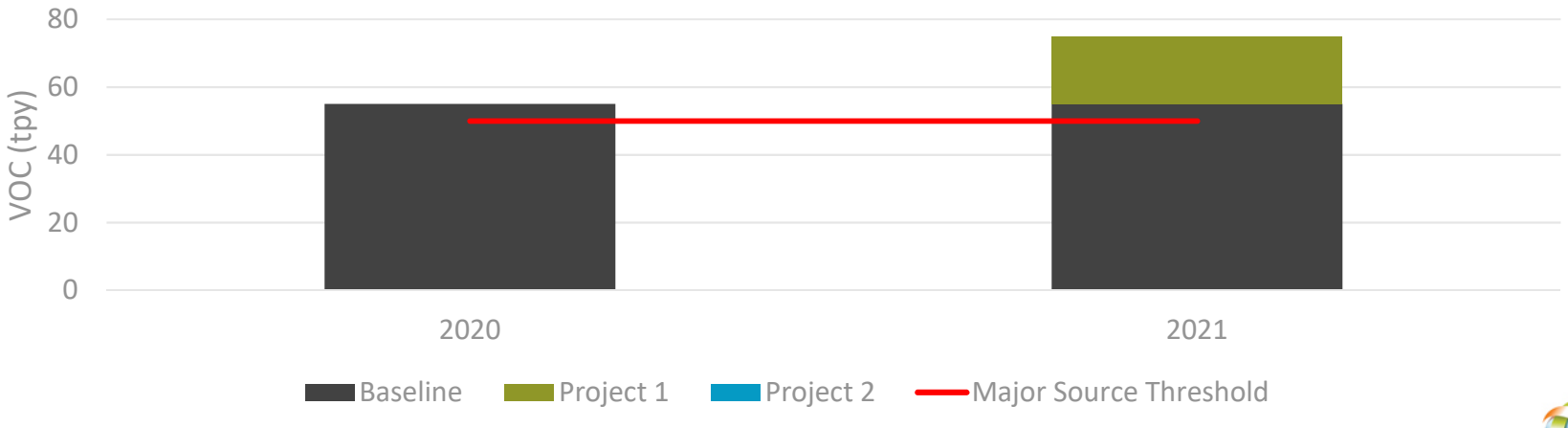
NA-NSR Applicability

- Modification
  - Physical or operational change that resulting in an emission increase and net emission increase
- Applicability Test
  - Modifications to existing emission units: BAE-to-projected actual emission (PAE) test
  - Construction of new emission units: BAE-to-potential test
  - Hybrid test
  - > 25 tpy increase of VOC or NOx is considered Major Modification
- Excludes
  - Routine Maintenance, Repair and Replacement
  - Use of alternative fuel or raw material
  - Increases in Operating Hours or Production rate

Existing Major Source Project 1

Q: PTE from an Existing Major Source are at 55 tpy VOC. That same facility in 2021 plans to add equipment and increase throughput, resulting in projected actual emissions increasing by 20 tpy VOC over baseline actual emissions. Subject to NA-NSR?

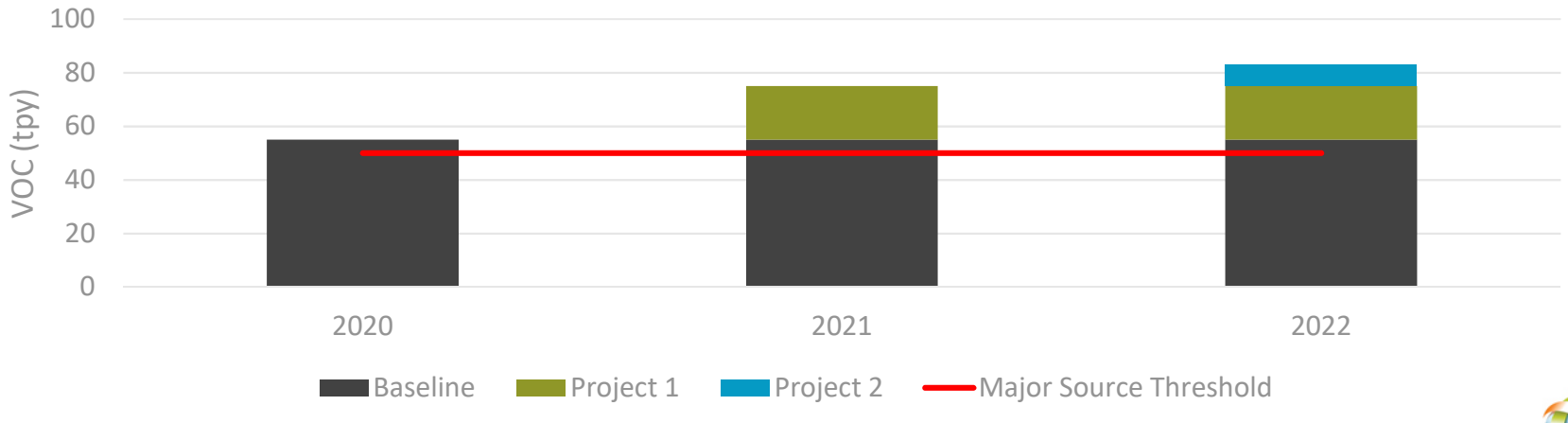
A: No. The added equipment and throughput increase can be accomplished without exceeding the threshold of 25 tpy. This increase is categorically exempt.



Existing Major Source Project 2

Q: That same facility in 2022 plans to add equipment which has a PTE of 8 tpy VOC. Subject to NA-NSR? (Previously the facility added 20 tpy PTE in 2021)

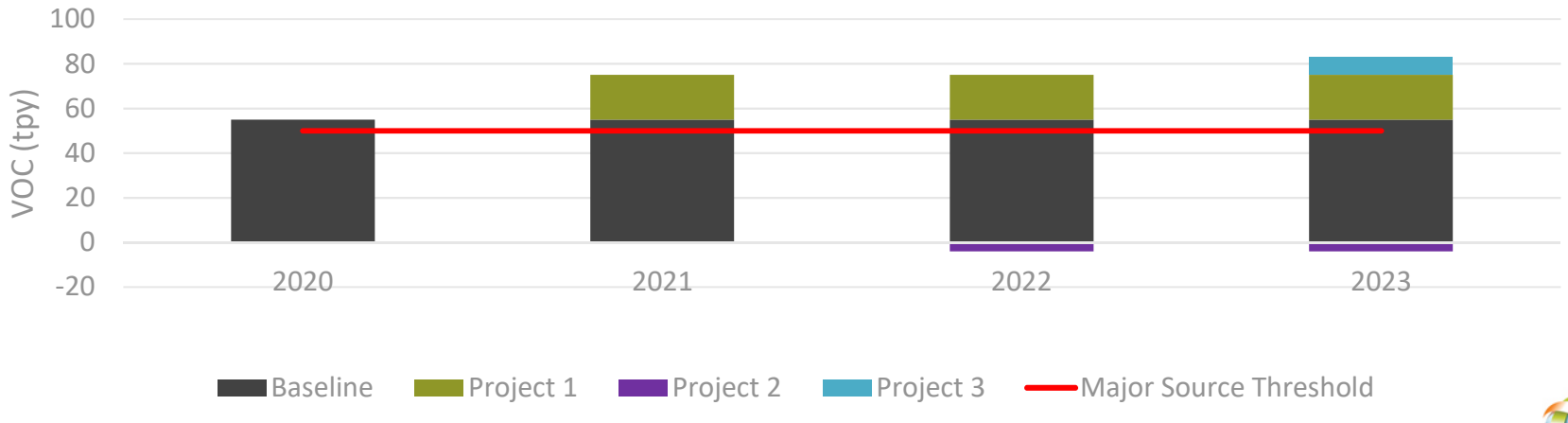
A: Yes. Net emission increases over the last 5 years will be 28 tpy VOC (20 tpy in 2021 and 8 tpy in 2022)



Existing Major Source Project 3

Q: The same facility from the previous example now plans to add equipment which has a PTE of 8 tpy VOC in 2023, delaying the installation. They were able to decrease emissions by 4 tpy in 2022 from other equipment. Subject to NA-NSR? (Previously the facility added 20 tpy PTE in 2021)

A: No. Net emission increases over the last 5 years will be 24 tpy VOC (Addition of 20 tpy in 2021, decrease of 4 tpy in 2022 and an increase of 8 tpy in 2023)



Existing Minor Source

- Effective January 27, 2020
  - Existing Minor Source is those with *issued* permit < 50 tpy for VOC or NOx in the Nonattainment Area
    - Includes totals from insignificant (non-APEN reportable) sources
- Can become Existing Major Source if emissions become > 50 tpy VOC or NOx

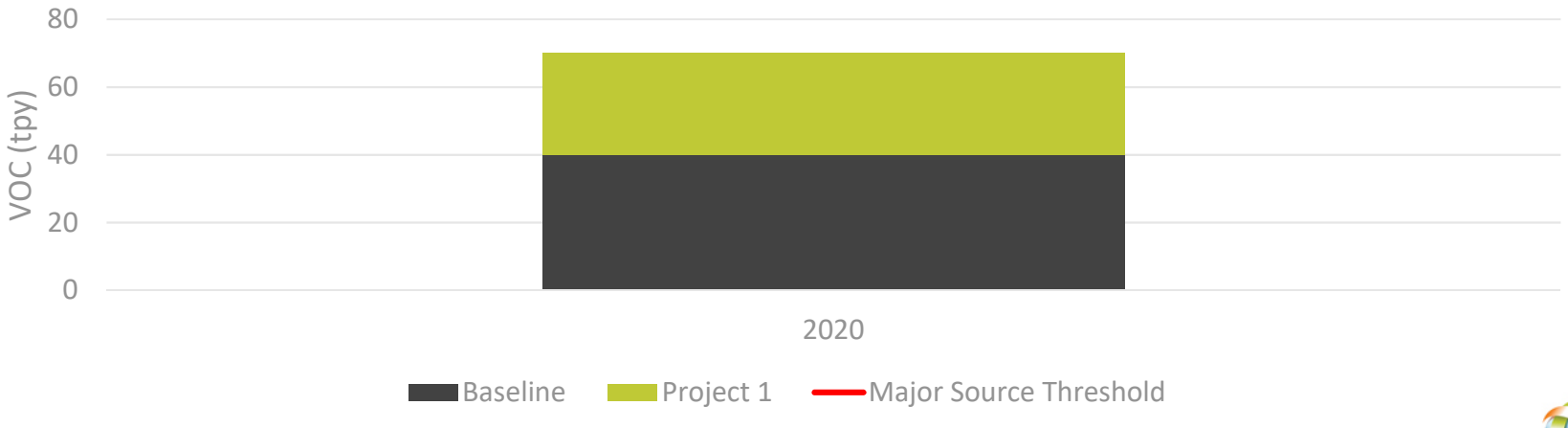
NA-NSR Applicability

- An Existing Minor Source does not trigger NA-NSR solely by increasing emissions above 50 tpy VOC or NOx
  - Source will be considered Existing Major once emissions are above the 50 tpy threshold
- Modification
  - Physical or operational change that resulting in an emission increase and net emission increase
- Applicability Test
  - > Project emissions in and of itself > 50 tpy VOC or NOx

Existing Minor Source Project 1

Q: An existing facility in 2020 (i.e. after re-classification) with PTE of 40 tpy VOC in the DFR NAA. Planned a project that would result in a VOC PTE increase of 30 tpy. Subject to NA-NSR?

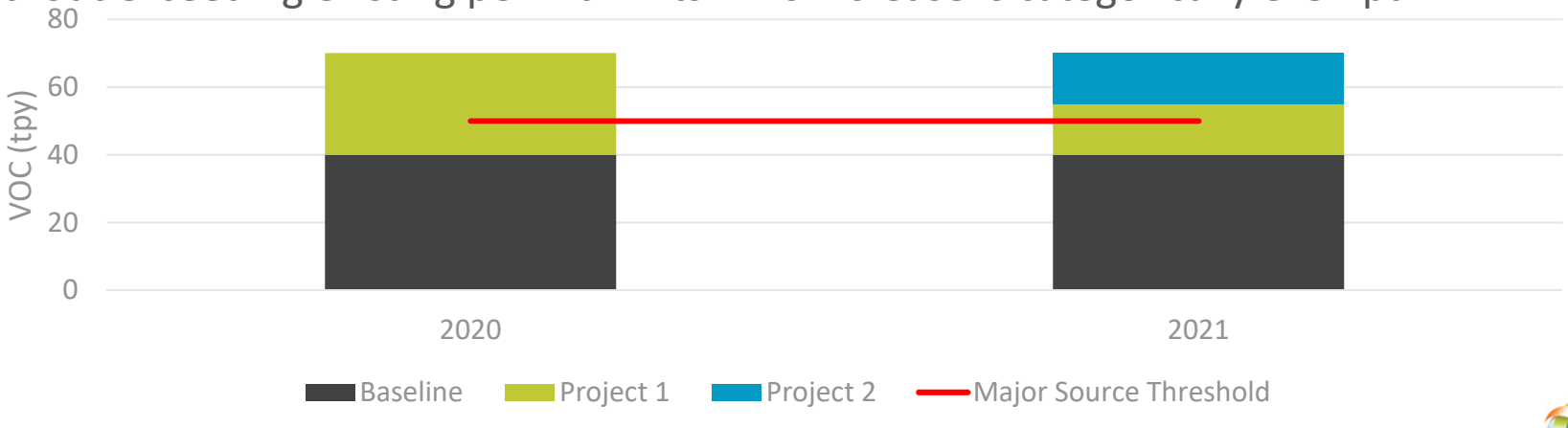
A: No. The facility is an existing minor source and the project is not major in and of itself (>50 tpy). This would be the facility's last "free project." After this project it becomes an existing major source. Future projects would have to be less than 25 tpy net emission increase threshold.



Existing Minor Source Project 2

Q: Actual emissions from Project 1 were less than ½ the PTE. So that same facility in 2021 plans to increase throughput and projected actual emissions are expected to increase by 15 tpy VOC over baseline actual emissions. The facility can handle the increased throughput without having to add or modify the existing equipment. The new throughput and emissions are projected to be less than existing permit limits. Subject to NA-NSR?

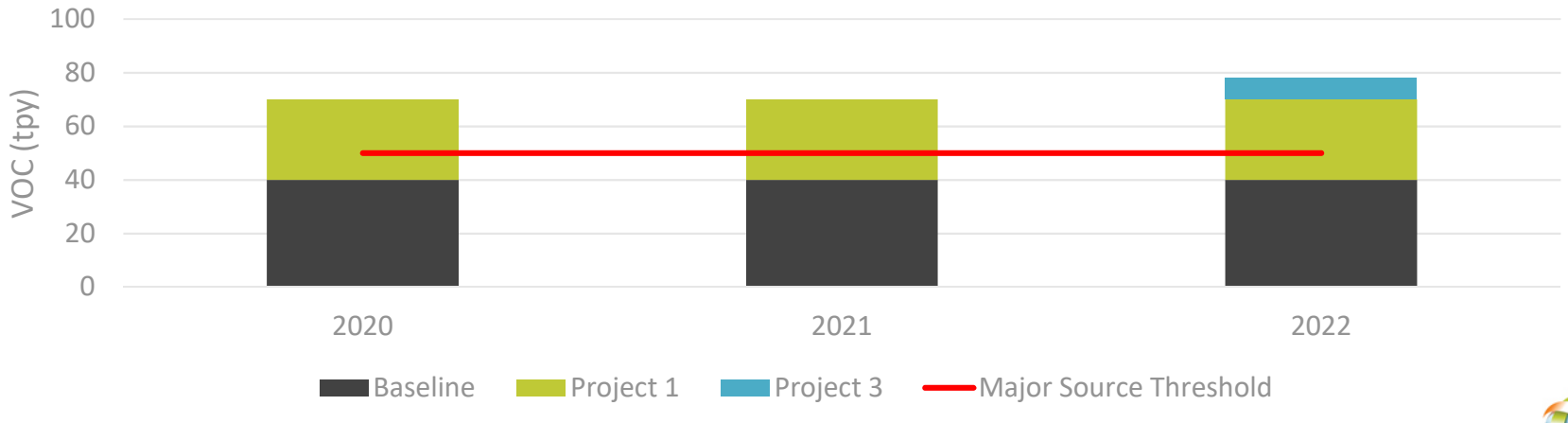
A: No. The throughput increase can be accomplished with existing equipment and without exceeding existing permit limits. This increase is categorically exempt.



Existing Minor Source Project 3

Q: That same facility in 2022 plans to add equipment which has a PTE of 8 tpy VOC. Subject to NA-NSR?

A: Yes. Net emission increases over the last 5 years will be 38 tpy VOC (30 tpy in 2020/2021 and 8 tpy in 2022)



NA-NSR Conditions of Approval

- Lowest Achievable Emission Rate (LAER) limitation
- Certification of compliance with all applicable requirements of the SIP for all existing major sources owned and operated by the applicant
- Emission reduction offsets for
  - 1.2:1 for VOC
  - 1:1 for NO_X
- Analysis of alternative sites, sizes, production processes and control techniques for proposed source
- Demonstration that emissions from the proposed source will not adversely impact visibility in a Class I area
- Unlikely that a NA-NSR permit will be issued

NA-NSR Avoidance

- Can project fit within confines of modification exclusions
- Prior Planning
  - For Existing Minor Sources becoming Existing Major Source
- LAER and Alternatives Analysis
  - Applying LAER upfront may reduce emissions below thresholds
- Look for ways to reduce emissions at facility to net out

Examples of Possbile LAER for O&G Facilities

- Most new affected sources are O&G
- LAER for Upstream O&G does not have a lot of precedence
- Some idea of CDPHE views from PS Memo 20-02;

The division encourages companies to be a partner in reducing actual VOC emissions statewide. There are a number of design and operational alternatives for well production facilities that will reduce both actual emissions and facility potential to emit (PTE), including:

- Using gas compression to input production gas to gathering pipelines to minimize flaring;
- Well head production shut-in during periods where gas gathering pipeline is unavailable or during on-site vapor recovery unit (VRU) operational downtime;
- Development of "Tankless" well production facilities;
- Operation of Vapor Recovery Towers (VRT) with gas capture to gathering pipelines;
- Installation of backup vapor recovery units (VRUs) to minimize the need for flaring;
- Lease and Custody Transfer (LACT) liquids transfer and storage tank auto-gauging;
- On-site Natural Gas Liquids (NGL) extraction to minimize production gas flaring; and
- Operating an enclosed combustion device such that an overall control efficiency greater than 95% can be achieved.

This memo focuses on the operational alternative of permitting an enclosed combustion

Offset Calculation

Option 1: Reduce at Another Owned Facility

$$8\ tpy\ \times 1.2\ \times \frac{1}{0.8} = 12\ tpy$$

Option 2: Purchase

$$8\ tpy\ \times 1.2\ \times = 9.6\ tpy$$

Questions?

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