

AGENDA NO. 28

Status Update on Railyard Indirect Source Rule

Board Meeting
April 3, 2020

Background on South Coast AQMD – Rail Activities

2005

- Board adopted Regulation XXXV – Railroad Operations
 - Challenged in court by railroads and rules can not be enforced

2017

- Board directed staff to develop a draft Indirect Source regulation on railyards, and also explore voluntary approaches

2018/2019

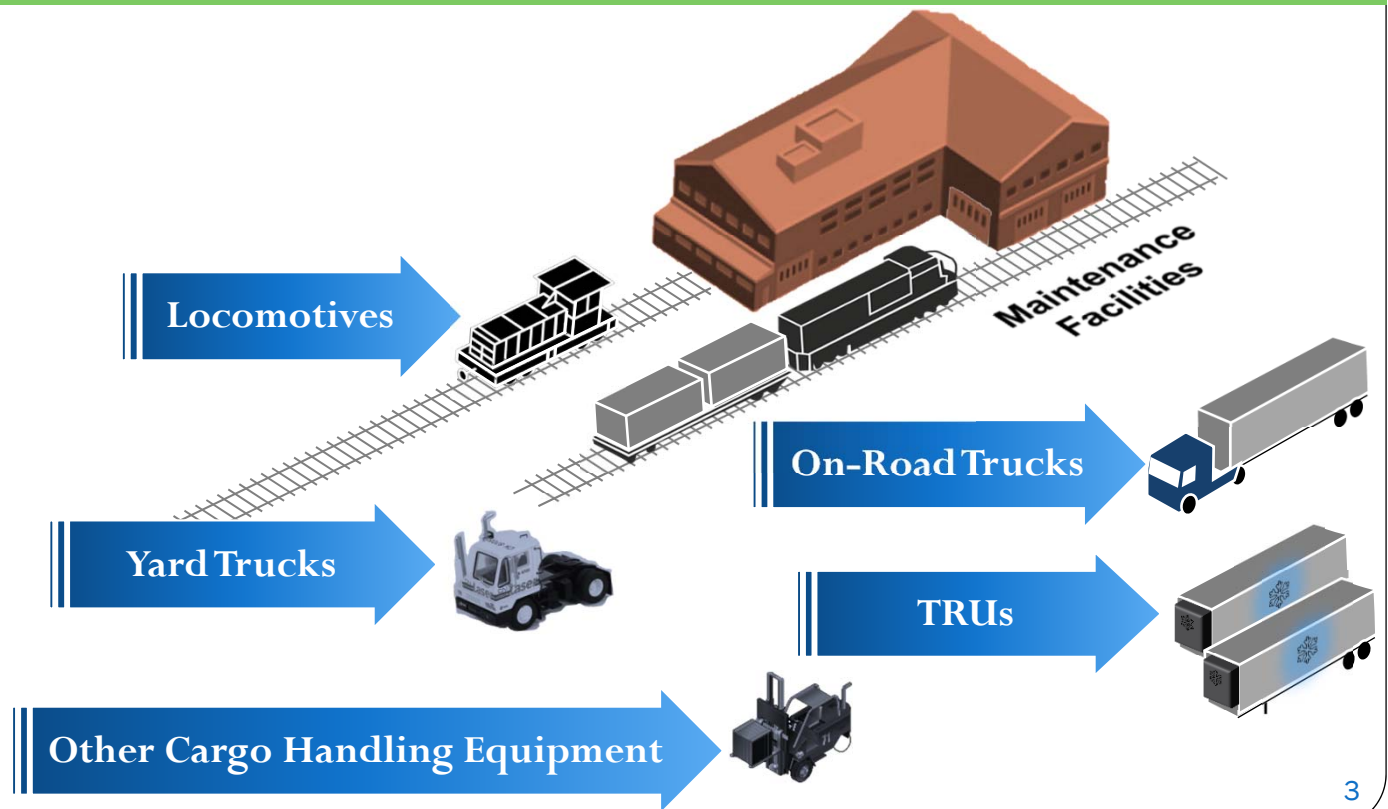
- Staff collected emission inventory information from UP/ BNSF

2019

- All three year-1 AB617 communities identified railyards as a top priority



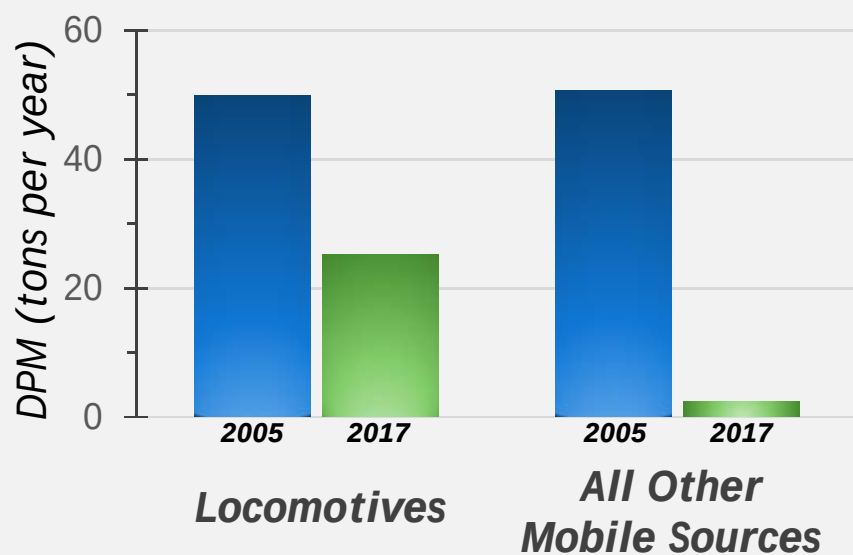
Railyard Emissions Sources



Onsite Rail Yard Emission Inventories (Reported by Railroads)

- Inventories provided for 7 of the largest railyards in South Coast AQMD

Diesel Particulate Matter

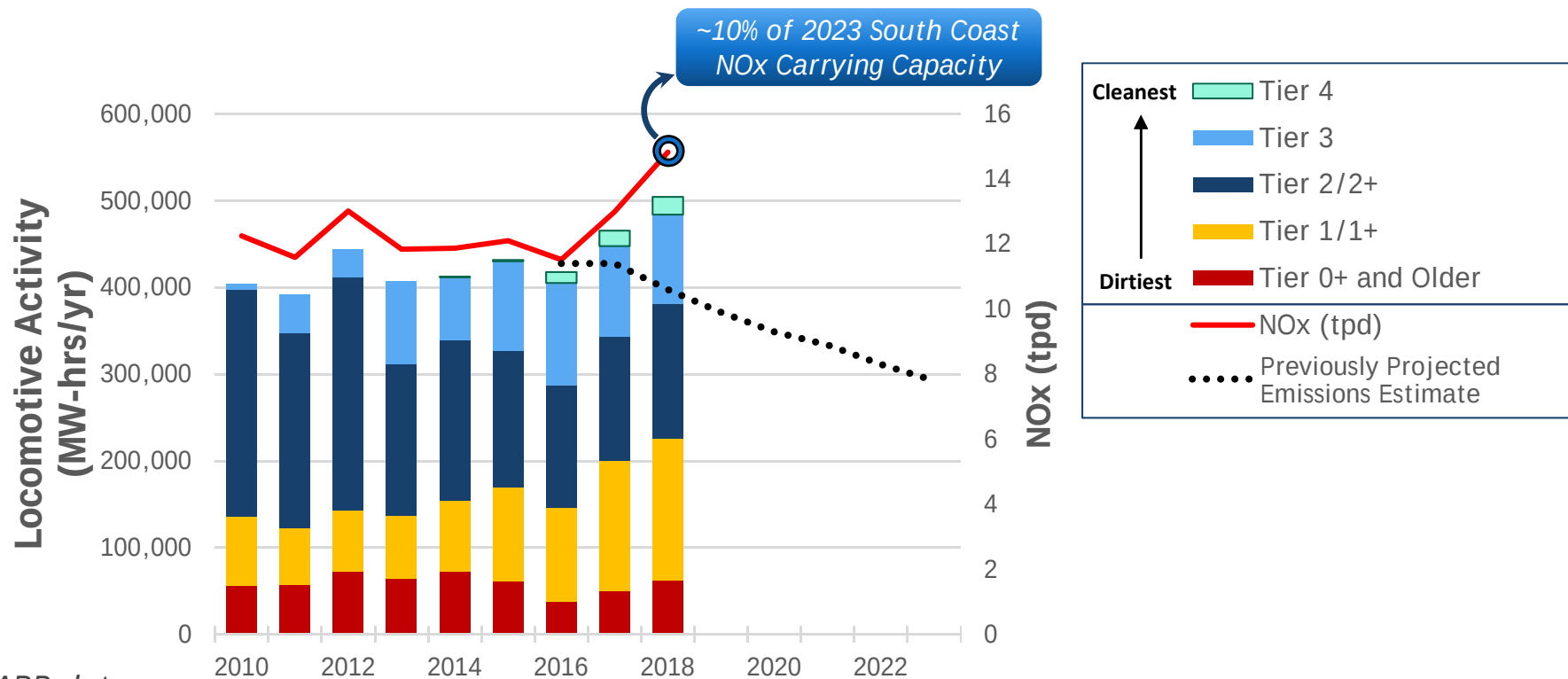


NO_x
(2017)

Railyard Emissions
All Onsite Sources
~3 tpd

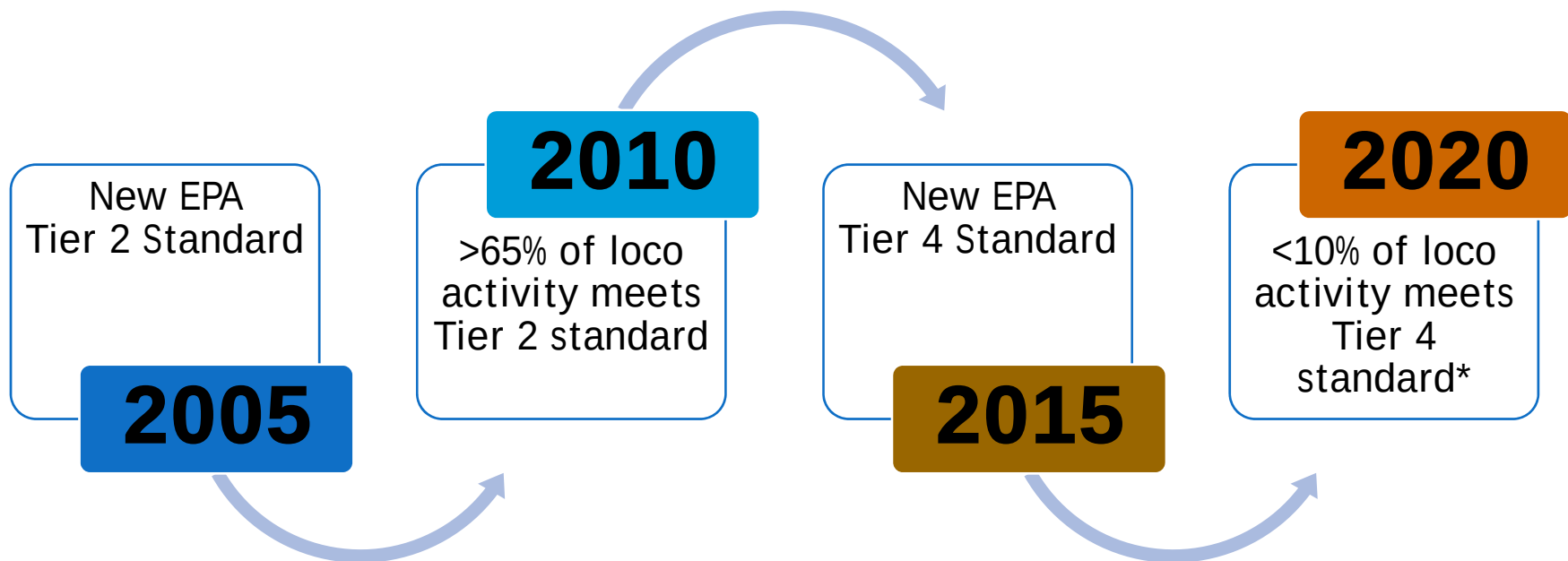
Locomotive Emissions
Total in Air Basin
~13 tpd

BNSF & UP Locomotive NOx Emissions in the South Coast*



*CARB data

Turnover of Locomotive Fleet in South Coast



**Projected based on 2018 CARB data and Annual Reports on locomotive purchases from Surface Transportation Board*

Background on Previous CARB Rail Actions

1998 CARB Agreement for South Coast (sunset 2030)

- Average Tier 2 NOx emissions standard
- Railroads report activity
- Credits provided for early technology adoption

2005 CARB Statewide Railyard Agreement (sunset 2015)

- Idle reduction, repair and reporting effort
- Use of cleaner diesel fuel
- 17 railyard health risk assessments

2017 CARB Petition to EPA for Locomotive Standards

- Tier 5 standard for new engines
- Tier 4 standard for remanufactured engines

CARB Statewide Concepts

1

Establish a Locomotive Emissions Reduction Spending Account

2

In-Use Locomotive Remanufacture Limit

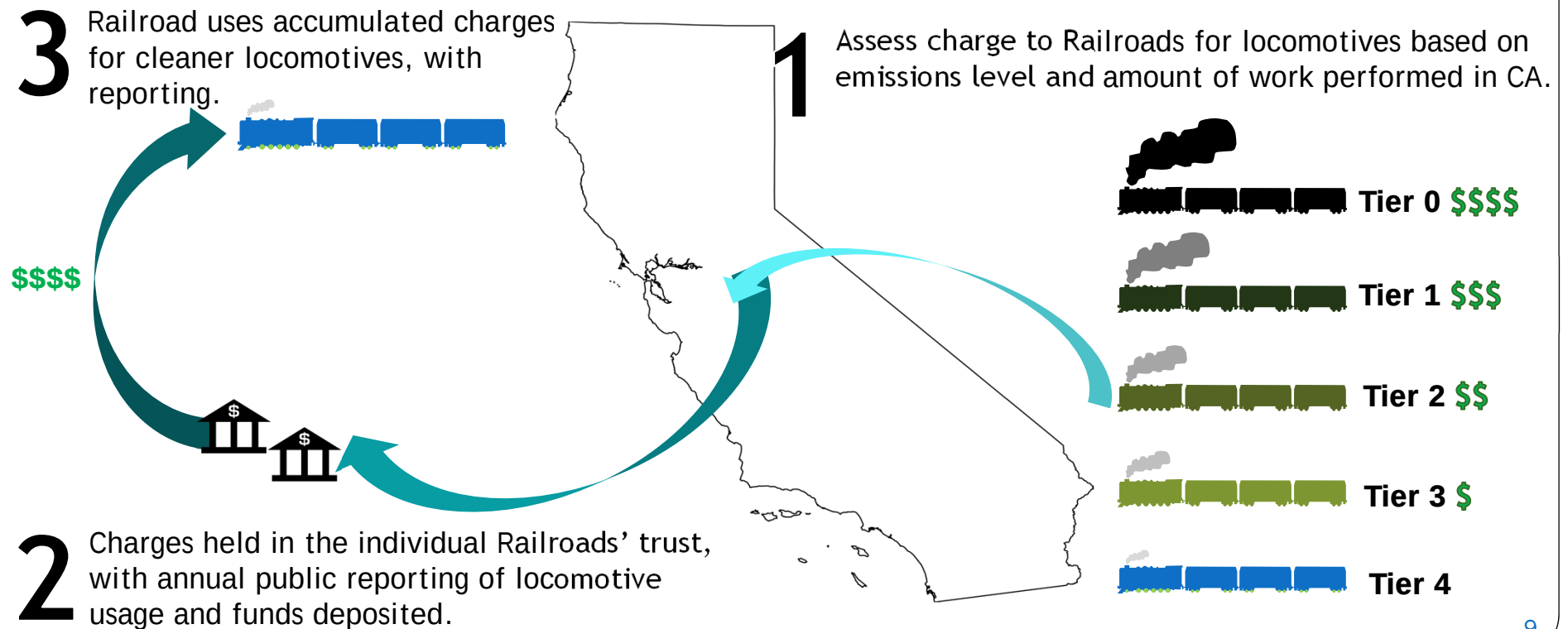
3

Adopt U.S. EPA 30 Minute Idling Limit

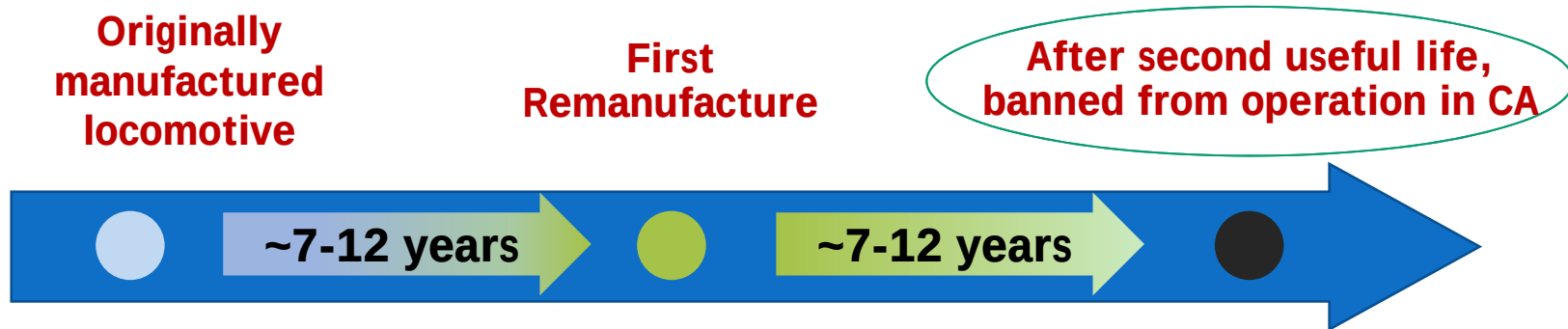
4

Genset Repurposing

1. Establish a Locomotive Emissions Reduction Spending Account



2. In-Use Locomotive Remanufacture Limit



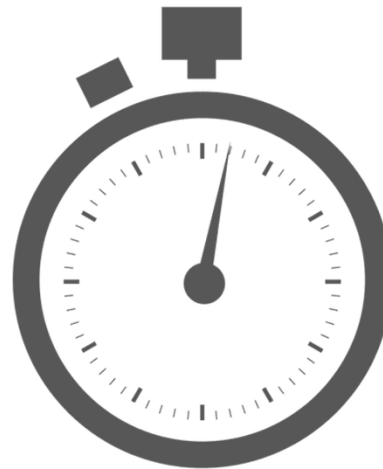
- Railroads currently are not limited in how many times they can remanufacture
 - Remanufactured engines do not need to meet new engine standards
- When implemented, any locomotive already remanufactured more than once would be banned from California
 - Alternative: remanufacture to Tier 4 and continue CA operation



www.assemblymag.com

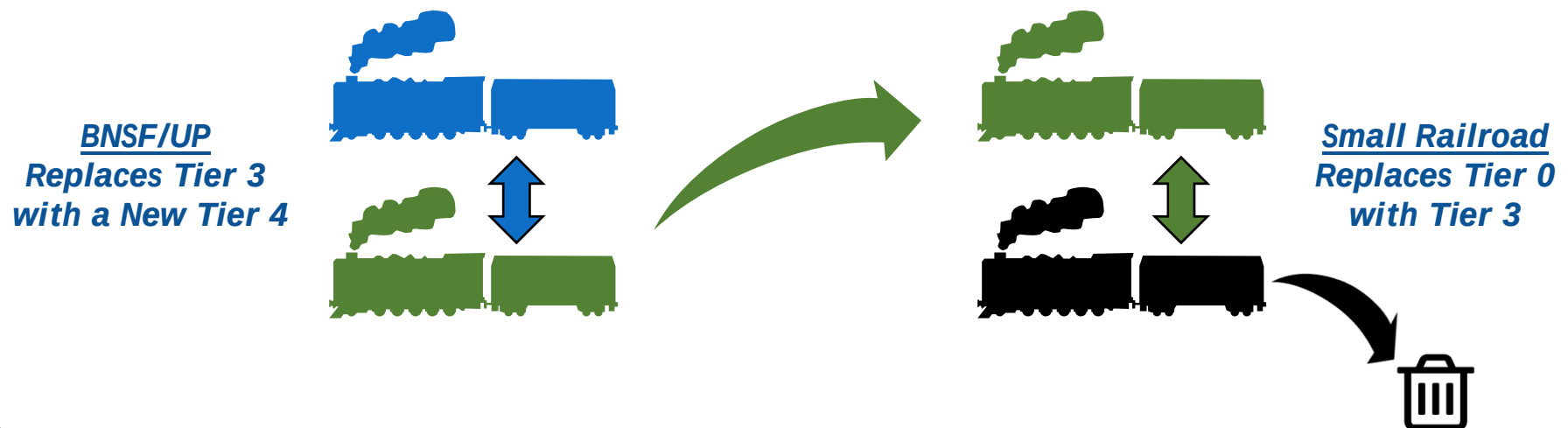
3. Adopt U.S. EPA 30 Minute Idling Limit

- Incorporates Federal requirements in California SIP
- Makes the rule CARB enforceable
- Enforcement by Air Districts possible through enforcement MOU



4. Repurpose Some Switcher Locomotives

- Some Tier 3 switchers owned by BNSF/UP Tier 3 not suitable for their use
 - These switchers called generator sets or 'gensets'
- Gensets potentially useful for smaller railroads
 - They often operate very old locomotives
- Trade down concept

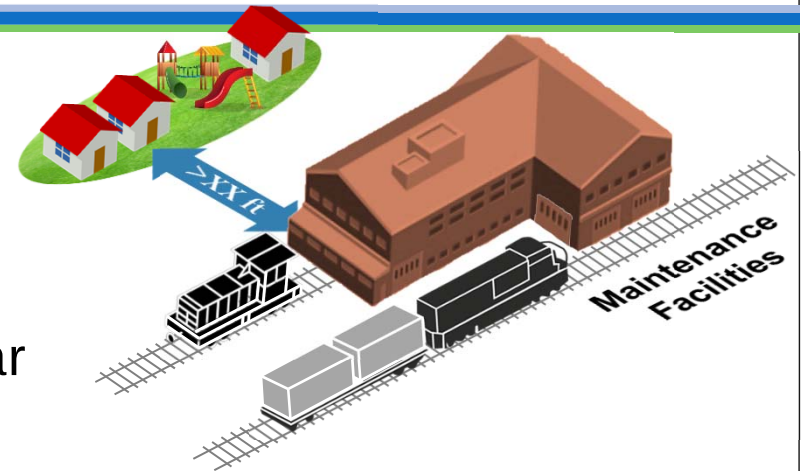


South Coast AQMD Concepts

- 1 Indirect Source Rule (ISR) to Reduce Exposures from Locomotive Maintenance Emissions**
- 2 ISR to Require Engineering Plans for Zero Emissions Operations**
- 3 New Incentive Program Focused on Cleanest Locomotive Use**
- 4 Evaluate New Monitoring Approaches for In-Use Locomotives**

1. Reduce Exposures from Locomotive Maintenance Emissions

- Community has placed high priority on reducing exposure from locomotive maintenance
- In the past, the railroads have stated that >10,000 maintenance events per year have occurred at some railyards
 - Load testing and idling can have high emissions

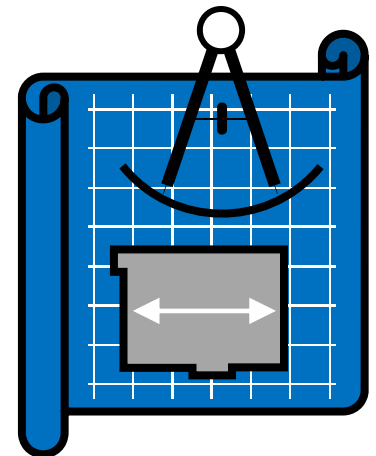


Proposed ISR Requirements

- Minimum distances to sensitive receptors (buffer)
- Install/Use emission control equipment
- Schedule maintenance activities to reduce impacts

2. Engineering Plans for Zero Emissions Operations

- Community priority on zero emission on-site equipment
- For transition to zero emissions operations, significant infrastructure upgrades are needed
 - Land, electrical equipment, site-specific engineering, etc.
- Coordination with local utilities is critical



Proposed ISR
Requirements

- Railroads prepare site-specific Zero Emissions Plans
- South Coast AQMD and CARB would evaluate plans to identify next steps (regulations, incentives, etc.)

3. New Incentive Program Focused on Cleanest Locomotive Use

- Current incentive programs have limited effectiveness in accelerating the widespread use of the cleanest locomotives (Tier 4)
 - Programs require in-state use and replacement
- Railroads have shown that preferential routing is possible with 1998 MOU Tier 2 requirement
- Attract cleanest existing locomotives now
 - Faster possible emission reductions than regulations
- Potentially funded by Railroads through proposed CARB spending account

*South Coast AQMD
funded **19** freight
locomotives since 2016
(~\$37 million total)*

Potential
Approach

- Develop new local program that provides incentives tied to clean locomotive use, not replacement
- Increased incentives in disadvantaged communities

4. Evaluate New Monitoring Approaches for In-Use Locomotives

- South Coast AQMD continues to receive air quality complaints about smoking locomotives
- EPA sets emissions standards, but only requires in-use testing for up to five locomotives per railroad per year
- Better data on local air quality impacts of smoking locomotives can lead to follow-up actions/ priorities



Potential Approach

- Evaluate new monitoring technologies to document air quality impacts
- Use data to support follow-up regulatory or enforcement actions to reduce emissions

Next Steps

- Continue to reach out to stakeholders to develop concepts
 - Additional analysis needed
- Continue South Coast AQMD partnership with CARB as they develop their concepts
- Report back to Mobile Source Committee on progress
 - Board consideration of South Coast AQMD actions likely in 2021