



Regulation XIII – New Source Review

Working Group Meeting
July 14, 2022

Join Zoom Webinar Meeting
<https://scaqmd.zoom.us/j/98344812021>
Webinar Meeting ID: 983 4481 2021
Teleconference Dial-In: 1-669-900-6833

Agenda

- Previous Working Group Meetings Summary
- Status of NSR Issues
- Responses to Regulation XIII Comment Letter
- Surplus Discounting for Open Market ERCs
- Short Term Emission Reduction Credits
- Food Waste Diversion

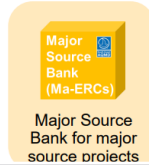
Previous Working Group Meetings Summary

Concepts for Minor and Major Source Banks

- Banks will be managed by South Coast AQMD
- Banks will provide NO_x, SO_x, and PM₁₀ offsets
- Staff will develop new provisions to ensure offsets for the banks meet state and federal requirements
- Future emission reductions will be used to seed the banks
 - Will be directed based on how they were quantified
 - Only reductions with supporting records will be used for the Major Source Bank



Minor Source Bank for minor source projects



Major Source Bank for major source projects

Roadmap for Regulation XIII Rule Development

Draft New Source Review rule language is being developed to:

Transition NO_x RECLAIM facilities into command-and-control program

Reconcile Regulation XIII with 2002 NSR Reform

Ensure compliance with Protect California Air Act of 2003 (SB 288)

Provide a long-term solution for offset availability post-RECLAIM

Staff is providing a general guide on rule amendments necessary

- Reflects discussions held over past three years

▪ Further amendments may be necessary beyond those indicated today

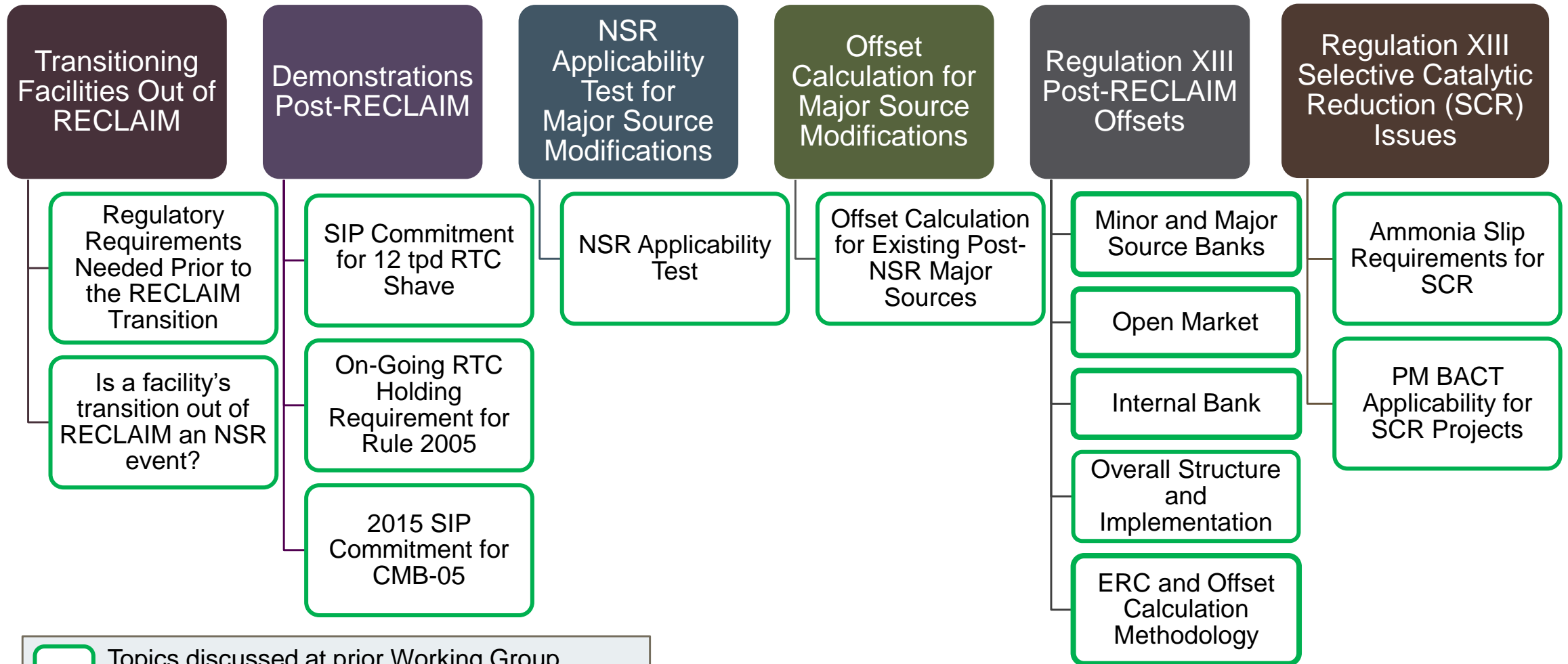
February 2022

- Status of NSR Issues
- Considering Banks for Offsets Post-RECLAIM
- Ensuring Availability of Offsets Post-RECLAIM

April 2022

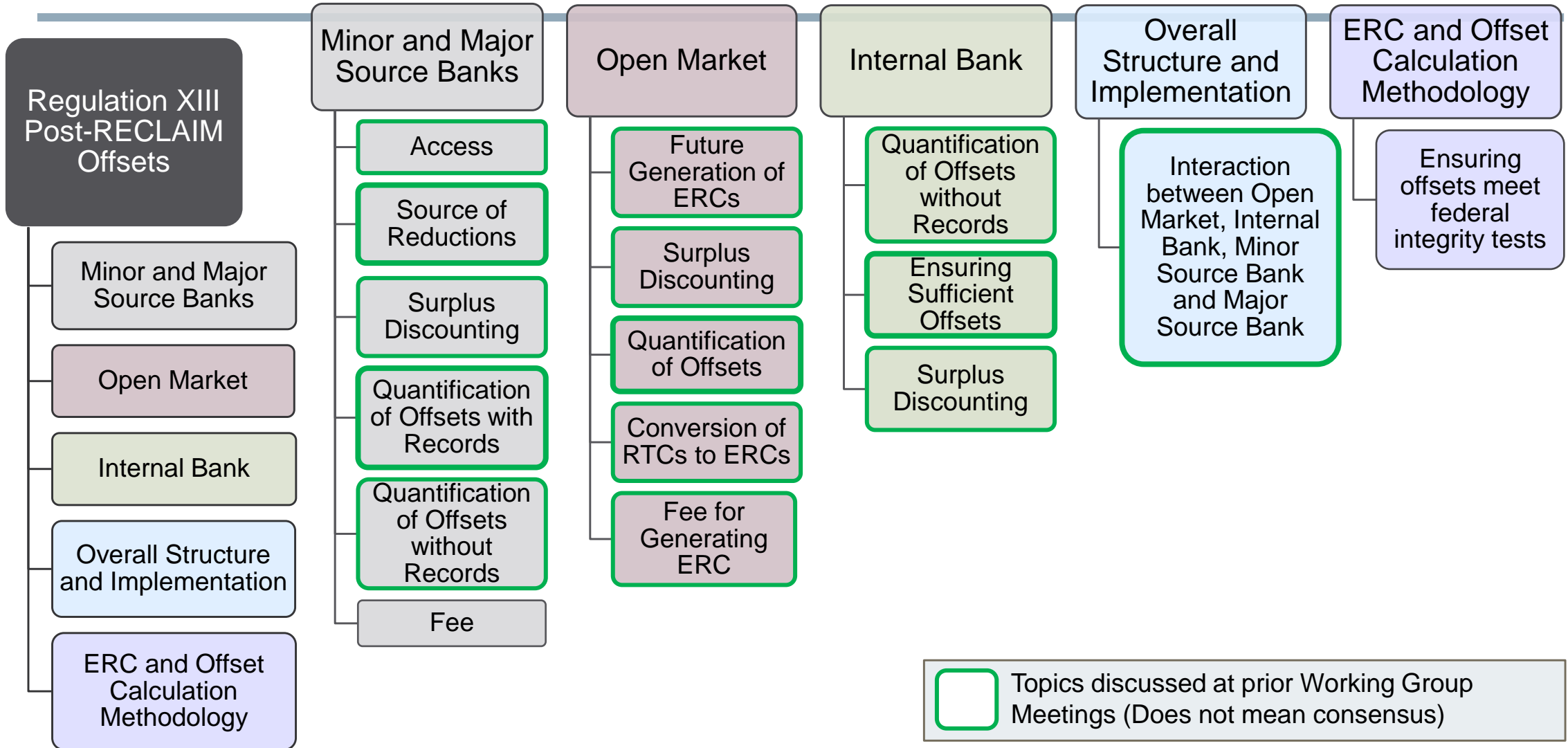
- Status of NSR Issues
- Reg XIII Roadmap
- Other Reg XIII Concepts Under Consideration

Overview of NSR Issues



 Topics discussed at prior Working Group Meetings (Does not mean consensus)

Regulation XIII Post-RECLAIM Offsets



Responses to Regulation XIII Comment Letter

Comment Letter

- Comment letter received from:
 - Earthjustice
 - Communities for a Better Environment
 - Sierra Club
 - East Yard Communities for Environmental Justice
 - Center for Biological Diversity
- Expressed concerns with Minor and Major Source Banks
- Comment letter is available on the proposed rules webpage¹



¹ <http://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/regx111/2022-0315-letter-on-south-coast-aqmd-proposed-erc-internal-banks.pdf?sfvrsn=16>

Staff's Concept for Minor and Major Source Banks (From February 2022 Working Group Meeting)

- Banks would be managed by South Coast AQMD
- Banks would provide NO_x, SO_x, and PM₁₀ offsets
- Staff would develop new provisions to ensure offsets for the banks meet state and federal requirements
- Future emission reductions would be used to seed the banks
 - Would be directed based on how they were quantified
 - Only reductions with supporting records would be used for the Major Source Bank



Minor Source Bank for minor source projects



Major Source Bank for major source projects

Approach to Redirect Offsets (From February 2022)



- Staff is considering to temporarily stop credits into the Internal Bank and redirect all credits to the proposed banks
- Offsets would be directed based on how they were quantified
 - Orphan reductions and shutdowns without records would go to the Minor Source Bank
 - Orphan reductions and shutdowns with supporting data would go to the Major Source Bank
- Assumed 0.9 tons per day of NO_x offset credits deposited into the Internal Bank annually, based on:
 - Emission decreases deposited between 2015 – 2019
 - 70% of the source's potential to emit (PTE) to estimate actual emissions¹

¹ Currently, offsets are deposited based on 80% of the source's PTE according to Rule 1315 (c)(3)(B)(i). Based on discussions with U.S. EPA, staff is proposing to use a conservative Capacity Utilization rate of 70% to quantify offsets without records.

Background: Comparison Between the Open Market and the Internal Bank

	Open Market	Internal Bank
	ERCs	Internal Offsets
Generation	Over-control or shutdowns	Primarily orphan shutdowns
Discount	Individual equipment ERC discounted to BACT at time of issuance	Entire balance discounted annually to BARCT
Issuance	Issued to individual owners for future use or sale	Used to establish equivalency with state and federal offset requirements (Rule 1315) for Priority Reserve (Rule 1309.1) or exempt sources (Rule 1304)
Pollutant	2019 Balance (tons per day)	
VOC	5.1	113.2
NOx	0.4	24.3
PM10	0.7	16.8
SOx	0.4	4.4

Environmental Organizations Comment Letter – Retire Orphan Shutdowns

- Recommends retirement of offsets generated by shutdowns
 - Retirement of orphan shutdown credits would assist in improving air quality for extreme non-attainment area

Response

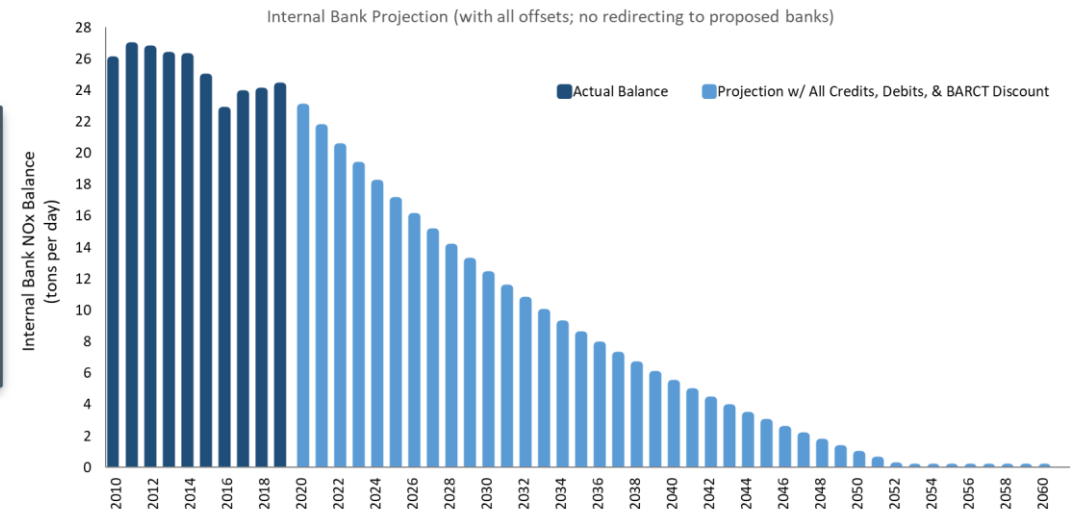
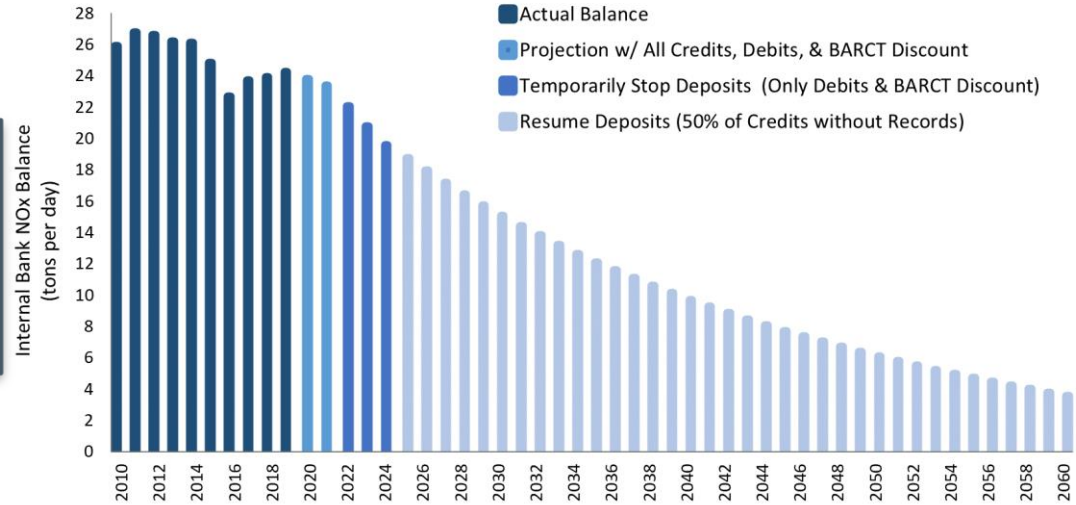
- Orphan reductions and shutdowns are the only source of credits in the Internal Bank
 - The Internal Bank provides offsets for Essential Public Services
- Retirement of orphan reductions and shutdowns would eventually make the Internal Bank insolvent
- This would exacerbate the problem staff is trying to address
 - Impacts would go far beyond preventing the development of minor/major source banks

Evaluation of Impacts from Retiring Orphan Shutdowns

- Current projections indicate that the Internal Bank would become insolvent around 2050
- With limited Open Market credits available, a permit moratorium would occur
- Permit moratorium would mean no new projects or project modifications with any emission increase for essential public services

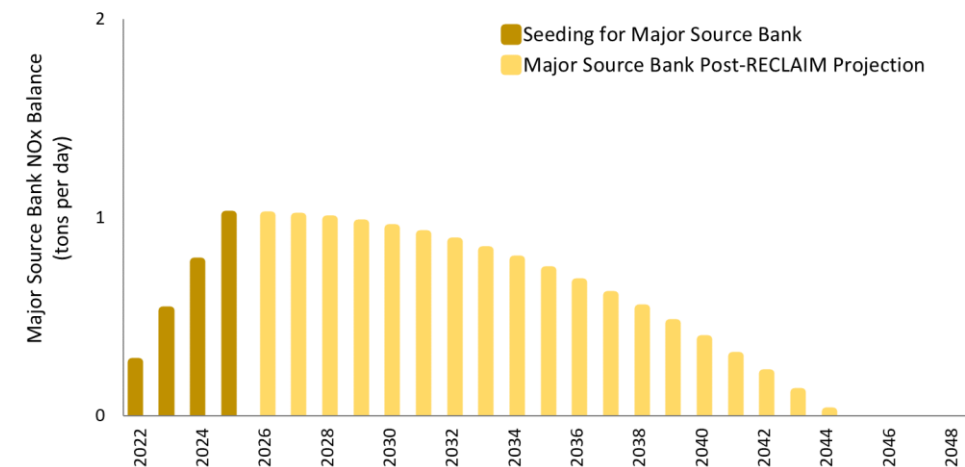
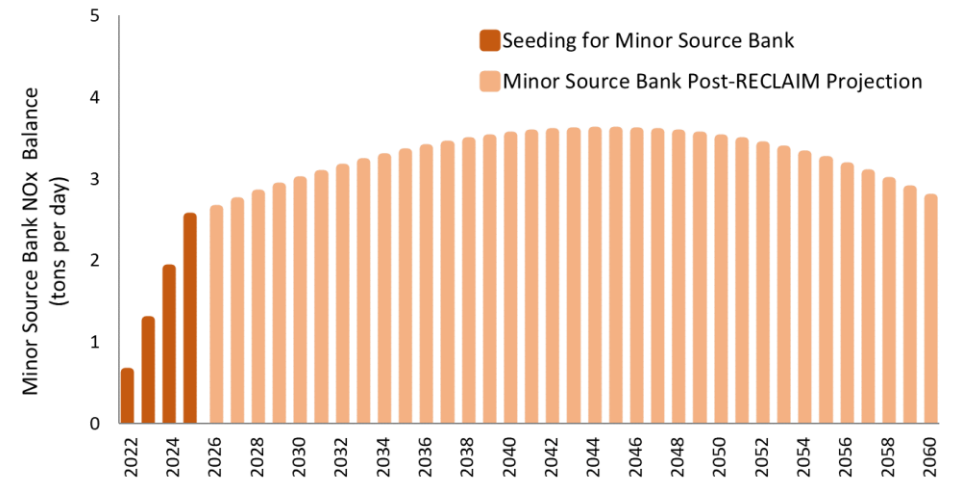
Current Internal Bank Structure

Internal Bank with no Orphan Reductions or Shutdowns



Projected Minor and Major Source Bank Balances

- Staff provided a projection of available offsets from the proposed Minor and Major Source Banks at the February 2022 Working Group Meeting¹
- After 2026, approximately 2.6 tons NOx per day are projected to be available in the Minor Source Bank
 - Supply projected to remain steady
- After 2026, approximately 1 ton NOx per day is projected to be available in the Major Source Bank
 - Offsets likely to only be available for ~15 years
 - Eventually, major sources will be fully reliant on Open Market Emission Reduction Credits (ERCs)



¹<http://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/regx111/nsr-wgm-february-2022-final.pdf?sfvrsn=6>

Environmental Organizations Comment Letter – Generate Emission Reductions Through Retrofits

- Consider electrification opportunities to generate Open Market credits
 - Other air agencies are phasing out older fossil fuel boilers and heaters
 - Several electric units are Best Available Control Technology (BACT) and available for purchase

Response

- Electric units are not “BACT”
 - BACT is based on class and category of equipment
- Units that reduce emissions beyond BACT are currently eligible to generate Open Market ERCs
 - Electrification of boilers or other equipment may apply for Open Market ERCs following the provisions of Rule 1309 (b)
- Rule 1306 (c) discounts emission decreases to the amount which would be actual if current BACT were applied
 - If electrification were required by rule (or Air Quality Management Plan if Surplus Discounted to BARCT), a facility electrifying equipment would not be eligible to generate Open Market ERCs

Environmental Organizations Comment Letter – Limit Time and Amount of ERCs a Facility May Hold

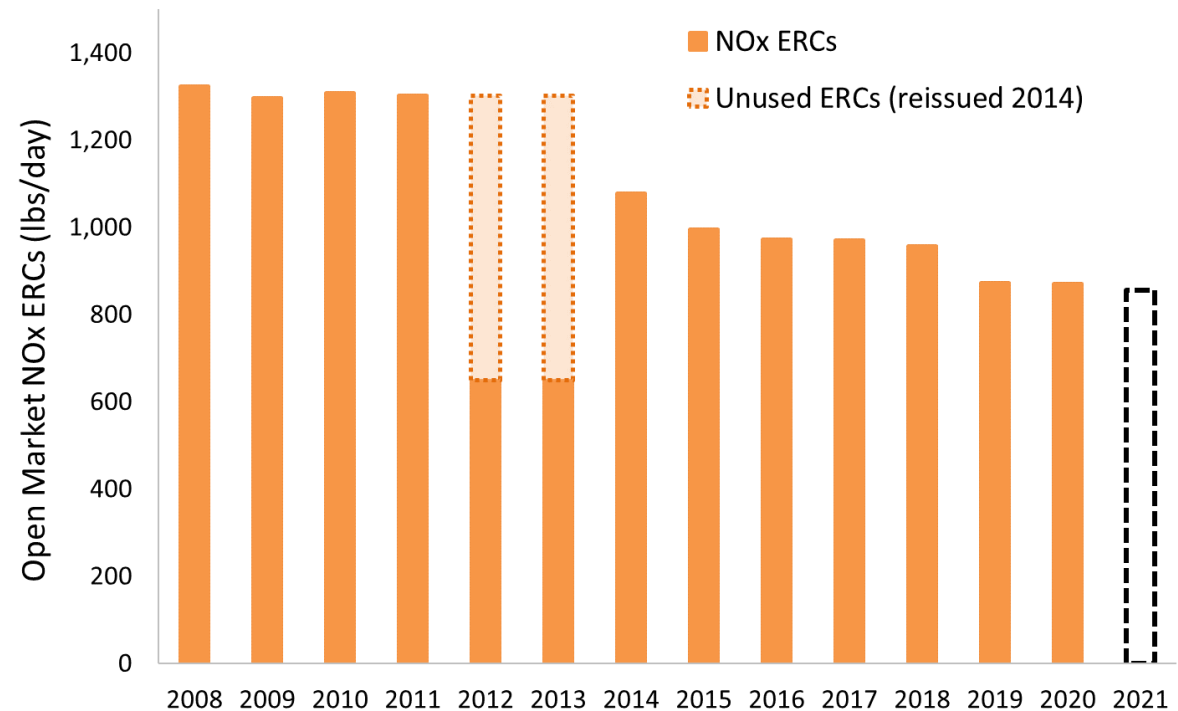
- Explore targeted solutions to compel facilities to sell or transfer credits
- A major reason for limited ERC availability is that facilities are hoarding ERCs
 - Restrict how long ERCs are valid after issuance or transfer
 - This would be in addition to the time of use discounting applied
 - Cap the amount of ERCs that a facility can hold at any time

Response

- Staff is actively seeking solutions to generate trading opportunities
- Total current NOx Open Market ERCs supply is only 800 pounds per day while annual demand in RECLAIM is 1,200 pounds per day
- Discounting ERCs to Best Available Retrofit Control Technology (BARCT) at the time of generation and time of use could incentivize trading
 - The longer a facility holds the ERC, the more likely that the value of the ERC will decrease
- More discussion on this concept later in presentation

Potential RECLAIM NOx Offset Demand

- Average annual NOx RECLAIM demand ~1,200 lbs/day
 - 5-year period from 2011 – 2015
 - 1.2-to-1 ratio for RECLAIM NSR
 - Does not include additional offsets needed for major source modifications when NSR applicability and offset calculation is changed
- With the addition of former RECLAIM facilities to Reg XIII NSR, NOx ERCs in the open market could be depleted within 1 year
 - Possible ERCs generated from shutdowns could delay depletion



Environmental Organizations Comment Letter – Orphan Shutdowns May Not Be Claimed for Proposed Minor and Major Source Banks

- ERCs are not allowed where emission decreases are required by regulation
- Orphan shutdowns due to compliance with rules cannot be claimed
- Staff should elaborate on the sources of orphan shutdowns that would be used to seed the Minor and Major Source Banks

Response

- ERCs are generated by emission reductions discounted to BACT
- Orphan shutdowns could be used, but only after discounting
- Major Source Bank would be limited to orphan reductions and shutdowns with records
 - Credits deposited would be discounted to BACT or rule requirement

Environmental Organizations Comment Letter – Adequate Limits on Proposed Minor and Major Source Banks

- If there are Minor and Major Source Banks, there should be restrictions on how and when it is used
- Minor and Major Source Banks should not be available:
 - If ERCs are available on the Open Market
 - For facilities already holding Open Market ERCs
 - For expanded operations or throughput
 - For projects in over-polluted communities (i.e. AB 617 communities)
 - For refineries and other large facilities

Response

- Primary purpose of external offsets is for expanding operations
- Staff concurs that Open Market ERCs holdings should be used before using the Major Source Bank
- Limiting availability by location or facility type may be considered
 - Petroleum related facilities tend to be located in AB 617 communities
- Any restrictions on the Major Source Bank would put added pressure on Open Market

Environmental Organizations Comment Letter – Conduct Thorough Audit of Open Market ERCs

- History of questionable, invalid credits in the Open Market
- District should audit Open Market and remove unlawful credits
- Orphan shutdowns and reductions for Major Source Bank should not be based on emission inventories or emission factors
 - Appropriate procedures should be adopted to quantify and verify credits from orphan shutdowns and reductions

Response

- Open Market ERCs are thoroughly vetted pursuant to Rules 1306 and 1309 procedures
 - Staff disagrees on characterization of Open Market ERCs
- Major Source Bank credits would follow same procedure as Open Market ERCs
 - Only orphan shutdowns and reductions with records would be eligible
 - Records may include AER emission inventories

Surplus Discounting for Open Market ERCs

Surplus Discounting of ERCs for the Open Market

- Currently, to ensure ERCs are surplus, actual emissions are reduced to the amount which would be actual if current BACT were applied (Rule 1306 (c))
 - BACT discount is applied at time of generation with no additional discount at time of use
- In October 2020 staff proposed an alternative BARCT discount that would be applied at time of generation and time of use, if needed
 - BARCT discount will account for reductions required by applicable rule, regulation, law, approved Air Quality Management Plan Control Measure or State Implementation Plan
 - This is consistent with federal NSR requirements
 - Current surplus discounting to BACT is done as equivalent alternative
- Additional discount to BARCT at time of use could incentivize trading to avoid loss of value over time

Details of the BARCT Discount for ERCs

- Implementation of the BARCT discount would be based on the compliance dates in applicable rules
- Staff considered applying the BARCT discount based on the emission rate of the ERC generated
- Rules with varying compliance paths can lead to ambiguity in the timing and amount of the BARCT discount for a specific ERC such as:
 - Alternative compliance dates and emission limits for replaced units
 - Alternative compliance dates and/or emission limits for units that are close to the final emission limit or are low use units
 - Alternative compliance dates and emission limits for innovative technologies
 - Implementation dates based on age of equipment

Proposed Approach for ERC BARCT Discount

- Staff is proposing that the BARCT discount be based on the percent reduction estimated in the applicable rule
 - Using the percent reduction of the applicable rule captures the various implementation scenarios
 - Streamlines application of the BARCT discounts since percent reductions are established during the adoption or amendment of the applicable rule
- Staff recognizes that a percent reduction approach may not be as accurate as an equipment-specific BARCT discount, however, it will provide the same overall reduction
- Staff is concerned that using an equipment-specific approach could delay the ability to use an ERC if there are disagreements on the timing and/or amount of the applicable BARCT discount

Comparison of BACT/LAER Versus BARCT for NOx Rules

- Staff theorized that BACT was more stringent than BARCT for most equipment but future BARCT reductions would make the surplus discount equivalent
 - BARCT may be as stringent or more stringent than BACT in some categories
- Staff compared NOx BARCT to BACT for Non-Major Polluting Facilities and NOx BARCT to LAER for Major Polluting Facilities

BARCT Versus BACT for Non-Major Polluting Facilities

- 100 categories reviewed covering 31 equipment types (boiler, oven, furnace, engine, etc.) subject to ten-South Coast AQMD rules

Seven categories had BARCT limits less stringent than BACT limit*

- Propane fired-boilers rated > 2 MMBtu/hr and < 20 MMBtu/hr
- High temperature ovens
- Thermal oxidizers
- Portable engines (three categories)
- Emergency engines

Twenty-four categories had BARCT limits more stringent than BACT limit*

- New units for three oven/dryer categories
- Natural gas fired turbines rated ≥ 3 MW and < 50 MW and ≥ 50 MW at refineries, cogeneration facilities, and electricity generating facilities
- Landfill gas fired turbines (three categories)
- Digester gas fired turbines (three categories)
- Lead melting furnaces (four categories)
- New thermal oxidizers
- Zinc melting furnaces (four categories)

* Boilers at refinery-related facilities rated < 40 MMBtu/hr vary in stringency depending on compliance schedule

BARCT Versus LAER for Major Polluting Facilities

- 41 categories reviewed covering 14 equipment types (boiler, turbine, heater, engine, etc.) subject to seven South Coast AQMD rules

Fourteen categories had BARCT limits less stringent than LAER limit*

- Group II boiler/process heater (two categories)
- Atmospheric boiler/process heater
- Thermal fluid heaters
- Simple cycle natural gas fired turbines (two categories)
- Simple cycle landfill gas turbines with post-combustion control
- Simple cycle produced gas turbines (two categories)
- Portable engines
- Emergency engines (three categories)
- Non-electrical non-emergency engines

Five categories had BARCT limits more stringent than LAER limit*

- Group III boiler/process heater (two categories)
- Digester gas turbines rated < 0.3 MW
- Dual fuel turbines firing digester gas and > 40% but < 100% natural gas
- Exclusive landfill gas or dual fuel turbines rated < 0.3 MW

* Boilers at refinery-related facilities rated < 40 MMBtu/hr vary in stringency depending on compliance schedule

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

- South Coast BARCT limits are equal or more stringent than BACT limits in 93% of equipment categories
- South Coast BARCT limits are equal or more stringent than LAER limits in 65% of equipment categories
- It is reasonable to assume discounting to BARCT at time of generation and again at time of use is equivalent to discounting to BACT only at time of generation
 - High rates of BARCT limits already as stringent as BACT/LAER limits
- CARB is evaluating proposal to determine if there is an SB 288 issue to change surplus discounting from BACT to BARCT
- Staff discussing with U.S. EPA and CARB
- Staff is seeking stakeholder input

Short Term Emission Reduction Credits

Short Term Emission Reduction Credits

- Short Term Emission Reduction Credits (STERCs) are discrete, non-permanent offsets
 - Issued in one year increments for a period of no more than seven years
 - Allows holders of ERCs that are unwilling to sell permanently to bring them to market for a finite time period
- STERCs have been underutilized
 - Holders of ERCs have not shown willingness to sell even for finite time period
- U.S. EPA has not approved use of STERCs
- Staff is considering eliminating this provision

Food Waste Diversion

Food Waste Diversion

- SB 1383 – Short-lived Climate Pollutants requires counties to plan for diverting organic waste from landfills into recycling and food recovery
 - CalRecycle estimates that 50 to 100 new or expanded organic waste recycling facilities to annually recycle an additional 20-25 million tons of organic waste
 - Anaerobic digestion and other facilities will require offsets as new or modified facilities
- Southern California Association of Publicly Owned Treatment Works (SCAP) estimates approximately 119 million standard cubic feet of digester gas diverted from landfills to POTWs
 - NOx emissions at landfills would be 0.35 tons per day (12.5 ppm NOx limit for turbines in Rule 1150.3)
 - NOx emissions at POTWs would be 0.53 tons per day (18.8 ppm NOx limit for turbines in Rule 1179.1)
 - Even if offsets were returned to Internal Bank from declining landfill operations, demand on the Internal Bank would increase by 0.18 tpd (0.53 tpd – 0.35 tpd = 0.18 tpd)
 - SCAP has indicated that some diverted gas may be used in renewable vehicle fuel and renewable pipeline gas projects
- U.S. EPA is considering SCAP's request that Food Waste Diversion projects be considered Essential Public Services
 - Sewage treatment and landfills are already considered Essential Public Services
 - Offsets would be provided by Internal Bank pursuant to Rule 1304 (c)(5)

Ongoing Efforts and Next Steps



Continue Working Group Meetings



Continue rulemaking activities



Continue work with U.S. EPA, CARB, and stakeholders to resolve NSR issues

Contacts – RECLAIM & New Source Review

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