SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT

DRAFT STAFF REPORT

Annual Offset Equivalency Demonstration

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I. SUMMARY

The San Joaquin Valley Air Pollution Control District's (District) New and Modified Source Review (NSR) Rule (Rule 2201) requires that an equivalency demonstration be performed each year to demonstrate the District's offsetting requirements are at least as stringent as the federal requirements. The offset equivalency demonstration is performed on a pollutant-by-pollutant basis for the District's non-attainment pollutants: NOx, SOx, VOC, and PM2.5. The details of this equivalency system have been embodied in the District's NSR Rule since December 19, 2002, and are explained in detail in this report.

In 2014/2015, the District's annual offset equivalency report to EPA demonstrated the District's offset requirements remain equivalent to the federal offset requirements for all pollutants. However, the amount of surplus NOx reductions used to demonstrate equivalency with federal requirements remaining in the District's NSR tracking database was low enough to raise concerns regarding the NOx offset equivalency demonstration in the upcoming 2015/2016 tracking year and future years. Note that since this equivalency demonstration is conducted on a pollutant-by-pollutant basis and the District has a large surplus of emission reductions for the other criteria pollutants, there is no immediate risk of failing the offset equivalency demonstration for any other pollutants.

This staff report provides a background discussion on how the District demonstrates equivalency, discusses the ramifications of failing to demonstrate equivalency, examines the current NOx Emission Reduction Credits (ERC) in the District registry, and explores available options to prevent the failing of the annual offset equivalency demonstration for NOx.

II. BACKGROUND

Pursuant to District Rule 2201, new facilities and modifications to existing facilities that cause increases in emissions above certain thresholds are required to provide emission reduction credits (ERCs) as mitigation. Although Rule 2201, overall, is more stringent than the federal regulations, it does not exactly match the federal requirements in all respects. In particular, Rule 2201 allows "ERCs surplus at-time-of-issuance" to be used to offset emission increases, while the federal offset program requires emission increases be offset using "ERCs surplus at-the-time-of-use."

- ERCs surplus at-time-of-issuance are ERCs which were discounted for all rules and regulations in place when the original banking action took place. These ERCs are not re-discounted if new rules or regulations are adopted after the original banking action. Discounting is a process of reducing the value of ERCs by adjusting them for emissions reductions required by rules or regulations.
- ERCs surplus at-the-time-of-use (surplus ERCs) are ERCs discounted when they are initially banked, and re-discounted when they are used to offset emission increases. This means that ERCs banked several years ago may have no value or may have a reduced value if rules or regulations with more stringent emission limits were adopted since the original banking action.

After years of negotiation with EPA and stakeholders, the parties agreed to an offset equivalency system designed to assess overall equivalency with federal regulations on an annual basis. The details of this equivalency system have been included in Rule 2201 since December 19, 2002.

Each year an offset equivalency demonstration is performed by the District to show the District's offsetting requirements are as stringent, if not more stringent than the federal offsetting requirements. This demonstration examines NSR projects processed during the tracking year (August 20th of the previous year to August 19th of the current year). A successful demonstration allows the District to continue administering its offsetting program instead of implementing federal offsetting requirements. The District's annual offset equivalency demonstration is detailed in a report to EPA which includes a list of the Federal Major Modifications and new Major Source projects which would have required offsets under the federal offset program. Copies of these reports are located on the Districts website[1].

[1] http://www.valleyair.org/busind/pto/annual_offset_report/annual_offset_report.htm

In order for the District's offsetting program to be deemed equivalent to or more stringent than the federal requirements, the District must demonstrate that its offsetting requirements meet the following:

- The District has required an equivalent or larger amount of offsets from new and modified stationary sources as would have been required under direct implementation of federal regulations; and
- The amount of reductions retired during the year, after discounting at the time of use, equals or exceeds the amount of offsets required under federal regulations.

The concept of an equivalency demonstration is only possible because the District's offsetting program is, in several ways, more stringent than the federal requirements. In the past, the District has required offsets from smaller sources than would be the case under the federal offset program. Under the federal offset program, offsets are only required for new Major Sources and Major Modifications to existing sources. For instance, for nitrogen oxides (NOx) and volatile organic compounds (VOC), prior to June 10, 2010, the federal offsetting requirements would have been triggered at facility emission levels of 25 tons per year. In contrast, Rule 2201, as mandated by the California Clean Air Act, required offsets for facilities' emissions exceeding 10 tons per year of NOx or VOC.

In addition to historically requiring offsets from smaller sources, the District's program is currently more stringent than the federal program in other ways, allowing for further credits towards the equivalency demonstration. Additional reductions that go beyond federal requirements and are therefore used by the District to show equivalency include the following:

- Higher offset ratios
- Extra discounting of credits at the time of banking (Air Quality Improvement Deduction)
- Reductions from the application of Best Available Control Technology (BACT) to existing minor sources proposing modification
- "Orphan" shutdowns (e.g. reductions from facility and equipment shutdowns for which ERCs are not granted to the owner)

Historically, the District has never failed to demonstrate equivalency; however, equivalency demonstrations have become more difficult due to the following:

- The District was re-designated as an extreme ozone non-attainment area as of June 10, 2010. This action had two impacts on the District's ability to continue to demonstrate equivalency:

    - It lowered the Major Source and federal offsetting requirement thresholds for NOx and VOC from the previous 25 tons per year to 10 tons per year. As the

federal offset threshold is now the same as the District offset threshold for these two pollutants, this removed one area where the District's rule was more stringent, and leaves less reductions that can be claimed in the equivalency report.
- Any increases in ozone precursor emissions at a Major Source are now considered to be Federal Major Modifications at those sources, meaning that more increases will have to be addressed in the offset equivalency demonstration.

- Continued development of additional rules by the District will limit the quantity of surplus reductions available for the equivalency demonstration.

A. Equivalency Demonstration

As stated in Rule 2201, Section 7.0, demonstrating equivalency with the federal offset requirements is done by performing two tests:

- The first test, outlined in Rule 2201, Section 7.2.1, compares the amount of offsets that would have been required under federal regulation to the amount of offsets actually required by the District under Rule 2201, including any emission reductions that were not used to demonstrate equivalency in previous years.

- The second test, outlined in Rule 2201, Section 7.2.2, is more complex and compares the federal offsets that would have been required to the surplus value at the time of use of emissions reductions required by the District under Rule 2201, including any surplus emission reductions that were not used to demonstrate equivalency in previous years and any surplus emission reductions that were banked or have been generated as a result of permitting actions.

In order to perform both of the tests discussed above, the District must first calculate the amount of federal offsets that would have been required for projects finalized during the tracking year. The District maintains a database to track these types of projects and calculates the federal offsets per the requirements in Rule 2201, Section 7.1.

The District is not expected to fail the first test for NOx emissions due to the large amount of excess NOx emission reductions accumulated over the life of the District's offset equivalency program, which currently totals 3,593 tons-NOx.

Due to the complex nature of the second test, the District maintains a database (NSR tracking database) which includes both the federal offsets that would have been required (increases) and the District surplus emission reductions (reductions) which are generated by the District's more stringent offsetting requirements such as Air Quality Improvement Deduction (AQID) and orphan shutdowns.

The District takes a two-step approach to performing the second test.

Step 1:
The first step is to see if the amount of surplus offsets provided by the District's offsetting requirements for the tracking year is greater than or equal to the amount of offsets required by the federal requirements.

District Offset Requirements (surplus ERCs) ≥ Federal Offset Requirements

Step 2:
If offset equivalency cannot be demonstrated in Step 1, additional calculations must be performed. This calculation includes adding the reductions of the District's more stringent offsetting requirements such as AQID and orphan shutdowns to the amount of surplus ERCs already provided. Any carry-over reductions from the previous tracking year are also included in this calculation. "Carry-Over Reductions" refer to any reductions leftover after mitigating the increases for the previous tracking year was performed.

District Offset Requirements (surplus ERCs)
+ AQID
+ BACT on Existing Minor Sources
+ Orphan Shutdowns
+ Carry-Over Reductions

≥ Federal Offset Requirements

The District performs the following tasks each year to generate the information discussed above:

- Calculate the federal offset requirements of all Major Modification and New Major Source projects occurring during the tracking year,
- Calculate the total surplus reductions generated since the last offset equivalency determination,
- Calculate the surplus value of all remaining "reductions" in the NSR tracking database, and
- Return surplus "reductions" used to mitigate "increases" from Major Modification and New Major Source projects which were never implemented or were cancelled, back into the NSR tracking database.

The District has been successful in demonstrating offset equivalency for the past 13 years; however, the NSR tracking bank was low enough following last year's demonstration to raise concerns regarding the NOx offset equivalency demonstration in the upcoming and future years.

B. Ramifications of Failure

Section 7.4 of District Rule 2201 discusses the requirements the District would have to implement if offset equivalency is not demonstrated. As stated in the Section I, the District is only in danger of failing the offset equivalency demonstration for NOx.

- Requiring Surplus-At-Time-Of-Use ERCs

  The largest ramification of failing to demonstrate offset equivalency is the requirement for projects triggering Federal Major Modifications or becoming a new Major Sources for NOx emissions, to offset their emission increases with surplus-at-time-of-use ERCs. As discussed in more detail in Section II.D below, the District estimates that approximately 18% of the total NOx ERCs in the District registry are currently surplus which represents approximately 1,000 tons of NOx credits.

  The requirement to provide surplus-at-time-of-use NOx ERCs would significantly reduce the amount of NOx ERCs available for use in these types of projects. Reduced supply, coupled with increased demand for these surplus credits, would likely lead to significant increase in the price of surplus NOx ERC certificates. Additionally, a devaluation of non-surplus NOx ERCs could also be expected.

- Project Denial Based on Ability to Provide Enough Surplus NOx ERCs

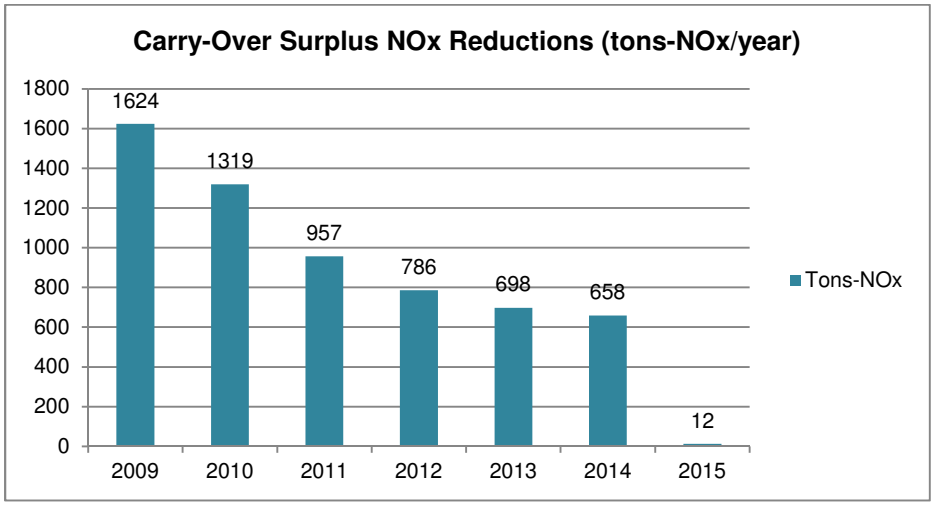
  The limited availability of surplus NOx ERCs could also affect the District's ability to approve projects resulting in a Federal Major Modification or new Major Source. These types of projects would require surplus-at-time-of-use NOx ERCs to offset emissions increases, and if the facility was unable to provide the proper amount of surplus NOx ERCs, such project would be denied. This ramification could cause a cascading effect and lead to even fewer surplus NOx ERCs being available since Major Source facilities are expected to acquire and save surplus NOx ERCs for use in future projects at their facilities.

  In case of failure to demonstrate equivalency, the federal requirements discussed above would be effective for all projects finalized after the November 19th offset equivalency report due date. Additionally, these requirements would remain in place until the shortfall of surplus reductions is made up.

C. Current State of Carry-Over NOx Reductions

After mitigating all offsets required by federal requirements from projects triggering a Federal Major Modification for NOx emissions and new Major Sources of NOx emissions, any remaining surplus reductions generated by the District and not used in the mitigation process are saved in the NSR tracking database as carry-over NOx reductions. Maintaining a robust amount of carry-over NOx reductions in the NSR tracking database is important to demonstrate offset equivalency in years when the

amount of federal offset requirements exceed the surplus reductions generated by the District. As demonstrated in the figure below, the amount of the carry-over NOx reductions available in the NSR tracking database has been on a steady decline, and was reduced to a very low level following last year's offset equivalency demonstration.



The amount of carry-over reductions in the NSR tracking database can vary drastically from year to year. This variability in the amount of carry-over reductions is due to the differing types and number of projects finalized by the District, and the variability of the reductions generated by the District's more stringent requirements during the tracking year. For example, during last year's equivalency demonstration, a single Federal Major Modification project required 548.9 tons of federal offsets to be provided, which significantly reduced the amount of carry-over reductions available for subsequent years.

D. Current State of District's NOx ERC Registry

As discussed above, the amount of surplus NOx ERCs available in the District's ERC registry is critical because in the case the District fails to demonstrate offset equivalency, Federal Major Modifications triggered for NOx emissions and new Major Sources of NOx emissions would be required to provide "surplus-at-time-of-use" credits to offset emission increases. This would result in any Federal Major Modification or new Major Source project finalized after November 19th, having a limited source of options to obtain surplus credits for their projects.

The District performed a preliminary analysis to determine the current surplus values of all NOx ERCs in the District's registry. These surplus values were calculated using the following methodology:

- Identify the original banking project for each NOx ERC in the registry.
- Determine the type of source (e.g. boiler, IC engine, cotton gin, etc.) and the pre and post project emission factors (EF1 and EF2, respectively) used to calculate the

actual emission reductions for each original banking project by examining the engineering evaluation for the original banking projects.

- Evaluate the District's current applicable rules and regulations and any applicable federal standards to determine if more stringent emission requirements (Rule EF) have been adopted/promulgated since the original banking project.
- For each source type, compare the original banking project's EF1 and EF2 to the Rule EF. Based on the Rule EF, determine the surplus ERC value accordingly:

  If Rule EF ≤ EF2:
  If the Rule EF was lower than or equal to the EF2, the ERC had no surplus value since the current emission requirements were more stringent than what the original source was reduced to.

  ERC Surplus Value = 0

  If Rule EF ≥ EF1:
  If the Rule EF was greater than or equal to EF1, the entire ERC was surplus since the current emission requirements would not have resulted in lower emissions.

  ERC Surplus Value = Current ERC Value

  If EF2 < Rule EF < EF1:
  If the Rule EF was greater than the EF2, but less than EF1, the surplus value of the ERC was calculated as the current ERC value multiplied by 1 minus the discount percentage. The discount percentage is the ratio of the difference between EF1 and Rule EF, and the difference between EF1 and EF2. Calculation are shown below:

  Discount Percentage = [(EF1 – Rule EF) ÷ (EF1 – EF2)]
  ERC Surplus Value = (Current ERC Value) x (1 – Discount Percentage)

  Where:
  EF1 = Pre project emission factor used to calculate AER from the original banking action
  EF2 = Post project emission factor used to calculate AER from the original banking action
  EF Rule = Current emission factor required by a rule or regulation

Currently there are a total of 11.4 million pounds of credits in the District's NOx ERC registry. Based on the District's analysis, approximately 18% of this total amount of credits are currently considered to be surplus, representing about 2 million pounds or 1,000 tons. This may seem like a large quantity; however, as shown above, a few large projects could significantly impact the amount of surplus credits available necessary to support any future growth in the San Joaquin Valley.

III. OPTIONS TO AVOID FAILURE

A. Voluntary Surrendering or Retiring Existing Surplus ERCs

The voluntary surrendering or retiring of existing surplus NOx ERCs by ERC owners could be used to provide additional reductions for the NSR tracking database to mitigate NOx emission increases from projects triggering a Federal Major Modification for NOx emissions or new Major Sources of NOx emissions. It is important to note that surrender or retirement of non-surplus NOx ERCs could be used to demonstrate offset equivalency in the first test described in Rule 2201, but could not be used to generate additional reductions used to demonstrate offset equivalency in the second test described in Rule 2201. Only the surplus values of the NOx ERCs could be entered into the District's NSR tracking database as reductions.

Advantages to selecting this option would be that no changes (such as a rule amendment) would be necessary to implement this option, as all surrendered or retired reductions would be voluntary. Another advantage of this option is that the facilities which will benefit the most (i.e. current Major Sources) from the District demonstrating offset equivalency, would be the facilities most likely to voluntarily surrender surplus ERCs to maintain offset equivalency each year.

A disadvantage of selecting this option would be that the surrender or retiring of surplus NOx ERCs would strictly be voluntary, and there would be no requirements for ERC owners to surrender or retire surplus NOx ERCs if they choose not to. This would result in a high level of uncertainty of available surplus NOx ERCs on a year-by-year basis for the District to demonstrate offset equivalency. While facilities with projects triggering Federal Major Modifications for NOx emissions or new Major Sources of NOx emissions currently being processed, or planned, would be the most affected by the District failing the offset equivalency demonstration, these facilities may choose to save their surplus NOx ERCs since these ERCs would increase in value if offset equivalency is not demonstrated in the future.

Under this option, ERC owners and the District would proactively identify the surplus NOx ERCs required to be surrendered in each equivalency demonstration report. However, the amount of surplus NOx ERCs needed to be surrendered or retired to demonstrate equivalency (or shortfall) is only determined after the District is able to evaluate the emissions increases from projects triggering a Federal Major Modification for NOx emissions or new Major Source of NOx emissions, and the reductions generated during the tracking year.

B. Mandatory Surrendering or Retiring Existing Surplus ERCs

A mandatory requirement to surrender or retire existing surplus ERCs could be used in the same fashion as described above for a voluntary program. However,

this option would require a change to current District Rules and may be a more effective way to administer the collection of surplus ERCs for demonstrating offset equivalency. The mandatory option would also provide the District with more certainty and assurance that a mechanism would exist to assist the District in demonstrating offset equivalency on a year-to-year basis.

There are also multiple approaches to implementing a mandatory program.

- One approach could involve only having facilities with projects triggering a Federal Major Modification for NOx emissions or new Major Sources of NOx emissions be required to surrender or retire surplus ERCs in sufficient quantities to avoid failure of the tracking system. Facilities without any surplus ERCs, would be required to obtain some from other sources.
- Another approach could also be to include all stationary sources so that the required amount of surplus ERCs needing to be surrendered or retired is spread out between a larger number of facilities. While this approach would evenly distribute the shortfall to thousands of facilities, this would result in an approach that would unduly affect a significant number of non-Major Source facilities that would not necessarily benefit from the District demonstrating equivalency. As discussed throughout this document, since the requirement to provide surplus ERCs would only affect projects triggering a Federal Major Modification or new Major Sources, these facilities would be mandated to surrender surplus ERCs even though they would not be affected by the failure to demonstrate equivalency.

Similar to the voluntary program discussed above, the mandatory option should proactively identify the surplus NOx ERCs required to be surrendered in each equivalency demonstration report. However, the shortfall is only determined after the District is able to evaluate the emissions increases from projects triggering a Federal Major Modification for NOx emissions or new Major Source of NOx emissions, and the reductions generated during the tracking year.

C. Interpollutant Trading – Surplus VOC for Surplus NOx

Pursuant to District Rule 2201, Section 4.13.3.1.4 states that interpollutant offsets between NOx and VOC may be allowed, on a case-by-case basis, if an applicant is able to demonstrate to the satisfaction of the APCO, that the emissions increases from a new or modified source will not cause or contribute to a violation of an Ambient Air Quality Standard. The rule also requires the APCO to impose, based on an air quality analysis, offset ratios equal to or greater than the requirements of the rule.

As stated in Section II above, the District's NSR tracking database currently contains 12 tons of carry-over surplus NOx reductions. The current balance of carry-over surplus VOC reductions in the NSR tracking database is 1,657 tons. Due to this robust amount of carry-over surplus VOC reductions currently in the

NSR tracking database, the ability to provide surplus VOC reductions to mitigate NOx emission increase would be advantageous to assisting the District in demonstrating offset equivalency. However, there is currently no approved VOC for NOx interpollutant offset ratio and any development of a ratio would be a collaborative effort between the District, ARB, and EPA, which would be likely be a long and complex process. With the amount of documentation needed to first establish the appropriate VOC for NOx ratio, there is no guaranteed that EPA would approve this type of interpollutant trading option with NOx being so important to the District's ozone and PM2.5 attainment strategies. Even if the District were to convince EPA to conceptually approve of the interpollutant trading of VOC for NOx emissions, the appropriate ratio could be so large that the robust carry-over VOCs in the NSR tracking database may not end up being enough to significantly assist the District in demonstrating equivalency. We anticipate the ratio would be in the range of 12-to-1 to 20-to-1 VOC-to-NOx, based on recent SIP evaluations of the two pollutants relative importance to ozone formation.

D. Voluntary Cancelation or Modification of Major Modification or New Major Source Permitting Projects

As discussed above, federal offset quantity requirements from projects triggering a Major Modification for NOx emissions and new Major Sources of NOx emission are entered into the NSR tracking database as emission increases. In the annual demonstration report, these emission increases are subsequently mitigated with surplus reductions from the NSR tracking database. However, in the event that the projects counted towards this equivalency demonstration are not implemented, or are cancelled by the applicant; the surplus reductions are returned to the NSR tracking database and can be used to mitigate future emission increases.

Reviewing all unimplemented projects which are consuming surplus reductions from the NSR tracking database would be beneficial in many ways. In fact, if projects were expired or if the facility agreed to cancel the project, the related surplus reductions could be returned to the database and be available for use in any future equivalency demonstrations.

The initial step would be to review all prior unimplemented projects and determine the "one-time" amount of surplus reductions that could be returned to the NSR tracking database. A periodic review of any future unimplemented federal offsetting projects that consume surplus NOx reductions would also be recommended to ensure the NSR tracking database contains the most accurate values to be used in the District's equivalency demonstration.

Using a similar concept, federal offsetting projects which are still scheduled to be implemented by the facility, but not yet expired, can potentially provide the District with an opportunity. The District can work with a facility to determine if the unimplemented federal offsetting project can be modified to lower the emissions

increases. If projects could be revised, this would result in a smaller amount of emissions increases to be mitigated with surplus reductions, thus easing the ability to demonstrate equivalency.

E. Amending District Rule 2201 To Be More Stringent

As discussed in the Background Section above, the details of this equivalency system have been embodied in Rule 2201, since December 19, 2002. Requirements such as the Air Quality Improvement Deduction (AQID) in Section 4.12 and the offset requirement thresholds in Section 4.5.3 have been used to help demonstrate that the District's offset requirements are as stringent as or more stringent than the federal offset requirements.

When the District was re-designated as an extreme ozone non-attainment area on June 10, 2010, the major source and federal offsetting thresholds for NOx (and VOC) were lowered from 25 tons per year to 10 tons per year. Concurrently, any project resulting in increases in NOx emissions at a Major Source was now considered to be a Federal Major Modification. As the NOx federal offset threshold is now the same as the NOx District offset threshold, and any increase in NOx emissions is considered to be a Federal Major Modification, this removed one area where the District's offset requirements were more stringent in the past, and leaves less reductions that can be claimed in the offset equivalency report.

This option would consider amending District Rule 2201 to increase the percentage of the AQID and/or to lower the NOx offset threshold from the current 10 tons/year to a lower value. These amendments would create an additional level of stringency in excess of the federal offset requirements and could provide additional emission reductions to be used in the District's equivalency demonstration.

Increasing The Air Quality Improvement Deduction

While increasing the Air Quality Improvement Deduction (AQID) from the current 10% reduction to a larger percentage reduction appears to be a simple amendment, to understand the implications associated with such an increase is critical. The following discussion evaluates the additional surplus reductions that could be obtained if the District were to increase the AQID to 20%.

As shown in the table below, the average annual NOx emission reductions generated by the AQID over the past 5 years were approximately 8.5 tons (from the NSR tracking database). For example, increasing the AQID from 10% to 20% would create approximately 17 tons/year of surplus NOx reductions that could be used in the equivalency demonstration. However, the amount of surplus reductions resulting from this measure would be relatively small when compared to the average annual NOx federal offset requirements over that same time period (325.3

tons/year). Additionally, the amount of surplus reductions generated by the AQID fluctuates greatly on a year-by-year basis and is dependent on any new ERC banking action.

NOx Emission Reductions From AQID (tons/year)						
Year	2010	2011	2012	2013	2014	**Average**
10% AQID (Current)	1.4	4.4	0.3	11.9	24.5	**8.5**
20% AQID (Potential Option)	2.8	8.8	0.6	23.8	49	**17**

Another implication to consider under this option is the final amount of ERCs received by a facility proposing a new ERC banking action. While the additional reductions would assist the District in demonstrating equivalency, there is no guarantee that equivalency would be met. In addition, all new banking actions would generate a lower amount of ERCs available for a facility to be sold or utilized for future needs which would result in a direct fiscal impact on the facility.

Lowering The NOx Offset Threshold

The June 10, 2010 amendment to Rule 2201 set the NOx offset threshold and NOx Major Source thresholds equal to each other at 10 tons/year. Concurrently, the NOx Federal Major Modification threshold was set to 0 lb/year. As a result, projects which would have previously only triggered District offset requirements are now classified as Federal Major Modifications and trigger federal offset requirements as well. This eliminated the additional offsets required by the District's offsetting program compared to the federal requirements and lowered the amount of emissions reductions available to use in the offset equivalency determination.

The lowering of the NOx offset threshold (e.g. from 10 tons to 5 tons) would reestablish a difference between the District and federal offset thresholds. Reductions generated from the surplus value of the ERCs used to offset the projects triggering District offsets requirements at this lower threshold, could be used in the offset equivalency. However, the lowering of the offset threshold would affect many small facilities which would have to begin providing ERCs for projects with emissions exceeding the new offset threshold. These small facilities and smaller projects would otherwise not have been affected by the offset equivalency failure.

Additionally, it is not obvious that lowering the offset threshold for NOx would result in the surrendering of surplus NOx credits needed to demonstrate offset

equivalency with federal offset requirements. In fact, the amount of surplus reductions generated by the lowering of the offset threshold could be small since only the surplus value of the ERCs provided for an offsetting project could be used as reductions in the offset equivalency. As discussed above, the District determined that approximately 18% of the total NOx ERC registry was surplus. Based on this analysis, it can be assumed that only 18% of the extra NOx ERCs provided for projects trigger offsets due to the lower offset threshold would be surplus. In addition, with the knowledge that offset equivalency may not be demonstrated, facilities may look to only use or provide non-surplus ERCs for these smaller projects, since surplus ERCs would be more valuable. Emission reductions from non-surplus ERCs cannot be used to demonstrate offset equivalency for test #2.

Another issue to consider with respect to amending District Rule 2201 is the timing of proposing, workshopping, and adopting rule amendments. Typical rule amendment projects can take 6 months to over a year to adopt, while more complex amendments can take a few years. The amendments discussed above can have drastic implications to a wide range of stationary sources and would likely be one of the more complex rule amendment projects. Therefore, as a solution to avoid failing equivalency for this upcoming demonstration period, these options may not fit in the timeframes necessary to amend Rule 2201.

F. Adopting a RECLAIM-Type Rule

The Regional Clean Air Incentives Market (RECLAIM) program is an emission reduction program administered by the South Coast AQMD and can be classified as a cap-and-trade type program. The program was designed to provide industry with flexibility to decide how to reduce emissions and advance pollution control technologies. NOx and/or SOx allocations were issued to RECLAIM facilities based on their historical activity levels and applicable emission control levels specified in the subsumed rules or in the local Air Quality Management Plan. Facilities within the RECLAIM program have the option of complying with their allocation allowance by either reducing emissions or purchasing RECLAIM Trading Credits from other facilities.

By adopting an ERC program similar to the RECLAIM program, the District would be able to limit and lower the amount of ERCs available for use on Federal Major Modifications triggered for NOx emission and new Major Sources of NOx emissions. This could be used as a tool to avoid failing the offset equivalency demonstration; however, it would also limit the amount of emissions increases from projects that could be approved by the District.

A RECLAIM program would be challenging to establish in the District for a number or reasons. First, cap-and-trade programs (such as the RECLAIM program) are difficult to establish in air basins with well controlled sources. The

South Coast AQMD adopted their RECLAIM program decades ago when emissions were higher and control requirements were not as stringent as they are now. As many of the facilities in the District are already operating with technologies providing the lowest emissions and are typically equipped with Best Available Control Technology (BACT), the establishment and further lowering of the emission cap would act more like a production limit for many facilities. Encouraging innovated emission reduction techniques is a cornerstone of a cap-and-trade program. However, since many of the facilities are currently operating with the most stringent emission requirements, the margin to encourage innovative solutions to reduce emissions would be very limited.

Additionally, there are questions related to the effectiveness of the existing RECLAIM programs and whether or not they have been reducing emissions as expected. There are a number of litigations that currently exist challenging the effectiveness of the RECLAIM program. Collectively, these concerns devalue a RECLAIM-type program as a viable option.

G. Establishing Process to Fund and Generate Surplus Emission Reduction Credits to be Used for Demonstrating Equivalency

The District's emission reduction incentive program uses various sources of money to fund projects which will result in emissions reductions. These projects include activities such as the replacement of on and off-road engines, replacement of diesel trucks, and replacement of fire places. Pursuant to Rule 9610, *State Implementation Plan Credit For Emission Reductions Generated Through Incentive Programs*, some of the emission reductions generated by these incentive programs can be used by the District in attainment plans. The inclusion of emission reductions from incentive programs in the District's attainment plans is possible due to the structure of the incentive program satisfying EPA's four integrity principles (surplus, quantifiable, enforceable, and permanent). Since these emission reductions from incentive programs can be used in attainment plans, they should also be available for use in the District's equivalency demonstration.

As discussed above, the District's incentive program utilizes a variety of sources of money to fund projects which will result in emissions reductions. One current source of funding for incentive programs is from annual emission fees generated through requirements in District prohibitory rules, such as Rule 4320, *Advanced Emissions Reduction Options for Boilers, Steam Generators, and Process Heaters Greater Than 5.0 MMBtu/hr*. Pursuant to this rule, a facility with a permit unit subject to the emissions requirements may choose to pay an annual emissions fee in lieu of making modifications to their unit to meet the rule's stringent emissions requirements. Currently, the fees that are generated by Rule 4320 are used by the District to fund a variety of incentive projects, such as Burn Cleaner, Technology Advancement Program, etc. Emission reductions achieved under this program are not counted towards the total emission reductions generated by the

requirements of the rule and could potentially be classified as emission reductions surplus to federal requirements. However, if the reductions generated by the incentive programs funded by these annual emissions fees do not satisfy EPA's four integrity principles, they may not be available for use as surplus emission reductions in the offset equivalency demonstration.

If the District pursued the option to use fees to generate surplus emissions reductions, the incentive program must be structured so that emissions reductions are surplus, quantifiable, enforceable, and permanent which would ensure their validity for use in the offset equivalency demonstration. The program could also be designed to ensure all surplus emission reductions generated from the projects funded by these fees go directly to the offset equivalency demonstration.

One issue to consider is that the majority of emissions reductions generated by the District's incentive programs come from mobile sources. Reductions from mobile sources typically have a limited life and it is unclear that these emission reductions can be used in the offset equivalency demonstration. Discussions with the District, ARB, and EPA must occur to determine the applicability of mobile source emissions reductions and their availability for use in the District's offset equivalency demonstration.

Using a similar concept as the Rule 4320 AERO fees, the District could establish a new source of funds to provide money for the District's incentive program. One potential option could be to assess fees to facilities which would directly benefit from the District continuing to demonstrate equivalency. The difficulty in establishing such a program would be to determine the fee amount each facility would be responsible for. As discussed previously, the amount of surplus NOx ERCs needed to be surrendered or retired to demonstrate equivalency (or shortfall) is only determined after the District is able to evaluate the emissions increases from projects triggering a Federal Major Modification for NOx emissions or new Major Source of NOx emissions, and the reductions generated during the tracking year. Therefore, basing the annual fee on this calculation would occur too late for use in the then-current tracking year. In turn, this would lead to the need to develop a regulatory fee that collects an anticipated level of funds some time in advance of the need for reductions to be used in the tracking system.

H. Revamping Federal NSR Mitigation Concept

The Annual Offset Equivalency Demonstration discussion in Rule 2201, states that the District compares its offsetting requirements with the federal new source review requirements, codified in 40 CFR 51.165, and Title I part D of the Clean Air Act (CAA) to demonstrate equivalency. These requirements include offsetting the full emissions increase from new and modified major sources, using actual emissions baselines when required under 40 CFR 51.165, and providing offsets

necessary to meet the CAA offset ratio requirements and provide a net air quality benefit.

The District's offset equivalency demonstration could be changed if the State and federal offsetting requirements were modified to allow Major Modification and new Major Source projects to be offset using emission reductions which were not surplus at time of use. The District is currently pursuing legislative action to modernize the federal Clean Air Act. Changes to the federal offsetting requirements could be included in this activity. However, it must be noted that the process of modernization the Clean Air Act is expected to be an ongoing multiyear effort and will not provide an immediate solution to the challenges facing the current offset equivalency demonstration.

IV. POLICY DEVELOPMENT PROCESS

A. Public Meeting

District staff hosted a public meeting on February 12, 2016 to discuss the potential failing of the District's offset equivalency demonstration. The focus of the public meeting was to discuss the District's offset equivalency demonstration process, the potential of failing the demonstration, the ramifications of failing the demonstration, and potential options to avoid failing the demonstration. At the public workshop, District staff presented these topics, solicited feedback from affected stakeholders, and informed all interested parties of the comment period and project milestones. The public workshop was held via video teleconferencing in all three District offices and was also live-streamed using the webcast.

District staff requested that all formal comments be sent to the District by February 26, 2016. Comments received during this comment period are addressed in Appendix A of this staff report. The next public meeting is scheduled for May 11, 2016.

APPENDIX A

Summary of Comments and Responses for Offset Equivalency Staff Report

SUMMARY OF COMMENTS
ANNUAL OFFSET EQUIVALENCY DEMONSTRATION

The San Joaquin Valley Unified Air Pollution Control District (District) held a public workshop to present, discuss, and hear comments on the District's annual offset equivalency demonstration on February 12, 2016. Summaries of comments received since the public workshop are summarized below.

WESTERN STATE PETROLEUM ASSOCIATION (WSPA) COMMENTS:

COMMENT 1: WSPA recommends that the District contact the source operators for the large projects that contribute the most amounts of increases to the offset equivalency demonstration and see if the projects can be restructured to reduce the NO_X emissions.

RESPONSE 1: This comment has been included in the draft staff report in the "Options to Avoid Failure" section under the option titled "Cancellation of Unimplemented Major Modification or New Major Source Projects". As stated in the staff report, this option would provide temporary relief from the federal offsetting requirements, but it is not a sustainable option by itself. This option would only create a temporary reduction in emissions when the project applicants chooses to cancel or modify their original proposal. The District will be working with all permit applicants who are willing to modify their project's original proposal to lower the emission increases.

COMMENT 2: The District State Implementation Plan (SIP) includes emissions from existing sources and banked emission reduction credits. Consequently, the reductions achieved by the plan account for emissions from the existing sources and the emissions allowed by ERCs, which are treated as existing sources.

Emission reductions obtained from existing sources are discounted for control requirements when generated and used as contemporaneous reductions. Given that the ERCs included in the plan are treated like existing emission units, we believe that when used they should be treated like contemporaneous actual emission reductions. Since the plan must obtain reductions from existing sources to reconcile growth represented by the ERCs, we believe the reductions achieved by the plan should be considered sufficient to account for any required discounting.

We request that the District evaluate the feasibility of such an approach or investigate other procedures that might be used to either eliminate or reduce the amount of discounting applied to banked ERCs.

RESPONSE 2: The District will evaluate the feasibility of this approach.

COMMENT 3: The District briefly discussed using volatile organic compounds (VOC) as interpollutant offsets for NOx. We believe that this option should be evaluated and we recommend that the District establish an appropriate interpollutant offset ratio which would allow the use of VOC reductions in lieu of NOx reductions.

RESPONSE 3: This comment has been noted. A discussion on the potential interpollutant trading of surplus VOC for surplus NOx is included in the District's draft staff report, including the District's initial estimate that the appropriate ratio of VOC-to-NOx would be in the range of 12-to-1 to 20-to-1.

COMMENT 4: One option proposed by the District to help fund the equivalency accounting procedure would reduce the Rule 2201 offset threshold for NOx from 10 tons per year to 5 tons per year. The five tons resulting from the difference between the offset thresholds would be used to help balance the determination.

The emission reductions used for providing the 5 tons of offsets generated from the revised threshold would most likely be provided using banked ERCs. After discounting the ERCs only about 5% reductions (0.25 tons) would be left for use by the equivalency determination. WSPA does not support this option because after discounting, the small amount of surplus reductions (0.25 tons) remaining for equivalency use, is not likely to outweigh the burden imposed on minor sources.

RESPONSE 4: This comment has been noted. A discussion on amending Rule 2201 to lower the offset threshold is included in the District's draft staff report, Note that our latest estimate that about 18% of total NOx ERCs are surplus of current requirements is considerable higher than our original estimate of 5%.

COMMENT 5: Another option suggested by the District was to increase the air quality improvement contribution from 10% to 20% when banking emission reductions. We do not believe that this option would result in an appreciable amount of reductions and we do not support this option.

RESPONSE 5: This comment has been noted. A discussion on amending Rule 2201 to increase the AQID is included in the District's draft staff report.

COMMENT 6: During the February 12, 2016 workshop the District asked stakeholders for their input on whether or not the District should pursue a "RECLAIM" type of permitting program, similar to that developed by the South Coast Air Quality Management District (SCAQMD). Most of the stakeholders were skeptical of the success of such a program in the Valley, due to the high level of NOx controls that are already in place.

RESPONSE 6: We agree with the stakeholders comments. A discussion on implementing a RECLAIM type program is included in the District's draft staff report.

COMMENT 7: During the workshop, the District asked stakeholders to provide input on establishing a process, where funds would be provided to the District via the "Emission Reduction Incentive Program" (or ERIP) and used to generate surplus reductions required for balancing offset equivalency. We believe this option may have merit and we look forward to discussing how such a procedure might be used to balance the offset equivalency determination.

We also recommend that the District evaluate use of "surplus" NOx reductions already obtained through ERIP or through other regulatory programs as a source of funding for offset equivalency. These reductions may be creditable to the extent that they are surplus to SIP requirements and have not already been committed to the SIP.

RESPONSE 7: This comment has been noted. A discussion on using surplus emission reductions from incentive funded programs to demonstrate offset equivalency is included in the District's draft staff report.