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New Source Review

Meeting with U.S. EPA Region 9

October 29, 2020

Discussion Topics

- Secondary Pollutants
- Orphan Shutdown Quantification
- Surplus Discounting for ERCs
- Quantification of Offsets and ERCs
- Conversion of RTCs to ERCs

Interpretation of Modified Source for NSR Applicability

- South Coast AQMD staff has initially evaluating refinery SCR projects as having two potential emission increases:
  - Direct ammonia emissions from the SCR
  - PM10 emissions from the refinery fuel gas associated with the basic equipment (boiler or heater)
- Staff would like to discuss with U.S. EPA the applicability of NSR to emissions from the basic equipment for installations of SCR

General Thought Process

Permitted Source
Installation of SCR is the permitted source

BACT Requirements
BACT applies to the new or relocated source or for the actual modification to an existing source

Basic Equipment
Permit application is for SCR and there is no modification to basic equipment

Definition of Source

- Rule 1302 defines source as:
  - Any permitted individual unit, piece of equipment, article, machine, process, contrivance, or combination thereof, which may emit or control an air contaminant. This includes any permit unit at any non-RECLAIM facility and any device at a RECLAIM facility.

For SCR installations, the "source" is the SCR

BACT Requirements

- Rule 1303 requires that:
  - The Executive Officer or designee shall deny the Permit to Construct for any relocation or for any new or modified source which results in an emission increase of any nonattainment air contaminant, any ozone depleting compound, or ammonia, unless BACT is employed for the new or relocated source or for the actual modification to an existing source.

- New source is the SCR
- Emission increases from the SCR are ammonia
- Increases in PM10 are directly emitted from the SCR

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Definition of Modification

- Rule 1302 defines a modification as:
  - Any physical change in equipment, change in method of operation, or an addition to an existing facility, which may cause the issuance of air contaminants. Routine maintenance and/or repair shall not be considered a physical change. A change in the method of operation of equipment, unless previously limited by an enforceable permit condition, shall not include:
    - an increase in the production rate, unless such increase will cause the maximum design capacity of the equipment to be exceeded;
    - an increase in the hours of operation; or
    - a change in operator of a facility.

Basic equipment is not being changed.

Quantification of Emission Reductions for Orphan Shutdowns Where no Emissions Data is Available

- Under Rule 1315 (c)(3)(B)(i) quantification of orphan shutdowns for the Internal Bank are based on 80% of the Potential to Emit (PTE)
- South Coast AQMD is looking to allow new orphan shutdowns to fund the Large Source Bank
- South Coast AQMD's Annual Emission Reporting (AER) program generally requires facilities > 4 tons per year to report annual emissions
  - Emissions data alone from AER is not sufficient to quantify emission decreases - need number of operating days
  - Operator is generally not available to obtain additional information

Capacity Utilization Approaches

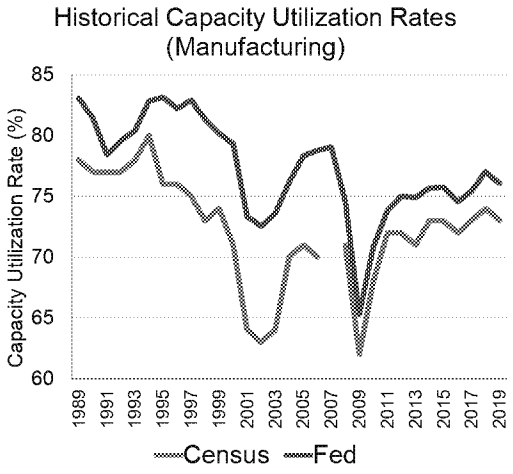
- The 80% of the PTE is based on the federal reserve capacity utilization rate
- U.S. EPA recommended that South Coast AQMD examine a more localized approach for developing a capacity utilization factor for the Large Source Bank
- In response to U.S. EPA recommendation South Coast AQMD researched other sources and metrics to evaluate capacity utilization:
  - Federal Reserve and Census data were the only two sources of capacity utilization identified
  - South Coast AQMD staff applied local (four-county) specific industrial output data from Regional Economic Models to the Federal Reserve and Census capacity utilization data

Comparison of Census and Federal Reserve Capacity Utilization Data – (Excludes Mining and Utilities)

- Historical trends between Census and Federal Reserve data are similar
- Federal Reserve estimates consistently higher

Census Quarterly 3 Year Average	Federal Reserve 3 Year Average
73.2%	76.9%

- Federal Reserve data is a more complete look at capacity utilization
- Census data provides a more detailed look at individual industry sectors



Further Efforts to Examine Capacity Utilization

- Based on input from U.S. EPA data be further examined capacity utilization by:
  - Using South Coast AQMD geographical area instead of four-county
  - Weight capacity utilization by Orphan Shutdowns rather than GDP
  - Weight capacity utilization by emissions rather than GDP

Federal Reserve Comparison for NOx	Utilization Rate (3yr average)
Four county by GDP	76.9%
South Coast AQMD geographical area instead of four-county	76.8%
Weight capacity utilization by Orphan Shutdowns rather than GDP	73.9%
Weight capacity utilization by emissions rather than GDP	79.4%

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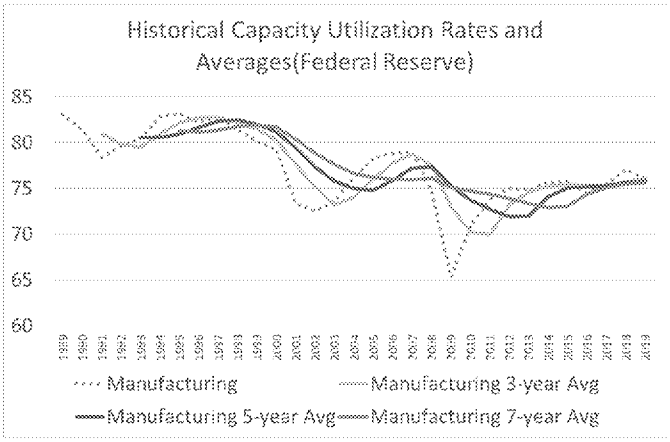
Evaluation of Longer Averaging Periods

- Based on input from U.S. EPA, staff is evaluating a 5- and 7-year averaging period
- Provides more smoothing, but generally similar results



Summary

- South Coast AQMD's socioeconomic team did not find any other reliable data sources for capacity utilization other than the Federal Reserve and U.S. Census data
- Federal Reserve and Census data are relatively similar
  - Based on the most recent 3-year average, Federal Reserve is about 3 percent higher
- Weighing by GDP, Orphan Shutdowns, Emissions resulted in similar estimates
- Longer averaging periods also result in similar estimates
- Estimates of capacity utilization range between 73.2% to 79.4%
- Slightly lower percentage, but generally consistent with 80%

Surplus Discounting ERCs

- Currently, to ensure ERCs are surplus actual emission reductions are discounted to BACT
  - BACT discount is applied at time of generation with no additional discount at time of use
- South Coast AQMD is considering applying a BARCT discount at time of generation and time of use, if needed
  - BARCT discount would account for reductions required by applicable, rule, regulation, law, approved Air Quality Management Plan Control Measure or State Implementation Plan

Considerations for BARCT Discounting for Generation of ERCs for the Open Market

- BARCT surplus discount will require discounting at time of generation and use, if needed
  - Future value of ERC is uncertain – new regulatory requirements may become effective prior to when the ERC is used
  - Implementation of the BARCT discount would be based on the compliance dates in applicable rules
- BACT discount may be greater than a BARCT discount
  - As BARCT rules become more stringent, emission rates for some equipment categories or processes are the same as BACT
- Staff is seeking input from U.S. EPA

Quantification of ERCs for the Open Market and Offsets for the Large Source Bank

- Staff discussed revising quantification provisions, under in Rule 1306, for offsets generated for the Large Source Bank
- Three key topics for offset quantification procedures when records are available:
  - Time period for calculating emission decreases
  - Records for estimating throughput and emission rate
  - Usage Factor

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Staff Seeking Confirmation with U.S. EPA on Quantification Approach

- Actual emission decreases based on any two consecutive calendar years over the previous five years immediately preceding the date of ERC application
- Operator must have sufficient records for the two consecutive years
- Shorter time period allowed if two consecutive years is not available

- Clarification in Rule 1306 to provide the following records:
  - Emission rate
  - Throughput
  - Days of operation
  - Load factor, if applicable
- Require operator to provide additional information if requested by EO

- Staff recommends to remove the usage factor for quantifying offsets for the Large Source Bank and ERCs for the Open Market
- Considering inclusion of provision to address equipment operating less than 30 days per year to avoid excess offsets

Conversion of RTCs to ERCs

- Under Rule 2002 (c)(3) all NOx and SOx ERCs generated at the facility and held by a RECLAIM Facility Permit holder were reissued as RTCs
- Some stakeholders have requested that ERCs that were converted to RTCs be allowed to be converted back to ERCs
- U.S. EPA expressed reservations about converting back to ERCs
- What information does U.S. EPA need to make a determination?
  - What are the specific hurdles?
  - Are there any parts of converting RTCs back to ERCs that may be viable?