

BOARD MEETING DATE: June 3, 2022

AGENDA NO. 28

PROPOSAL: Determine That NOx RECLAIM Trading Credit Prices Exceed Applicable Thresholds in Rule 2002 and Determine That Non-Usable/Non-Tradable RTCs Will Not be Converted to Usable/Tradable RTCs for RECLAIM Compliance Year 2022.

SYNOPSIS: Rule 2002 establishes procedures in the event that NOx RECLAIM Trading Credit (RTC) prices exceed \$22,500 per ton based on the 12-month rolling average or exceed \$35,000 per ton based on the 3-month rolling average. Rule 2002 procedures include an assessment of the RECLAIM program and a determination as to whether to convert Non-tradable/Non-usable NOx RTCs to Tradable/Usable NOx RTCs valid for the period in which the RTC price is found to have exceeded the applicable threshold. The January 2022 and April 2022 RTC price reports showed that the 12-month and 3-month rolling average price for Compliance Year 2022 NOx RTCs exceeded the applicable RTC price thresholds. However, staff found that facilities are already beginning planned emission control projects to comply with landing rules and that the socioeconomic impacts of increased NOx RTC prices are relatively minimal.

COMMITTEE: Stationary Source, January 21 and May 20, 2022, Reviewed

RECOMMENDED ACTIONS:

Adopt the attached Resolution to:

1. Determine that NOx RECLAIM Trading Credit Prices Exceed Applicable Thresholds in Rule 2002; and
2. Determine that Non-Usable/Non-Tradable RTCs will not be converted to Usable/Tradable RTCs for RECLAIM Compliance Year 2022.

Wayne Nastri
Executive Officer

Background

On December 4, 2015 Regulation XX - RECLAIM was amended (referred to as the “2015 NOx Shave”) to reduce NOx RTCs by 12 tons per day over a six-year period beginning in 2016. Compliance Year 2022 is the final implementation year of the 2015 NOx Shave where the NOx RTCs will be reduced by 4 tons per day.

Under RECLAIM, facilities are required to hold RTCs that are the same or more than actual emissions at the end of each annual compliance year. RECLAIM facilities are split up into two cycles with different compliance years; the compliance year for Cycle 1 facilities begins on January 1 and ends on December 31 and the compliance year for Cycle 2 facilities begins on July 1 and ends on June 30. The deadline for Cycle 2 facilities to reconcile Compliance Year 2021 emissions is August 29, 2022.

Rule 2002 – Allocations for NOx and SOx contains the NOx RTC adjustment factors that are used to implement the 2015 NOx Shave that generally apply to the facilities with the largest emissions during the 2015 rule amendment. However, adjustments to NOx RTC holdings impact all facilities in NOx RECLAIM because it impacts the availability of NOx RTCs in the market to purchase or sell.

Rule 2002 also establishes procedures if the NOx RTC prices exceed \$22,500 per ton based on a 12-month rolling average or exceed \$35,000 per ton based on a 3-month rolling average. Rule 2002 procedures to address NOx RTC price exceedances include an assessment of control technology implementation, emission reductions, cost-effectiveness, market analysis, and a socioeconomic impact assessment of the RECLAIM program. Please refer to Attachment C for the details and conclusions of this assessment. Furthermore, Rule 2002 states that if the Board finds that the average NOx RTC price exceeds the applicable thresholds, the Board can elect to convert Non-usable/Non-tradable NOx RTCs to Usable/Tradable NOx RTCs for the period in which the RTC price exceeded the applicable threshold. However, after 2023 there are no Non-usable/Non-tradable NOx RTCs to convert to Usable/Tradable NOx RTCs since Compliance Year 2022 is the final implementation year of the 2015 NOx Shave.

Since January, the RTC prices for the 12-month and 3-month rolling average price have been over the applicable thresholds, with April 2022 prices being the highest. The 12- and 3-month rolling average price is shown below for January through April 2022.

Reporting Month	12-Month Average (Threshold \$22,500/ton)	3-Month Average (Threshold (\$35,000/ton)
January 2022	\$33,085/ton	\$38,803/ton
February 2022	\$33,085/ton	\$39,114/ton
March 2022	\$33,085/ton	\$37,614/ton
April 2022	\$34,146/ton	\$40,372/ton

Public Process

Staff first reported that the NOx RTC price threshold was exceeded at the January 2022 Stationary Source Committee meeting. In addition, two RECLAIM Working Group meetings held on February 10, 2022 and April 27, 2022 discussed the NOx RTC price threshold exceedances and Rule 2002 procedures. The Working Group includes facility representatives, equipment vendors, other agencies, community and environmental groups, and other interested parties. Staff also reported the results of the Rule 2002 Assessment at the May 2022 Stationary Source Committee meeting.

Proposal

The Rule 2002 socioeconomic assessment indicates that the impacts of increased NOx RTC prices are relatively minimal. Further, although converting the Non-usable/Non-tradable NOx RTCs to Usable/Tradable would reduce compliance cost by 17 percent (\$2.6 million), it also lessens incentives to implement emission control projects. Furthermore, NOx RTC prices are below the 2016 AQMP cost-effectiveness threshold of \$50,000 per ton of NOx reduced.

As the RTCs in RECLAIM are reduced due to the 2015 NOx Shave, the RTC price increases will further incentivize operators to implement emission control projects. Operators must implement emission reduction projects to meet BARCT standards established in landing rules. Emissions from NOx RECLAIM facilities will decrease, reducing the need to purchase NOx RTCs to reconcile emissions and consequently reducing the pressure on RTC prices independent of a credit conversion.

Staff is recommending that the Board finds that NOx RTC prices exceed the applicable thresholds in Rule 2002 and determine that Non-usable/Non-tradable RTCs will not be converted to Usable/Tradable RTCs for RECLAIM Compliance Year 2022.

Emission Reductions

Compliance Year 2022 is the final implementation year of the 2015 NOx Shave and has the largest NOx RTC reductions of any year of the shave (4 tons per day). Converting Non-usable/Non-tradable RTCs to Usable/Tradable RTCs for RECLAIM Compliance Year 2022 may result in 4 tons per day of emission reductions foregone in Compliance Year 2022.

Key Issues

Staff is not aware of any key remaining issues.

California Environmental Quality Act (CEQA)

The NOx RECLAIM Trading Credit Price Assessment for Rule 2002 – Allocations for Oxides of Nitrogen (NOx) and Oxides of Sulfur (SOx) is not a “project” within the meaning of CEQA because it does not have the potential to result in either a direct physical change to the environment or a reasonably foreseeable indirect physical change to the environment pursuant to CEQA Guidelines Section 15378, as this action is implementing an existing rule requirement which was previously analyzed under CEQA.

Resource Impacts

Existing staff resources are adequate to implement the recommended actions.

Attachments

- A. January 2022 RTC Price Report
- B. April 2022 RTC Price Report
- C. NOx RECLAIM Trading Credit Price Assessment for Rule 2002 – Allocations for Oxides of Nitrogen (NOx) and Oxides of Sulfur (SOx)
- D. Resolution
- E. Board Presentation



South Coast Air Quality Management District

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Twelve-Month and Three-Month Rolling Average Price of Compliance Years 2021 and 2022 NOx and SOx RTCs (October – December 2021)

January 2022 Report to Stationary Source Committee

Table I

Twelve-Month Rolling Average Price Data for Compliance Year 2021 NOx RTCs
(Report to Governing Board if rolling average price greater than \$22,500/ton)

Twelve-Month Rolling Average Price Data for Compliance Year 2021 NOx RTC					
Reporting Month	12-Month Period	Total Volume Traded with Price During Past 12-month (tons)	Total Price of Volume Traded During Past 12-month (\$)	Number of Trades with Price	Rolling Average Price ¹ (\$/ton)
Jan-21	Jan-20 to Dec-20	76.2	\$717,162	15	\$9,418
Feb-21	Feb-20 to Jan-21	77.6	\$736,204	16	\$9,488
Mar-21	Mar-20 to Feb-21	71.7	\$667,889	15	\$9,321
Apr-21	Apr-20 to Mar-21	69.6	\$656,731	13	\$9,439
May-21	May-20 to Apr-21	73.6	\$917,864	12	\$12,470
Jun-21	Jun-20 to May-21	43.3	\$630,190	10	\$14,545
Jul-21	Jul-20 to Jun-21	134.1	\$2,265,703	20	\$16,898
Aug-21	Aug-20 to Jul-21	131.1	\$2,238,560	23	\$17,072
Sep-21	Sep-20 to Aug-21	204.7	\$3,499,147	31	\$17,091
Oct-21	Oct-20 to Sep-21	210.0	\$3,664,844	33	\$17,455
Nov-21	Nov-20 to Oct-21	309.8	\$5,429,848	55	\$17,529
Dec-21	Dec-20 to Nov-21	310.0	\$5,432,348	54	\$17,523
Jan-22	Jan-21 to Dec-21	368.1	\$6,937,025	64	\$18,846

1. District Rule 2015(b)(6) - Backstop Provisions provides additional "evaluation and review of the compliance and enforcement aspects of the RECLAIM program" if the average annual RTC price exceeds \$15,000 per ton. The average annual RTC price is reported to the Board in the Annual RECLAIM Audit Report in March of each year.

Table II

Twelve-Month Rolling Average Price Data for Compliance Year 2022 NOx RTCs
(Report to Governing Board if rolling average price greater than \$22,500/ton)

Twelve-Month Rolling Average Price Data for Compliance Year 2022 NOx RTC					
Reporting Month	12-Month Period	Total Volume Traded with Price During Past 12-month (tons)	Total Price of Volume Traded During Past 12-month (\$)	Number of Trades with Price	Rolling Average Price ¹ (\$/ton)
Jan-22	Jan-21 to Dec-21	165.4	\$5,473,709	18	\$33,085

1. District Rule 2015(b)(6) - Backstop Provisions provides additional "evaluation and review of the compliance and enforcement aspects of the RECLAIM program" if the average annual RTC price exceeds \$15,000 per ton. The average annual RTC price is reported to the Board in the Annual RECLAIM Audit Report in March of each year.

Table III

Three-Month Rolling Average Price Data for Compliance Year 2021 NOx RTCs
(Report to Governing Board if rolling average price greater than \$35,000/ton)

Three-Month Rolling Average Price Data for Compliance Year 2021 NOx RTC					
Reporting Month	3-Month Period	Total Volume Traded with Price During Past 3-month (tons)	Total Price of Volume Traded During Past 3-month (\$)	Number of Trades with Price	Rolling Average Price (\$/ton)
Jan-21	Oct-20 to Dec-20	1.3	\$16,750	3	\$13,400
Feb-21	Nov-20 to Jan-21	2.9	\$38,049	5	\$13,218
Mar-21	Dec-20 to Feb-21	2.1	\$26,049	3	\$12,238
Apr-21	Jan-21 to Mar-21	1.6	\$21,299	2	\$13,079
May-21	Feb-21 to Apr-21	32.4	\$482,253	3	\$14,900
Jun-21	Mar-21 to May-21	32.4	\$482,253	3	\$14,900
Jul-21	Apr-21 to Jun-21	123.1	\$2,117,767	13	\$17,201
Aug-21	May-21 to Jul-21	95.9	\$1,718,259	15	\$17,921
Sep-21	Jun-21 to Aug-21	169.5	\$2,978,846	23	\$17,575
Oct-21	Jul-21 to Sep-21	84.0	\$1,509,029	15	\$17,974
Nov-21	Aug-21 to Oct-21	178.6	\$3,191,288	32	\$17,865
Dec-21	Sep-21 to Nov-21	106.0	\$1,945,201	25	\$18,346
Jan-22	Oct-21 to Dec-21	159.4	\$3,288,931	34	\$20,636

Table IV

Three-Month Rolling Average Price Data for Compliance Year 2022 NOx RTCs
(Report to Governing Board if rolling average price greater than \$35,000/ton)

Three-Month Rolling Average Price Data for Compliance Year 2022 NOx RTC					
Reporting Month	3-Month Period	Total Volume Traded with Price During Past 3-month (tons)	Total Price of Volume Traded During Past 3-month (\$)	Number of Trades with Price	Rolling Average Price (\$/ton)
Jan-22	Oct-21 to Dec-21	97.4	\$3,780,324	10	\$38,803

Table V

Twelve-Month Rolling Average Price Data for Compliance Year 2021 SOx RTCs
(Report to Governing Board if rolling average price greater than \$50,000/ton)

Twelve-Month Rolling Average Price Data for Compliance Year 2021 SOx RTC ¹					
Reporting Month	12-Month Period	Total Volume Traded with Price During Past 12-month (tons)	Total Price of Volume Traded During Past 12-month (\$)	Number of Trades with Price	Rolling Average Price ² (\$/ton)
Jan-21	Jan-20 to Dec-20	None	-	-	-
Feb-21	Feb-20 to Jan-21	None	-	-	-
Mar-21	Mar-20 to Feb-21	None	-	-	-
Apr-21	Apr-20 to Mar-21	None	-	-	-
May-21	May-20 to Apr-21	None	-	-	-
Jun-21	Jun-20 to May-21	None	-	-	-
Jul-21	Jul-20 to Jun-21	None	-	-	-
Aug-21	Aug-20 to Jul-21	None	-	-	-
Sep-21	Sep-20 to Aug-21	None	-	-	-
Oct-21	Oct-20 to Sep-21	None	-	-	-
Nov-21	Nov-20 to Oct-21	None	-	-	-
Dec-21	Dec-20 to Nov-21	None	-	-	-
Jan-22	Jan-21 to Dec-21	37.5	\$112,500	1	\$3,000

1. Pursuant to District Rule 2002(f)(1)(Q), the requirement to report 12-month rolling average SOx RTC price ended February 1, 2020. This table is provided as a courtesy.
2. District Rule 2015(b)(6) - Backstop Provisions provides additional "evaluation and review of the compliance and enforcement aspects of the RECLAIM program" if the average annual RTC price exceeds \$15,000 per ton. The average annual RTC price is reported to the Board in the Annual RECLAIM Audit Report in March of each year.

Table VI

Twelve-Month Rolling Average Price Data for Compliance Year 2022 SOx RTCs
(Report to Governing Board if rolling average price greater than \$50,000/ton)

Twelve-Month Rolling Average Price Data for Compliance Year 2022 SOx RTC ¹					
Reporting Month	12-Month Period	Total Volume Traded with Price During Past 12-month (tons)	Total Price of Volume Traded During Past 12-month (\$)	Number of Trades with Price	Rolling Average Price ² (\$/ton)
Jan-22	Jan-21 to Dec-21	None	-	-	-

1. Pursuant to District Rule 2002(f)(1)(Q), the requirement to report 12-month rolling average SOx RTC price ended February 1, 2020. This table is provided as a courtesy.
2. District Rule 2015(b)(6) - Backstop Provisions provides additional "evaluation and review of the compliance and enforcement aspects of the RECLAIM program" if the average annual RTC price exceeds \$15,000 per ton. The average annual RTC price is reported to the Board in the Annual RECLAIM Audit Report in March of each year.



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Twelve-Month and Three-Month Rolling Average Price of Compliance Years 2021 and 2022 NOx and SOx RTCs (January – March 2022)

April 2022 Report to Stationary Source Committee

Table I

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(Report to Governing Board if rolling average price greater than \$22,500/ton)

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Reporting Month	12-Month Period	Total Volume Traded with Price During Past 12-month (tons)	Total Price of Volume Traded During Past 12-month (\$)	Number of Trades with Price	Rolling Average Price ¹ (\$/ton)
Jan-21	Jan-20 to Dec-20	76.2	\$717,162	15	\$9,418
Feb-21	Feb-20 to Jan-21	77.6	\$736,204	16	\$9,488
Mar-21	Mar-20 to Feb-21	71.7	\$667,889	15	\$9,321
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Nov-21	Nov-20 to Oct-21	309.8	\$5,429,848	55	\$17,529
Dec-21	Dec-20 to Nov-21	310.0	\$5,432,348	54	\$17,523
Jan-22	Jan-21 to Dec-21	368.1	\$6,937,025	64	\$18,846
Feb-22	Feb-21 to Jan-22	548.8	\$8,783,951	91	\$16,007
Mar-22	Mar-21 to Feb-22	601.1	\$9,116,953	103	\$15,166
Apr-22	Apr-21 to Mar-22	680.8	\$12,274,023	107	\$18,028

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(Report to Governing Board if rolling average price greater than \$22,500/ton)

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Reporting Month	12-Month Period	Total Volume Traded with Price During Past 12-month (tons)	Total Price of Volume Traded During Past 12-month (\$)	Number of Trades with Price	Rolling Average Price ¹ (\$/ton)
Jan-22	Jan-21 to Dec-21	165.4	\$5,473,709	18	\$33,085
Feb-22	Feb-21 to Jan-22	165.4	\$5,473,709	18	\$33,085
Mar-22	Mar-21 to Feb-22	165.4	\$5,473,709	18	\$33,085
Apr-22	Apr-21 to Mar-22	193.6	\$6,611,522	22	\$34,146

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Table III

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(Report to Governing Board if rolling average price greater than \$35,000/ton)

Three-Month Rolling Average Price Data for Compliance Year 2021 NOx RTC					
Reporting Month	3-Month Period	Total Volume Traded with Price During Past 3-month (tons)	Total Price of Volume Traded During Past 3-month (\$)	Number of Trades with Price	Rolling Average Price (\$/ton)
Jan-21	Oct-20 to Dec-20	1.3	\$16,750	3	\$13,400
Feb-21	Nov-20 to Jan-21	2.9	\$38,049	5	\$13,218
Mar-21	Dec-20 to Feb-21	2.1	\$26,049	3	\$12,238
Apr-21	Jan-21 to Mar-21	1.6	\$21,299	2	\$13,079
May-21	Feb-21 to Apr-21	32.4	\$482,253	3	\$14,900
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Aug-21	May-21 to Jul-21	95.9	\$1,718,259	15	\$17,921
Sep-21	Jun-21 to Aug-21	169.5	\$2,978,846	23	\$17,575
Oct-21	Jul-21 to Sep-21	84.0	\$1,509,029	15	\$17,974
Nov-21	Aug-21 to Oct-21	178.6	\$3,191,288	32	\$17,865
Dec-21	Sep-21 to Nov-21	106.0	\$1,945,201	25	\$18,346
Jan-22	Oct-21 to Dec-21	159.4	\$3,288,931	34	\$20,636
Feb-22	Nov-21 to Jan-22	241.9	\$3,392,151	41	\$14,024
Mar-22	Dec-21 to Feb-22	293.3	\$3,710,654	52	\$12,653
Apr-22	Jan-22 to Mar-22	314.4	\$5,358,297	45	\$17,045

Table IV

Three-Month Rolling Average Price Data for Compliance Year 2022 NOx RTCs
(Report to Governing Board if rolling average price greater than \$35,000/ton)

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Reporting Month	3-Month Period	Total Volume Traded with Price During Past 3-month (tons)	Total Price of Volume Traded During Past 3-month (\$)	Number of Trades with Price	Rolling Average Price (\$/ton)
Jan-22	Oct-21 to Dec-21	97.4	\$3,780,324	10	\$38,803
Feb-22	Nov-21 to Jan-22	79.5	\$3,110,524	7	\$39,114
Mar-22	Dec-21 to Feb-22	29.5	\$1,110,524	5	\$37,614
Apr-22	Jan-22 to Mar-22	28.2	\$1,137,813	4	\$40,372

Table V

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(Report to Governing Board if rolling average price greater than \$50,000/ton)

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Mar-21	Mar-20 to Feb-21	None	-	-	-
Apr-21	Apr-20 to Mar-21	None	-	-	-
May-21	May-20 to Apr-21	None	-	-	-
Jun-21	Jun-20 to May-21	None	-	-	-
Jul-21	Jul-20 to Jun-21	None	-	-	-
Aug-21	Aug-20 to Jul-21	None	-	-	-
Sep-21	Sep-20 to Aug-21	None	-	-	-
Oct-21	Oct-20 to Sep-21	None	-	-	-
Nov-21	Nov-20 to Oct-21	None	-	-	-
Dec-21	Dec-20 to Nov-21	None	-	-	-
Jan-22	Jan-21 to Dec-21	37.5	\$112,500	1	\$3,000
Feb-22	Feb-21 to Jan-22	37.5	\$112,500	1	\$3,000
Mar-22	Mar-21 to Feb-22	53.9	\$209,201	2	\$3,882
Apr-22	Apr-21 to Mar-22	53.9	\$209,201	2	\$3,882

1. Pursuant to District Rule 2002(f)(1)(Q), the requirement to report 12-month rolling average SOx RTC price ended February 1, 2020. This table is provided as a courtesy.
2. District Rule 2015(b)(6) - Backstop Provisions provides additional "evaluation and review of the compliance and enforcement aspects of the RECLAIM program" if the average annual RTC price exceeds \$15,000 per ton. The average annual RTC price is reported to the Board in the Annual RECLAIM Audit Report in March of each year.

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Feb-22	Feb-21 to Jan-22	None	-	-	-
Mar-22	Mar-21 to Feb-22	None	-	-	-
Apr-22	Apr-21 to Mar-22	None	-	-	-

1. Pursuant to District Rule 2002(f)(1)(Q), the requirement to report 12-month rolling average SOx RTC price ended February 1, 2020. This table is provided as a courtesy.
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ATTACHMENT C

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

NO_x RECLAIM Trading Credit Price Assessment for Rule 2002 – Allocations for Oxides of Nitrogen (NO_x) and Oxides of Sulfur (SO_x)

June 2022

Deputy Executive Officer

Planning, Rule Development, and Area Sources
Sarah L. Rees, Ph.D.

Assistant Deputy Executive Officer

Planning, Rule Development, and Area Sources
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Jillian Wong – Assistant Deputy Executive Officer

Reviewed By: Barbara Baird – Chief Deputy Counsel
Brian Tomasovic – Principal Deputy District Counsel
Karin Manwaring – Senior Deputy District Counsel
Charlene Nguyen, Ph.D. – Air Quality Specialist

**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
GOVERNING BOARD**

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Mayor, Wildomar
Cities of Riverside County

Vice-Chair: VANESSA DELGADO
Senate Rules Committee Appointee

MEMBERS:

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Mayor, South Pasadena
Cities of Los Angeles County/Eastern Region

ANDREW DO
Supervisor, First District
County of Orange

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Governor's Appointee

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Supervisor, Third District
County of Los Angeles

LARRY MCCALLON
Mayor, Highland
Cities of San Bernardino County

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Supervisor, Fourth District
County of Riverside

NITHYA RAMAN
Council Member, Fourth District
City of Los Angeles Representative

REX RICHARDSON
Vice Mayor, City of Long Beach
Cities of Los Angeles County/Western Region

CARLOS RODRIGUEZ
Mayor, Yorba Linda
Cities of Orange County

JANICE RUTHERFORD
Supervisor, Second District
County of San Bernardino

EXECUTIVE OFFICER:

WAYNE NASTRI

INTRODUCTION

Rule 2002 – Allocations for Oxides of Nitrogen (NO_x) and Oxides of Sulfur (SO_x) establishes procedures in the event that NO_x RECLAIM Trading Credit (RTC) prices exceed \$22,500 per ton based on the 12-month rolling average or exceed \$35,000 per ton based on the 3-month rolling average. When the NO_x RTC prices exceed either of the price thresholds for a compliance year, Rule 2002 requires staff to conduct an assessment of the RECLAIM program and a determination as to whether to convert Non-tradeable/Non-usable NO_x RTCs to Tradeable/Usable NO_x RTCs for that period. The January 2022 and April 2022 RTC price reports showed that the 12-month and 3-month rolling average prices for Compliance Year 2022 NO_x RTCs exceeded their applicable price thresholds. Staff's assessment indicates that with command-and-control rules being established to implement Best Available Retrofit Control Technology (BARCT) standards, increases in RTC prices further incentivize emission control projects. RECLAIM is working as intended. With impacts of increased NO_x RTC prices estimated to be relatively minimal, staff recommends that no RTCs be converted.

BACKGROUND

RECLAIM Program

The Regional Clean Air Incentives Market (RECLAIM) program is a market-based program that was adopted on October 15, 1993, and applies to facilities with annual emissions of four tons per year or more of NO_x or SO_x. The RECLAIM program was designed to achieve emission reductions in aggregate equivalent to what would occur under a command-and-control regulatory approach.

Under the RECLAIM program, an owner or operator is required to hold RTCs at the end of each annual compliance cycle that are representative of all actual emissions, except for breakdowns which meet specific criteria under Rule 2004 – Requirements. Emissions that occur under typical operations, as well as emissions that occur from startups and shutdowns, are counted toward the actual emissions that are required to be reconciled with RTCs.

On December 4, 2015, the Board amended Regulation XX – Regional Clean Air Incentives Market (RECLAIM) to reduce NO_x RECLAIM trading credit (RTC) holdings by RECLAIM facilities for Compliance Year 2016 and beyond (2015 NO_x Shave). The 2015 NO_x Shave will reduce NO_x RTCs by 12 tons per day at full implementation. Compliance Year 2022 is the final implementation year of the 2015 NO_x Shave and has the largest NO_x RTC reductions of any year of the shave (4 tons per day).

Rule 2002

Rule 2002 – Allocations for NO_x and SO_x subparagraphs (f)(1)(B) and (f)(1)(C) contain the NO_x RTC adjustment factors that are used to implement the 2015 NO_x Shave. Non-usable/Non-tradable NO_x RTC adjustment factors reduce the amount of Usable/Tradable RTCs available in the NO_x RTC market. Usable/Tradable NO_x RTCs are used for annual reconciliation of emissions and excess Usable/Tradable NO_x RTCs can be sold. The 2015 NO_x Shave adjusted RTC holdings

pertain to facilities listed in Table 7 (refineries and investors) and Table 8 (electricity generating facilities and other major facilities) of Rule 2002. However, adjustments to NOx RTC holdings impact all facilities in NOx RECLAIM because it impacts the availability of NOx RTCs in the market to purchase or sell.

Rule 2002 also establishes procedures if the NOx RTC prices exceed \$22,500 per ton based on a 12-month rolling average, or exceed \$35,000 per ton based on a 3-month rolling average. Rule 2002 procedures to address NOx RTC price exceedances include an assessment of control technology implementation, emission reductions, cost-effectiveness, market analysis, and a socioeconomic impact assessment of the RECLAIM program. Furthermore, Rule 2002 states that if the Board finds that the average NOx RTC price exceeds the applicable thresholds, the Board may elect to convert Non-usable/Non-tradable NOx RTCs to Usable/Tradable NOx RTCs for the period in which the RTC price exceeded the applicable threshold.

COMPLIANCE YEAR 2022 NOx RECLAIM TRADING CREDIT PRICE EXCEEDANCE

Compliance Years 2021 and 2022 NOx and SOx RTC price reports were provided to the Stationary Source Committee in January 2022 and April 2022. The price reports showed that the 12-month and 3-month rolling average price for Compliance Year 2022 NOx RTCs exceeded the applicable Rule 2002 price thresholds. Table 1 lists Compliance Year 2022 NOx RTC prices.

Table 1 – Compliance Year 2022 NOx RTC Prices

12-Month Rolling Average			
Reporting Month	Reporting Period	Rule 2002 Price Threshold (\$/ton)	Rolling Average Price (\$/ton)
January 2022	Jan-2021 to Dec-2021	\$22,500	\$33,085
February 2022	Feb-2021 to Jan-2022	\$22,500	\$33,085
March 2022	Mar-2021 to Feb-2022	\$22,500	\$33,085
April 2022	Apr-2021 to Mar-2022	\$22,500	\$34,146
3-Month Rolling Average			
Reporting Month	Reporting Period	Rule 2002 Price Threshold (\$/ton)	Rolling Average Price (\$/ton)
January 2022	Oct-2021 to Dec-2021	\$35,000	\$38,803
February 2022	Nov-2021 to Jan-2022	\$35,000	\$39,114
March 2022	Dec-2021 to Feb-2022	\$35,000	\$37,614
April 2022	Jan-2022 to Mar-2022	\$35,000	\$40,372

There are no Non-usable/Non-tradable NOx RTCs to convert to Usable/Tradable NOx RTCs in Compliance Year 2023 and after, as Compliance Year 2022 is the final implementation year of the 2015 NOx Shave. Compliance Year 2022 NOx RTCs exceeded the applicable Rule 2002 price thresholds and therefore only Compliance Year 2022 Non-Usable/Non-Tradable RTCs are available to be converted to Usable/Tradable RTCs.

NO_x RECLAIM TRADING CREDIT (RTC) PRICE ASSESSMENT

Control Technology Implementation, Emission Reductions, and Cost-Effectiveness

Control Measure CMB-05 of the Final 2016 Air Quality Management Plan (2016 AQMP) and its adoption resolution established a timeline to transition the RECLAIM program to a command-and-control regulatory structure requiring BARCT as soon as practicable. CMB-05 would reduce NO_x emissions by five tons per day as soon as feasible but no later than 2025.

The Board adopted or amended twelve landing rules to reduce NO_x emissions and establish a command-and-control regulatory structure requiring BARCT for NO_x RECLAIM facilities:

- Rule 1109.1 – Emissions of Oxides of Nitrogen from Petroleum Refineries and Related Operations (Adopted November 5, 2021)
- Rule 1110.2 – Emissions from Gaseous- and Liquid-Fueled Engines (Amended November 1, 2019)
- Rule 1117 – Emissions of Oxides of Nitrogen from Glass Melting Furnaces (Amended June 5, 2020)
- Rule 1118.1 – Control of Emissions from Non-Refinery Flares (Adopted January 4, 2019)
- Rule 1134 – Emissions of Oxides of Nitrogen from Stationary Gas Turbines (Amended April 5, 2019)
- Rule 1135 – Emissions of Oxides of Nitrogen from Electricity Generating Facilities (Amended November 2, 2018)
- Rule 1146 – Emissions of Oxides of Nitrogen from Industrial, Institutional, and Commercial Boilers, Steam Generators, and Process Heaters (Amended December 7, 2018)
- Rule 1146.1 – Emissions of Oxides of Nitrogen from Small Industrial, Institutional, and Commercial Boilers, Steam Generators, and Process Heaters (Amended December 7, 2018)
- Rule 1146.2 – Emissions of Oxides of Nitrogen from Large Water Heaters and Small Boilers and Process Heaters (Amended December 7, 2018)
- Rule 1147 – NO_x Reductions from Miscellaneous Sources (Amended May 6, 2022)
- Rule 1147.1 – NO_x Reductions from Aggregate Dryers (Adopted August 6, 2021)
- Rule 1147.2 – NO_x Reductions from Metal Melting and Heating Furnaces (Adopted April 1, 2022)

Staff is in the rule development process for two more rules to establish BARCT requirements:

- Proposed Amended Rule 1153.1 – Emissions of Oxides of Nitrogen from Commercial Food Ovens
- Proposed Rule 1159.1 – Control of NO_x Emissions from Nitric Acid Tanks

The rule development process includes an assessment of control technology, emission reductions, and cost-effectiveness. With the adoption of rules or amendments to rules, the assessment of control technology, emission reductions, and cost effectiveness required in Rule 2002 will have been satisfied. As a result of adopting or amending landing rules and the ongoing implementation of the 2015 NO_x Shave, there will be approximately 13.38 tons per day of NO_x emission

reductions from RECLAIM facilities¹. BARCT implementation dates vary for each landing rule. The cost-effectiveness calculated for each landing rule is below \$50,000 per ton of NOx reduced.

Market Analysis

Analysis of the NOx RTC market in calendar year 2021 shows that discrete-year trading activity stayed relatively the same compared to calendar year 2020. RTC trades are reported to South Coast AQMD as either discrete-year RTC trades or infinite year block (IYB) trades (trades that involve blocks of RTCs with a specified start year and continuing into perpetuity). The RTC trading market activity during calendar year 2021 was slightly lower in terms of number of trades (2.3 percent), slightly lower in volume for discrete-year RTCs (1.8 percent), and lower in volume of infinite-year block (IYB) RTCs excluding swaps² (50.6 percent), when compared to calendar year 2020. However, market activity in calendar year 2021 was higher with respect to total value (20.9 percent) compared to calendar year 2020. A total of \$1.56 billion in RTCs have been traded since the adoption of RECLAIM, of which \$22.0 million occurred in calendar year 2021 (compared to \$18.2 million in calendar year 2020), excluding swaps.

Socioeconomic Impact Assessment

The January 2022 RTC Price Report shows that the 12-month and 3-month rolling average price thresholds were exceeded. The 12-month rolling average price for compliance year (CY) 2022 NOx RTCs was \$33,085/ton (with a threshold of \$22,500/ton) and the 3-month rolling average was \$38,803/ton (with a threshold of \$35,000/ton)³. This increase in NOx RTC prices may potentially result in additional compliance costs for a subset of RECLAIM facilities. Specifically, those facilities with negative RTC balances (emissions exceed CY RTC holdings) would become net buyers and face the increased costs of purchasing additional RTCs to remain compliant.

In order to estimate the magnitude of these impacts, a price analysis has been conducted for all potentially affected facilities. To estimate the potential impact of price increases on net buyers, projected CY 2022 emissions were compared with current CY 2022 RTC holdings for each facility.⁴ The net balance for each facility was then multiplied by \$10,585, which is the increment that NOx RTCs exceeded the threshold (\$33,085 - \$22,500).

There are 90 facilities that are expected to be net buyers in CY 2022. If prices remain at current levels, these 90 facilities are expected to incur a total increase in compliance costs in CY 2022 of \$14.7 million relative to the current 12-month price threshold. Facilities identified as net buyers in

¹ NOx emission reductions calculated do not include Proposed Amended Rule 1153.1 and Proposed Rule 1159.1.

² Swaps are trades exchanging different types of RTCs, that maybe of equal value or different values.

³ All dollar figures are in dollar year 2021.

⁴ Given the observations over the past few years that the annual reported emissions were consistent with the overall RTC holdings at the aggregate level, staff projected that the total CY 2022 emissions would be 14.3 tpd based on the CY 2022 RTC holdings (14.3 tpd, across all facilities and after accounting for adjustments made due to emission exceedances at one facility in 2021). Projected facility-level emissions in CY 2022 were based on each facility's CY 2019 reported emissions, which totaled 17.7 tpd. Scaling down each facility's CY 2019 emissions by 19% brings total projected CY 2022 NOx emissions to 14.3 tpd. CY 2019 reported emissions were used as they offer a more representative sample of facility emissions given the possible impacts of the pandemic for CY 2020 reported emissions.

the Manufacturing sector are expected to incur 72 percent of the projected costs, with net buyers in the Petroleum and Coal Products Manufacturing sub-sector of Manufacturing bearing \$8.9 million or 61 percent of the total in increased compliance costs. Net buyers in the Utilities and Mining sectors are each projected to incur 11 percent of the total costs. See Table 2 below for a breakdown of projected CY 2022 increases in compliance cost by industry.

The compliance costs incurred by projected net buyers would also create monetary benefits to other RECLAIM facilities and/or investors who would be the sellers of these credits. There are 208 potential net sellers or facilities whose CY 2022 RTC holdings exceed their CY 2022 projected NOx emissions. Facilities in the Utilities sector are expected to receive 36 percent of the total monetary benefit associated with higher CY 2022 RTC prices. Projected net sellers in the Manufacturing sector are expected to receive 28 percent of the total benefits, with the Petroleum and Coal Products Manufacturing sub-sector receiving increased benefits of \$1.9 million, or 13 percent of the total benefits, as a result of the price increase. See Table 2 below for a breakdown of projected CY 2022 benefits resulting from the RTC price increase by industry.

Table 2 – Projected CY 2022 Cost Increases by Industry

Industry	NAICS	Number of Net Buyers	Projected Cost Increase to Net Buyers	Number of Net Sellers	Projected Increase in Benefits to Net Sellers
Agriculture, Forestry, Fishing & Hunting	111-115	0	\$0	0	\$0
Mining	21	5	\$1,600,136	15	\$175,280
Oil and Gas Extraction	211	5	\$1,600,136	11	\$57,396
Mining (Except Oil and Gas)	212	0	\$0	2	\$107,907
Support Activities for Mining	213	0	\$0	2	\$9,977
Utilities	22	10	\$1,652,196	23	\$5,198,403
Construction	23	0	\$0	1	\$265
Manufacturing	31-33	40	\$10,344,064	96	\$4,049,494
Food Manufacturing	311	3	\$25,902	8	\$163,724
Beverage and Tobacco Product Mfg.	312	0	\$0	1	\$14,673
Textile Mills; Textile Product Mills	313-314	4	\$51,854	6	\$140,667
Paper Manufacturing	322	1	\$3,878	10	\$351,785
Printing and Related Support Activities	323	1	\$28,911	0	\$0
Petroleum and Coal Products Mfg.	324	11	\$8,866,221	15	\$1,867,834
Chemical Manufacturing	325	5	\$289,412	13	\$252,136
Plastic and Rubber Products Mfg.	326	0	\$0	4	\$26,443
Nonmetallic Mineral Product Mfg.	327	2	\$68,912	6	\$114,256
Primary Metal Mfg.	331	4	\$142,957	8	\$232,692
Fabricated Metal Mfg.	332	7	\$709,935	7	\$242,981
Machinery Manufacturing	333	0	\$0	1	\$118,938
Computer and Electronic Product Mfg.	334	1	\$48,340	6	\$118,526

Industry	NAICS	Number of Net Buyers	Projected Cost Increase to Net Buyers	Number of Net Sellers	Projected Increase in Benefits to Net Sellers
Motor Vehicle and Parts Mfg.	3361-3363	1	\$107,742	2	\$153,878
Other Transportation Equipment Mfg.	3364-3369	0	\$0	9	\$250,960
Transportation & Warehousing	48-49	6	\$284,709	8	\$1,198,812
Air Transportation	481	0	\$0	1	\$11,679
Pipeline Transportation	486	3	\$149,201	5	\$1,096,165
Support Activities for Transportation	487-488	3	\$135,509	1	\$89,147
Warehousing and Storage	493	0	\$0	1	\$1,822
Wholesale Trade	42	0	\$0	5	\$95,165
Retail Trade	44-45	1	\$1,905	6	\$155,458
Information	51	1	\$1,866	0	\$0
Telecommunications	517	1	\$1,866	0	\$0
Finance and Insurance	52	0	\$0	1	\$14,641.31
Monetary Authorities; Central Bank	521, 522	0	\$0	1	\$14,641
Real Estate and Rental Leasing	53	0	\$0	1	\$8,178.32
Real Estate	531	0	\$0	1	\$8,178
Services	54-81	7	\$70,575	8	\$500,109
Professional, scientific, and technical services	54	1	\$1,649	1	\$2,321
Administrative and support services	561	1	\$18,442	1	\$4,673
Ambulatory Health Care Services	621	0	\$0	1	\$3,468
Hospitals; Private	622	0	\$0	1	\$16,771
Amusement, Gambling, and Entertainment	713	0	\$0	2	\$453,279
Accommodations	721	1	\$718	2	\$19,597
Repair and Maintenance	811	1	\$3,180	0	\$0
Personal and Laundry Services	812	3	\$46,587	0	\$0
Public Administration	92	0	\$0	12	\$1,213,205
Unclassified	-	20	\$510,871	32	\$1,857,312
Totals	-	90	\$14,466,322	208	\$14,466,322

Regional job impacts resulting from the projected increases in compliance cost by industry were estimated using Regional Economic Model Incorporated's REMI PI+ software. The projected increase in compliance costs incurred by net buyers shown in Table 2 are expected to result in an average of 19 jobs forgone over the next five years (2022-2026). Jobs foregone are projected for multiple sectors that may be directly affected by the increase in RTC prices or indirectly affected as the up- or down-stream sectors of the directly affected industry. They include Construction (four jobs foregone per year on average), Retail Trade (two jobs foregone), and State and Local Government/Public Administration (two jobs foregone), and others. Projected job impacts should

be viewed as conservative estimates because the offsetting monetary benefits to net sellers are not factored into the model.

Potential Impacts of Converting Non-usable/Non-tradeable NO_x RTCs to Usable/Tradeable

As a result of the Rule 2002 price exceedance, Non-usable/Non-tradeable CY 2022 NO_x RTCs may, upon Board concurrence, be converted back to Usable/Tradeable⁵. This conversion of currently Non-usable/Non-tradeable RTCs into Usable/Tradeable RTCs would provide a marginal benefit by reducing the total number of CY 2022 RTC net buyers from 90 to 85. It would also reduce the expected total compliance cost increase from \$14.7 million to \$12.1 million, assuming the RTC trading prices remain elevated after the additional RTCs become Usable/Tradeable. Certain facilities in the Petroleum and Coal Products Manufacturing sector would be the main beneficiaries of the estimated reduction in compliance costs for projected net buyers (approximately \$1.7 million of the total reduction of \$2.6 million).

Projected net sellers would also experience an increase in projected benefits as a result of the conversion of Non-usable/Non-tradeable RTCs. Projected net sellers of RTCs in the Petroleum and Coal Products Manufacturing sub-sector could stand to increase monetary benefits by up to \$8.4 million and net sellers in the Utilities sector could see increased benefits of up to \$1.8 million above and beyond the increase in benefits presented in Table 2. These projections are contingent on RTC prices remaining at currently elevated levels and that all their excess RTC holdings are sold at the current trading prices.

Currently, there is persistent upward pressure on RTC prices. The most recent RTC Price Report from April 2022 states that the 12-month and the 3-month rolling average RTC prices have risen even further to \$34,146 and \$40,372, respectively. It is not possible to accurately predict future RTC prices; however, staff anticipates that the contemplated increase in CY 2022 RTCs would potentially help to alleviate some of the upward pressure on RTC prices so that the prices are less likely to increase further. Additionally, compliance costs for all net buyers (and corresponding benefits to net sellers) are expected to decline further if the conversion results in a decrease in RTC prices. However, facilities are initiating planned control projects in response to the 2015 NO_x shave and ongoing landing rule requirements which will reduce the need to purchase NO_x RTCs to reconcile emissions, therefore decreasing pressure on RTC prices independent of the contemplated conversion.

⁵ The facilities whose CY 2022 RTC holdings could be increased are listed in Tables 7 and 8 in Rule 2002.

ATTACHMENT D

RESOLUTION NO. 22-____

A Resolution of the South Coast AQMD Governing Board determining that NOx RECLAIM Trading Credit Prices Exceed Applicable Thresholds in Rule 2002.

A Resolution of the South Coast AQMD Governing Board determining that Non-Usable/Non-Tradeable RTCs will not be converted to Usable/Tradable RTCs for RECLAIM Compliance Year 2022.

WHEREAS, the South Coast AQMD Governing Board has determined that the NOx RECLAIM Trading Credit Price Assessment for Rule 2002 – Allocations for Oxides of Nitrogen (NOx) and Oxides of Sulfur (SOx) is not considered a "project" pursuant to the California Environmental Quality Act (CEQA); and

WHEREAS, Rule 2002 requires the Executive Officer to report the determination that NOx RTC prices exceeded applicable thresholds to the Governing Board;

WHEREAS, Rule 2002 requires the Executive Officer to conduct an assessment of control technology implementation, emission reductions, cost-effectiveness, market analysis, and socioeconomic impacts of the RECLAIM program;

WHEREAS, the Rule 2002 assessment concludes that socioeconomic impacts of increased NOx RTC prices are relatively minimal, NOx RTC price increases further incentivize emission control projects, and the need to purchase NOx RTCs to reconcile emissions will be reduced from implementing emission control projects to meet BARCT standards in landing rules;

WHEREAS, Rule 2002 provides that if the South Coast AQMD Governing Board determines that applicable thresholds in Rule 2002 are exceeded in RECLAIM Compliance Year 2022, then the South Coast AQMD Governing Board may elect to convert Non-Usable/Non-Tradeable RTCs to Usable/Tradable RTCs valid for RECLAIM Compliance Year 2022;

WHEREAS, the South Coast AQMD Governing Board references the following statutes, which the South Coast AQMD hereby implements, interprets, or makes specific: Assembly Bill 617, Health and Safety Code Sections 39002, 39616, 40000, 40001, 40702, and 40440(a); and

NOW, THEREFORE BE IT RESOLVED, that the South Coast AQMD Governing Board does hereby determine that NOx RECLAIM Trading Credit prices exceed applicable thresholds in Rule 2002; and

BE IT FURTHER RESOLVED, that the South Coast AQMD Governing Board does hereby determine that Non-Usable/Non-Tradable RTCs will not be converted to Usable/Tradable RTCs for RECLAIM Compliance Year 2022.

DATE: _____

CLERK OF THE BOARDS

NO_x RECLAIM Trading Credit Price Assessment for Rule 2002 – Allocations for Oxides of Nitrogen (NO_x) and Oxides of Sulfur (SO_x)



BOARD MEETING
JUNE 3, 2022

Background

- Regional Clean Air Incentives Market (RECLAIM) was adopted on October 15, 1993
- RECLAIM is a market incentives program
- Includes two markets for facilities with NO_x or SO_x emissions \geq 4 tons per year
- On December 4, 2015 RECLAIM was amended to reduce NO_x RTCs by 12 tons per day over a six year period (2015 NO_x Shave)
- Compliance Year 2022 is the final implementation year of the 2015 NO_x Shave
 - NO_x RTCs will be reduced by 4 tons per day in 2022 (largest shave)

Rule 2002 RTC Price Thresholds

- Executive Officer is required to report current compliance year prices that exceed Rule 2002 RTC price thresholds
 - 12-month rolling average threshold is \$22,500* per ton
 - 3-month rolling average threshold is \$35,000* per ton
- RTC Price Reports show that the 12-month and 3-month rolling average price thresholds were exceeded beginning January 2022

Reporting Month	12-Month Average (\$/ton)	3-Month Average (\$/ton)
January 2022	\$33,085	\$38,803
February 2022	\$33,085	\$39,114
March 2022	\$33,085	\$37,614
April 2022	\$34,146	\$40,372

* Thresholds established in 2015 and are based on the 2012 AQMP cost-effectiveness threshold of \$22,500 per ton of NO_x

RECLAIM Reconciliation Process

- Facilities were initially issued an Allocation of RTCs
 - Facilities must hold RTCs that are equal to or greater than their actual emissions
- Each compliance year, facilities must reconcile emissions with RTCs by:
 - Reducing emissions through installation of emission controls; or
 - Purchasing RTCs from another facility or broker

Factors Contributing to NOx RTC Price Exceedances

Supply of RTCs is decreasing due implementation of the 2015 NOx shave of 12 tons/day, with the greatest shave in 2022 of 4 tons/day

Reductions in emissions (and associated RTC demand) from projects to comply with RECLAIM landing rules have not been fully realized

- Most compliance deadlines in landing rules begin in 2023

Unexpected RTC demand from RECLAIM audit program

- RECLAIM Facilities subject to annual audits
- Findings from audit program and reconciliation added demand for over 58 tons of Compliance Year 2022 NOX RTCs (~ \$1,900,000 or \$33,000/ton)
- NOx RTC prices pushed higher for future transactions

Rule 2002 Requirements When NOx RTC Price Threshold Exceeded

Report to Board that NOx RTC price threshold was exceeded

Conduct an assessment of the RECLAIM Program including control technology implementation and socioeconomic impacts

Provide assessment of RECLAIM program to the Board no later than 90 days from the completion of the assessment

Based on assessment, Board determines if Non-tradable/Non-usable NOx RTCs shall be converted to Tradable/Usable NOx RTCs*

*Only for the period when RTC prices exceed applicable thresholds

Rule 2002 Assessment

Component(s)	Results of Analysis
Control Technology Implementation, Emission Reductions, and Cost-Effectiveness	<ul style="list-style-type: none">• NOx RECLAIM is transitioning to a command-and-control regulatory structure• 12 landing rules have been adopted or amended• All NOx reduction for landing rules had cost-effectiveness < \$50,000 per ton of NOx reduced
Market Analysis	<ul style="list-style-type: none">• Market activity was lower in terms of number of trades and higher with respect to total value in calendar year 2021 compared to calendar year 2020
Socioeconomic Assessment	<ul style="list-style-type: none">• Average of 19 jobs foregone are expected over the next five years (2022-2026) as a result of the projected increase in compliance costs• Conversion of Non-usable/Non-tradeable RTCs into Usable/Tradeable RTCs would reduce the expected total compliance cost by \$2.6 million

Recommendation

- Staff is recommending to not convert the Non-usable/Non-tradable NOx RTCs to Usable/Tradable
 - RECLAIM is working as intended; facilities are being incentivized to install emission controls rather than purchase RTCs
 - Facilities are implementing landing rules and installing pollution controls
 - Socioeconomic assessment indicates impacts of increased NOx RTC prices are relatively minimal
 - NOx RTC prices are below the 2016 AQMP cost-effectiveness threshold of \$50,000 per ton of NOx reduced
 - Compliance Year 2022 has the greatest NOx RTC reductions (4 tons per day)

1. Determine that NOx RTC prices exceed the applicable thresholds in Rule 2002
2. Determine to take no further action regarding converting Non-usable/Non-tradeable RTCs valid for RECLAIM Compliance Year 2022