



South Coast Air Quality Management District



21865 Copley Drive, Diamond Bar, CA 91765-4178
(909) 396-2000 • www.aqmd.gov

YOUNG LEADERS ADVISORY COUNCIL October 20, 2021 ♦ 12:30 p.m.

Derrick Alatorre, Chair

Advisory Council Members

Roxana Barrera

Monica Cantoran

José Trinidad Castañeda III

Isis Frausto-Vicencio

Ana Gonzalez

Larysha Green

Kyla Kelly

Cassie Nguyen

Nithya Palani

Maya Prasad

Michael Rodriguez

Paije Rush

Alexandra Rae Santora

Lizbeth Sierra

Priya Vedula

Janielle Vidal

Mikayla Winfery

♦ PLEASE NOTE THE LOCATION CHANGE ♦

Pursuant to AB 361, previously noticed locations are no longer available. South Coast AQMD's Young Leaders Advisory Council meeting will only be conducted via video conferencing and by telephone on Wednesday, October 20, 2021, 12:30 p.m. Please follow the instructions below to join the meeting remotely.

TELECONFERENCE LOCATION

Per AB 361, teleconference locations do not need to be disclosed nor open to the public.

INSTRUCTIONS FOR ELECTRONIC PARTICIPATION

Join Zoom Meeting – from PC or Laptop

<https://scaqmd.zoom.us/j/98202826843>

Webinar ID: 982 0282 6843

Teleconference Dial In

+1 669 900 6833

Audience will be allowed to participate during public comment periods.

Computer controls for participants:

The following commands can be used on your computer's Zoom application during the meeting:

- ◆ Toggle mute/unmute by selecting **Mute** on the bottom-left
- ◆ Select **Participants** followed by **Raise Hand** on the right-hand side to raise hand

Phone controls for participants:

The following commands can be used on your phone's dial pad while in Zoom meeting:

- ◆ *6 – Toggle mute/unmute
- ◆ *9 – Raise hand

PUBLIC COMMENT WILL STILL BE TAKEN

AGENDA

Members of the public may address this body concerning any agenda item before or during consideration of that item (Gov't. Code Section 54954.3(a)). If you wish to speak, raise your hand on Zoom or press Star 9 if participating by telephone. All agendas for regular meetings are posted at South Coast AQMDs Headquarters, 21865 Copley Drive, Diamond Bar, California, at least 72 hours in advance of the regular meeting. Speakers may be limited to three (3) minutes each.

CALL TO ORDER

Call to Order/Opening Remarks
(No Motion Required)

Derrick Alatorre
Deputy Executive Officer/
Public Advisor

ACTION ITEMS (Item 1)

1. Approval of August 18, 2021 Meeting Minutes
(Motion Required)
[Attachment 1]

Derrick Alatorre

DISCUSSION ITEMS (Items 2 through 4)

2. Hydrogen and Fuel Cell Presentation
(No Motion Required)
Staff will provide a presentation on hydrogen and fuel cell technology.
[Attachment 2]

Seungbum Ha
Program Supervisor

3. Rule 2306: Indirect Source Rule for New Intermodal Facilities Presentation

Lijin Sun
Program Supervisor

(No Motion Required)

Staff will provide a presentation on the development of Rule 2306.

[Attachment 3]

4. Member Updates

(No Motion Required)

All

OTHER MATTERS

5. Other Business

Any member of this body, or its staff, on his or her own initiative or in response to questions posed by the public, may ask a question for clarification, may make a brief announcement or report on his or her own activities, provide a reference to staff regarding factual information, request staff to report back at a subsequent meeting concerning any matter, or may take action to direct staff to place a matter of business on a future agenda. (Gov't Code Section 54954.2)

6. Public Comment Period

At the end of the regular meeting agenda, an opportunity is provided for the public to speak on any subject within the Young Leader Advisory Council's authority that is not on the agenda. Speakers may be limited to three (3) minutes each.

Next Meeting Date – Wednesday, February 16, 2022 at 12:30 p.m.

ADJOURNMENT

Pursuant to SB 343

All documents (i) constituting non-exempt public records, (ii) relating to an item on an agenda for a regular meeting, and (iii) having been distributed to at least a majority of the Council after the agenda is posted, are available by contacting Aisha Reyes at (909) 396-3074 or send the request to areyes2@aqmd.gov.

Americans with Disabilities Act and Language Accessibility

Disability and language-related accommodations can be requested to allow participation in the Young Leaders Advisory Council meeting. The agenda will be made available, upon request, in appropriate alternative formats to assist persons with a disability (Gov't Code Section 54954.2(a)). In addition, other documents may be requested in alternative formats and languages. Any disability or language-related accommodation must be requested as soon as practicable. Requests will be accommodated unless providing the accommodation would result in a fundamental alteration or undue burden to South Coast AQMD. Please contact Aisha Reyes at (909) 396-3074 from 7:00 a.m. to 5:30 p.m., Tuesday through Friday, or send the request to areyes2@aqmd.gov.



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YOUNG LEADERS ADVISORY COUNCIL WEDNESDAY, AUGUST 18, 2021 MEETING MINUTES

Members Present:

Roxana Barrera
José Trinidad Castañeda III
Jin Chen
Isis Frausto-Vicencio
Ana Gonzalez
Larysha Green
Kyla Kelly
Maya Prasad
Cassie Nguyen
Priya Vedula
Mikayla Winfery

Members Absent:

Monica Cantoran
Nithya Palani
Michael Rodriguez
Paije Rush
Alexandra Rae Santora
Lizbeth Sierra
Janielle Vidal

South Coast AQMD Staff:

Derrick Alatorre, Chair, DEO/Public Advisor/Legislative, Public Affairs & Media
Daphne Hsu, Senior Deputy District Counsel/Legal
Bradley Whitaker, Media Manager/Legislative, Public Affairs & Media
Alicia Lizarraga, Senior Public Information Specialist/Legislative, Public Affairs & Media
Brian Roche, Systems & Programming Supervisor/Administrative Office
Lindsay McElwain, Senior Administrative Secretary/Legislative, Public Affairs & Media
Brandee Keith, Secretary/Legislative, Public Affairs and Media

Agenda Item #1: Call To Order

Mr. Derrick Alatorre called the meeting to order at 12:33 p.m., and Mr. Bradley Whitaker took the roll call.

Agenda Item #2 and #3: Approval of April 21, 2021 and April 29, 2021 Meeting Minutes

Ms. Jin Chen moved the approval of the minutes from April 21, 2021 and April 29, 2021. Ms. Roxana Barrera seconded the motion. Minutes were approved.

Agenda Item #4: Approval of 2022 YLAC Meeting Schedule

Ms. Roxana Barrera asked whether the committee would be returning to in-person meetings. Mr. Derrick Alatorre stated a return would depend on developments in the COVID-19 pandemic response. Mr. Jose Trinidad-Castañeda asked if there was a target date for a final determination regarding in-person meetings. At the time of the meeting, it was not known.

Ms. Roxana Barrera moved the approval of the schedule and Mr. Jose Trinidad-Castañeda seconded the motion. The schedule was approved.

Agenda Item #5: CAPES Presentation

Ms. Alicia Lizarraga delivered a presentation on the South Coast AQMD Clean Air Program for Elementary Students (CAPES) program.

Mr. Jose Trinidad-Castañeda asked where members could refer interested parties who might wish to know more about signing up for the program. Ms. Lizarraga requested all inquiries be directed to the CAPES web page. Mr. Trinidad-Castañeda asked if there was still space for schools to sign up for the program. Ms. Lizarraga said there was still room and committee members were encouraged to recommend school administrators, teachers or other interested parties to the program web page to sign up for more information.

Agenda Item #6: Member Updates

Mr. Jose Trinidad-Castañeda announced the Orange County Power Authority was nearing its launch. He has joined the Buena Park Beautification Committee. He asked whether SCAG's RFP for Last-Mile Freight Delivery would be covered by the Warehouse ISR. Mr. Alatorre stated that would not be within the purview of the agency. Mr. Trinidad-Castañeda also requested the committee be introduced to the process of RFPs (Requests for Proposals) and requested future information/presentation be given on applications of hydrogen fuel.

ACTION ITEM: *Staff to schedule a presentation on hydrogen and fuel cell technology.*

A presentation has been scheduled for the October 20 meeting.

Ms. Roxana Barrera has been involved with a partnership including the Environmental Justice Collective and two other EJ groups in her area to create a clean-air mural.

Ms. Ana Gonzalez has been promoted to director with the CCAJ, opposing warehouse development and mobilizing the community.

Ms. Jin Chen has accepted a position at the University of Kentucky.

Ms. Isis Frausto-Viceno will be entering her fifth year of graduate school and wrapping up projects regarding greenhouse gases. She will soon be seeking employment in the field of environmental sciences.

Agenda Item #7: Other Business

Ms. Ana Gonzalez requested more information on the railyard indirect source rule for the next YLAC meeting. Mr. Alatorre agreed to schedule a presentation dependent on the progress of the item in the working groups. Mr. Jose Trinidad-Castañeda requested if possible to review the PowerPoint presentation as presented on July 30th, 2021 to the working groups.

ACTION ITEM: *Staff to provide a copy of the Proposed Rule 2306 presentation.*

A copy of the presentation was provided to Mr. Trinidad-Castañeda.

ACTION ITEM: *Staff to look into scheduling a presentation on the railyard indirect source rule.*

A presentation on the rule has been scheduled for the October 20 meeting.

Agenda Item #8: Next Meeting Date

The next regular YLAC meeting is scheduled for Wednesday, October 20, 2021, at 12:30 p.m.

Adjournment

Mr. Derrick Alatorre adjourned the meeting at 1:26 p.m.



South Coast
AQMD

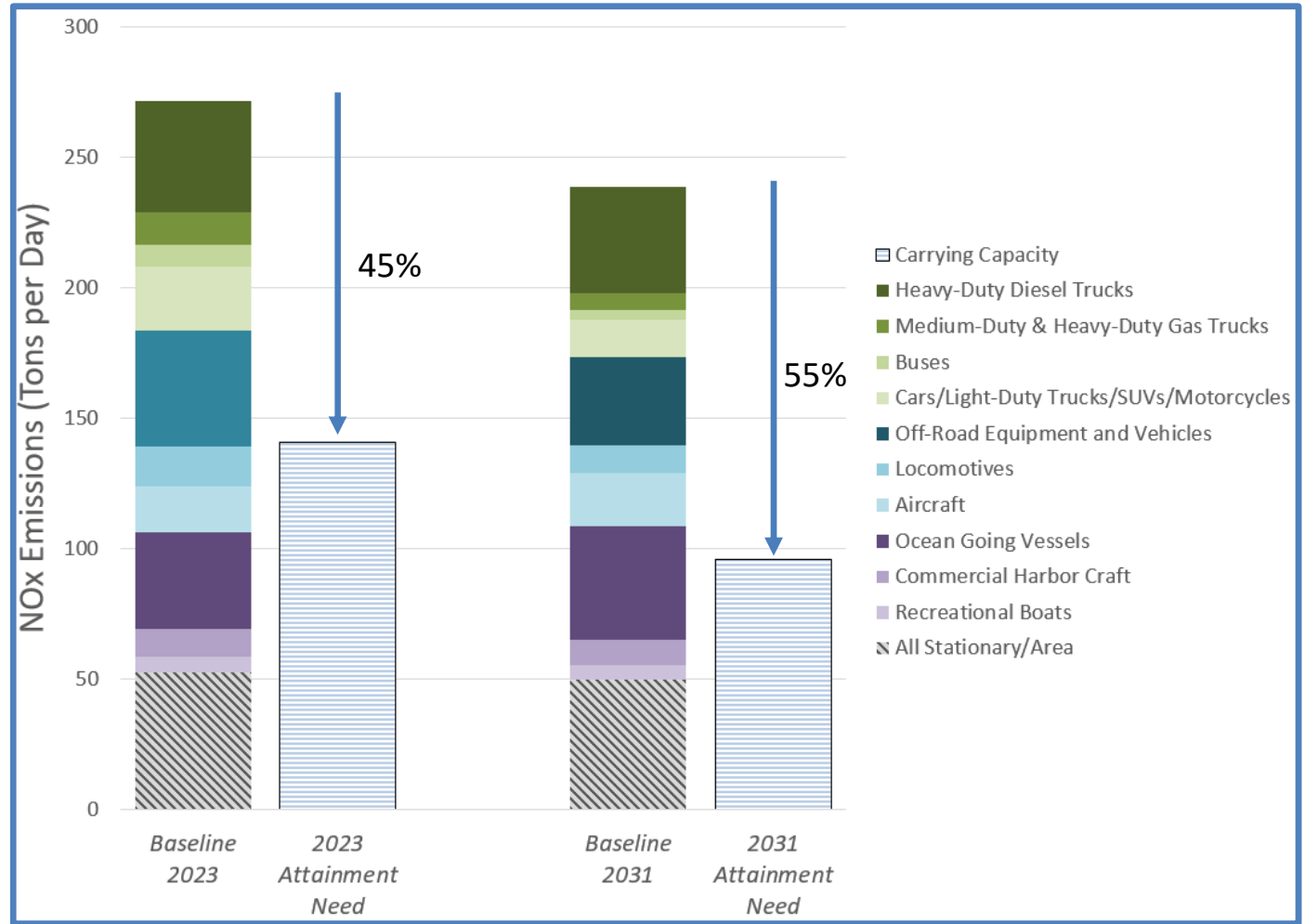
Fuel Cell Heavy-duty Truck Demonstration and Beyond

Technology Advancement Office
Program Supervisor

Seungbum Ha

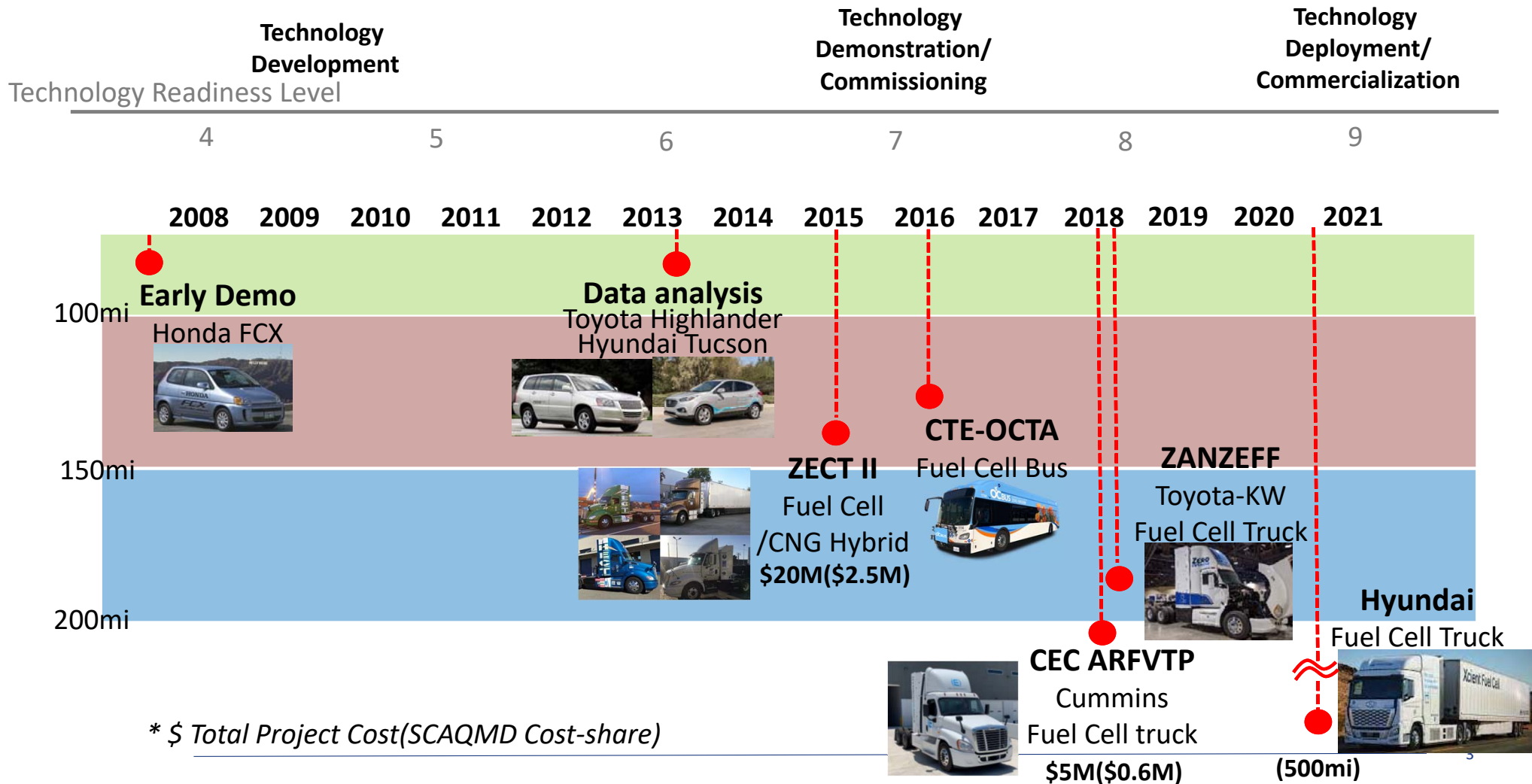
Ozone Attainment Challenges

NOx Reductions Needed



Mobile Sources >80% of NOx inventory for 2023

Zero Emission Fuel Cell Vehicle Project

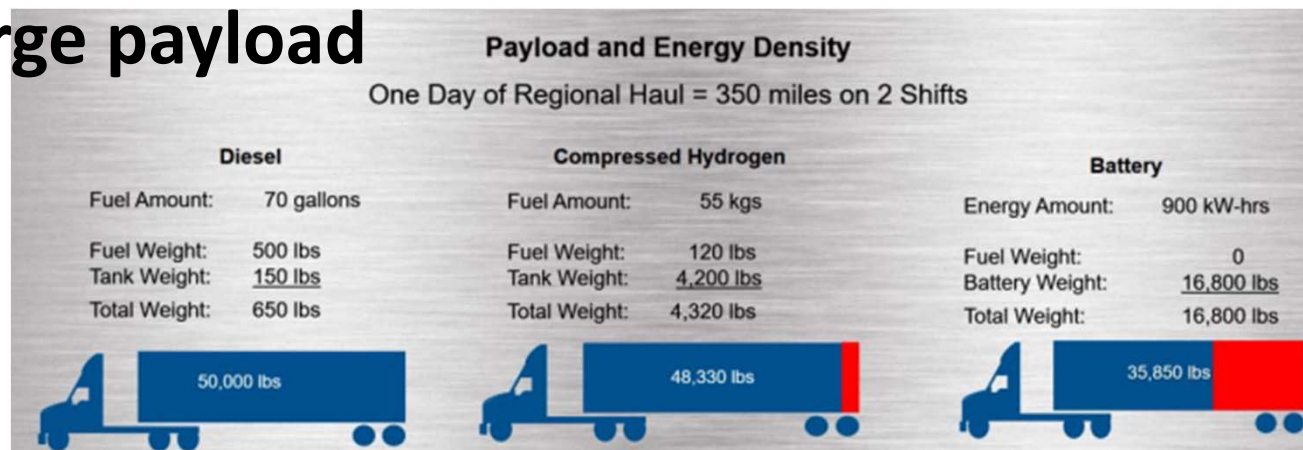


Advantageous Applications of Fuel Cell Truck

Long Range



Large payload



Approach

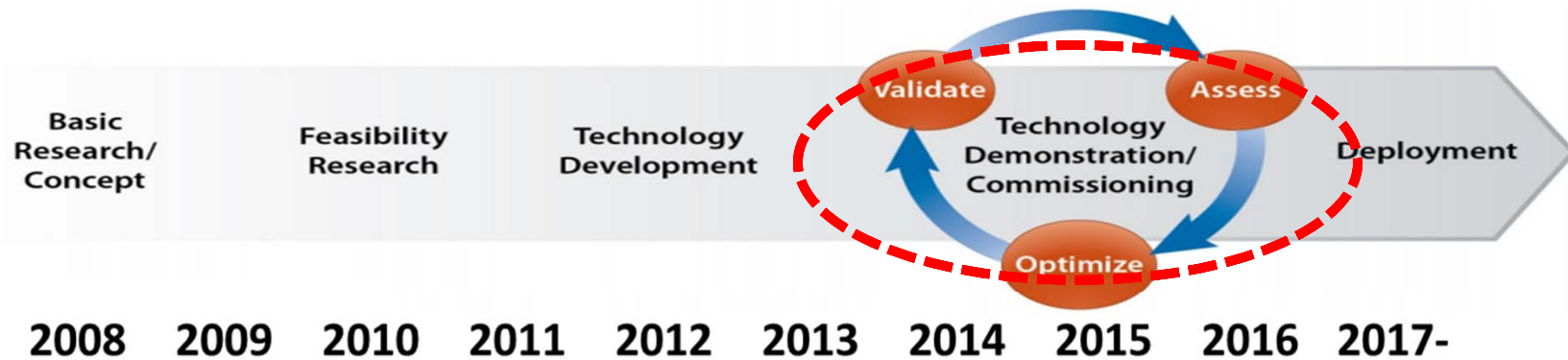
Vehicle Development and Deployment

	FUEL CELL TRUCKS			PHET/CNG	
	TransPower	Hydrogenics (Cummins)	US Hybrid	BAE/Kenworth	
# of Vehicles	2	1	2	1	1
Platform	International	Freightliner	Kenworth T800	Kenworth T370	Kenworth T680
Mfg: Fuel Cell / APU	Hydrogenics	Hydrogenics	PureMotion	Ballard	CWI L9N NZE
Fuel Cell Power	60 kW	60 kW	80 kW	85 kW	n/a
Battery Capacity	125 kWh	100 kWh	26 kWh	100 kWh	100 kWh
Battery Chemistry	Li-ion	Li-ion	Li-ion	Li-ion	Li-ion
Traction Motors	2x 150 kW	1x 320 kW	1x 320 kW	1x 420 kW	1x 420 kW
Range (per fueling)	200 miles	150 miles	150-200 miles	112 miles	150 miles
Fuel Cap.: H2 (kg) / CNG (DGE)	27 kg @350 bar	30 kg @350 bar	20 kg @350 bar	30 kg @350 bar	45 DGE
	Deployed		Deployed	Deployed	Deployed

In-use Demonstration and vehicle performance Analysis

TCO Analysis and Commercialization Roadmap

US DOE ZECT II



ZECT 2 – Awarded: 2014; Kickoff: 2015

- Three Technologies: Fuel Cell, Battery Electric with Fuel Cell, Battery Electric with CNG ICE
- Four technology integrators: TransPower, U.S. Hybrid, Hydrogenics, BAE/Kenworth
- Fleet Participation: Drayage fleets, Kenworth Trucks
- Funding: DOE: \$10,000,000; Match Share: \$7,183,979; Contractors: \$3,075,841;
Total Cost: \$20,259,820

US DOE ZECT II

ZECT II Fuel Cell trucks

Developer	BAE/Kenworth	Cummins
Platform	1	Freightliner
Fuel Cell Power	85kW	60kW
Fuel Cell stack	Ballard	Hydrogenics
Battery Capacity	100 kWh	100kWh
Range (per fueling)	120 miles	150 miles
Fuel Cap.: H2 (kg)	30 kg @350 bar	30 kg @350 bar

- Up to 250miles range
- 700bar H2 tank



**ZANZEFF
Toyota-KW
Fuel cell Truck**



**CEC ARFVTP
Cummins
Fuel cell Truck**

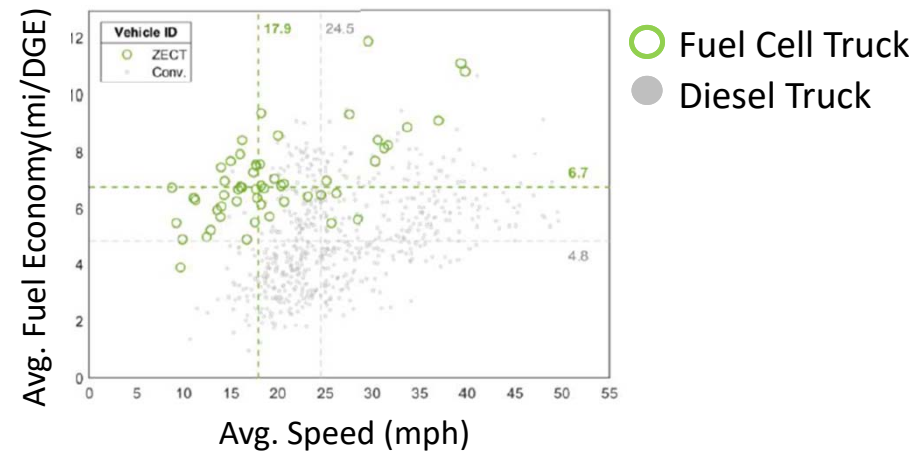


US DOE ZECT II

- Fuel cell truck performed a higher efficiency compared to the baseline vehicles

Metric	Units	Baseline* Conventional	Kenworth ZECT
Date range		2014–2015	6/13/2019 – 1/15/2021
Number of total days recorded	#	557	103
In-service days with >5 miles	#	—	56
Max daily distance	mi	—	245.2
Avg daily distance	mi	127.9	53.9
Avg operating time (key-on)	hr	10.1	6.9
Avg driving time	hr	4.5	2.6
Avg speed	mph	14	8.4
Avg driving speed (speed>0)	mph	26.5	20.0
Kinetic intensity	1/mi	0.64	1.1
Avg stops/day	#/day	124.9	176.1
Avg stops/mi	#/mile	1.38	4.7
Median stop duration	sec	40.8	7.4
Avg daily fuel use (H ₂)	kg	—	8.4
Avg daily fuel use (diesel equiv.)	gal	23.7	7.4
Avg fuel economy (diesel equiv.)	mi/gal	5.7	6.5
Avg fuel cell efficiency	%	—	52.1%

*ZECT II milestone report: Baseline Vehicle Data Collection and Analysis Report – Port Drayage



More Stop-n-Go

Higher fuel economy

US DOE ZECT II - Conclusion

- The largest strides in Technology Readiness Level (TRL) on the overall vehicle design and architecture.
- Improvements to packaging and vehicle control strategies to increase efficiency
- Challenges
 - ✓ Lack of standardization in componentry
 - ✓ Improving reliability across the system
 - ✓ Deploying a larger numbers of vehicles
 - ✓ Reliable H2 fuel supply



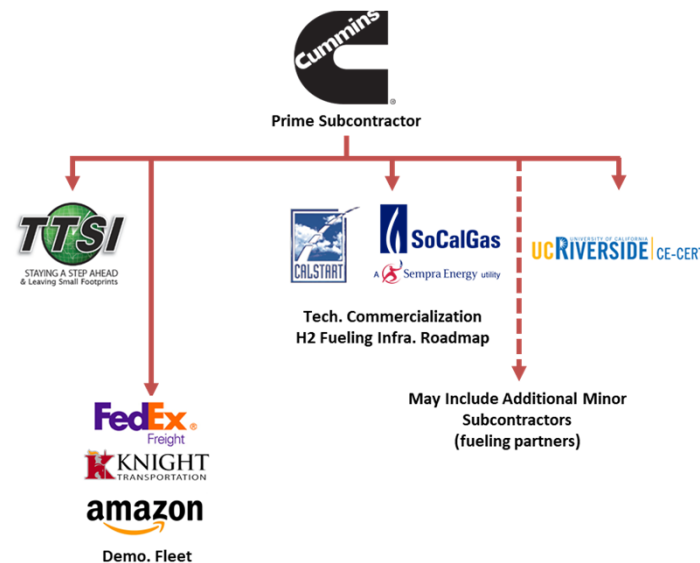
CEC ARFVTP – Cummins Fuel Cell Drayage Truck

- In 2019, Cummins acquired EDI and Hydrogenics
- 4 Fuel Cell Class 8 drayage trucks (200+ mile ZE range)
- Complete and deliver vehicles in 2021 with 12 month demonstration

Announcing:
Cummins Acquires Efficient Drivetrains

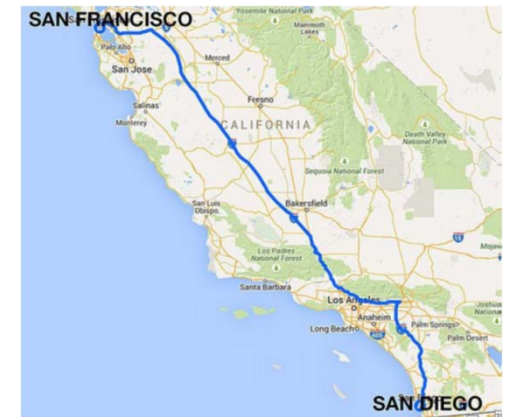


MY2020 Kenworth T680 Day Cab
82,000 lbs. (Class 8)
Hydrogenics 2 x HyPM HD90 180 kW
Cummins Motor/Inverter w/ 4-speed Trans.
Agility 23.5 kg @ 350 bar
10-15 minutes
150-200 mi. depending on duty cycle
Pilot / pre-production. Commercialization planned in 2022-2023.



Hyundai Fuel Cell Drayage Truck

- Fuel-cell technology is an attractive solution for regional and long-haul services
- The trucks will be demonstrated for 12 months in regional and long-haul routes to fully utilize up to 500-mile range
- South Coast AQMD has been awarded \$500,000 from U.S. EPA FY21 Clean Air Technology Initiative Program



Fuel Cell Transits & Medium-Duty Buses

SunLine Transit Agency

- Existing fleet of 16 fuel cell and 4 battery electric buses in Coachella Valley area
- Additional 5 fuel cell buses to be delivered in Q4 2020
- Newly upgraded 900 kg/day hydrogen station

A-1 Fuel Cell Medium-Duty Buses

- CARB has adopted various zero-emission mandates
 - ✓ Innovative Clean Transit Regulation (ICT)
 - ✓ Zero-Emission Airport Shuttle Regulation
 - ✓ Advanced Clean Trucks (ACT) Regulation
- Plug Power Inc. and SEA Electric LLC to development hydrogen fuel cell and chassis electrification components





OCTA

- 10 New Flyer fuel cell buses in operation
 - 85 kW Ballard fuel cell and 80 kWh Li-FePO4 batteries
 - Each bus uses 37.5 kg/day to provide up to 350 miles range
- OCTA hydrogen fueling station
 - Developed by Trillium and Air Products Liquid Hydrogen Delivery
 - 1600 kg/day @ 350 bar
 - Capacity for fueling 40-50 fuel cell buses
 - Fueling time 6 – 10 minutes per bus
 - 280 kg peak back to back fills



A Vision for Freight Movement in California – *and Beyond*

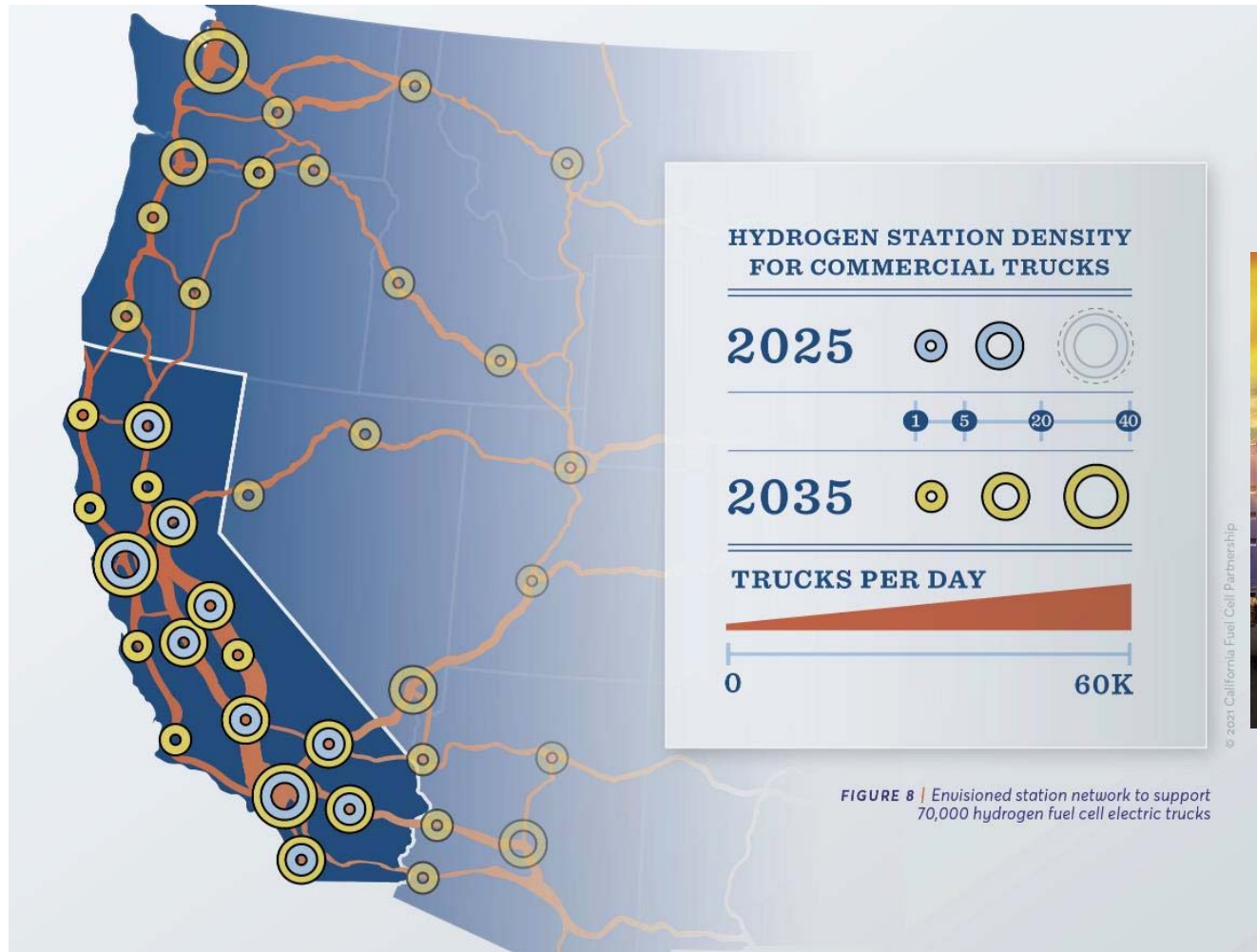
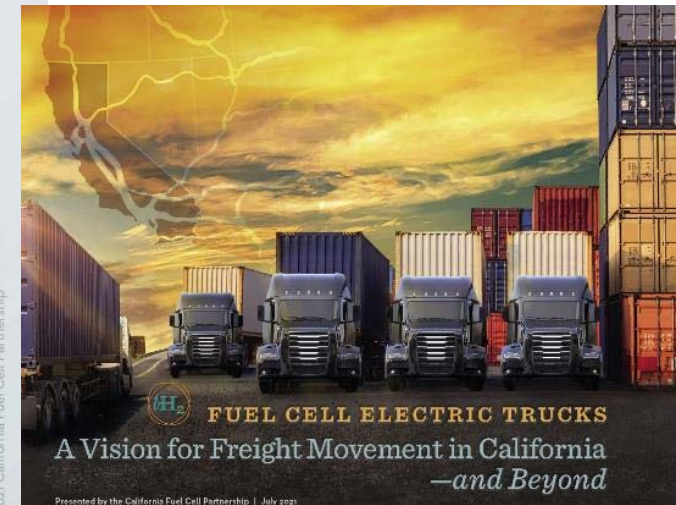


FIGURE 8 | Envisioned station network to support 70,000 hydrogen fuel cell electric trucks



Comparison of Technologies

	Pros	Cons
Diesel	<ul style="list-style-type: none"> The most common fuel type for decades, so capital costs are low and fueling locations are common Range only limited by driver's 10 hour driving limit 	<ul style="list-style-type: none"> Biggest polluter of particulate matter and greenhouse gases Loud and odorous operation Relatively high maintenance costs Being phased out by California and port regulations
CNG	<ul style="list-style-type: none"> Less emissions than diesel Quick refill like diesel ~ 300 mile range Fueling infrastructure relatively common Fuel slightly less expensive than diesel Quieter operations 	<ul style="list-style-type: none"> Not zero-emission Although highly commercialized now, gained a reputation for not being reliable when first entering the market Emits about 75% as much CO₂ and 10% as much NO_x as diesel trucks
Hydrogen Fuel Cell	<ul style="list-style-type: none"> Zero tailpipe emissions Quick refueling (10 minutes) Expected 300+ mile range Quiet operations Reduced maintenance costs Possibility for extended range with 700 bar fueling Torque / acceleration 	<ul style="list-style-type: none"> Least commercialized option with fewest vehicles on the road High MSRP High fuel cost Fueling infrastructure not commonly available

- Hydrogen infrastructure
 - Assessment of feasible pathway for hydrogen fueling in near and long term
 - Renewable hydrogen station
- TCO analysis and commercialization roadmap

Orange County Sanitation District Tri-Gen Fuel Cell Demonstration

- Contract with Air Products executed in 2009 to develop and demonstrate 250KW Fuel Cell producing 100% renewable hydrogen from biogas
- In partnership with UCI's National Fuel Cell Research Center, US DoE, Air Products, Fuel Cell Energy and South Coast AQMD developed and demonstrated renewable H₂ from biogas
- Project was completed in 2014 with a total project cost \$8.7M



100% Renewable Energy Station



100% Renewable Hydrogen Station

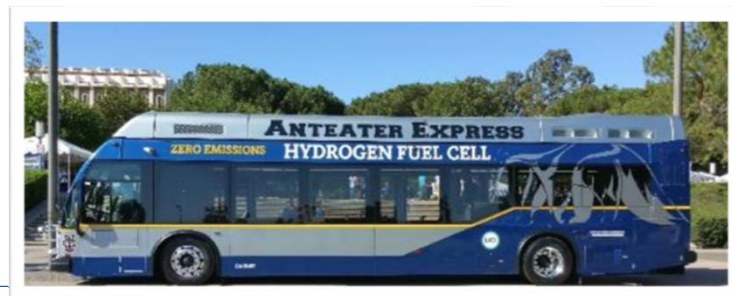
California HD Hydrogen Infrastructure Research

- U.S. DOE H2@Scale program with national labs, CA GO-Biz, CEC, CARB and SCAQMD
- Joint agreement led by NREL to continue hydrogen infrastructure research efforts 2021 – 2022
- Priorities
 - H2 Contaminant Detector
 - Heavy duty reference station design
 - Heavy duty station test device design
 - Heavy duty station capacity



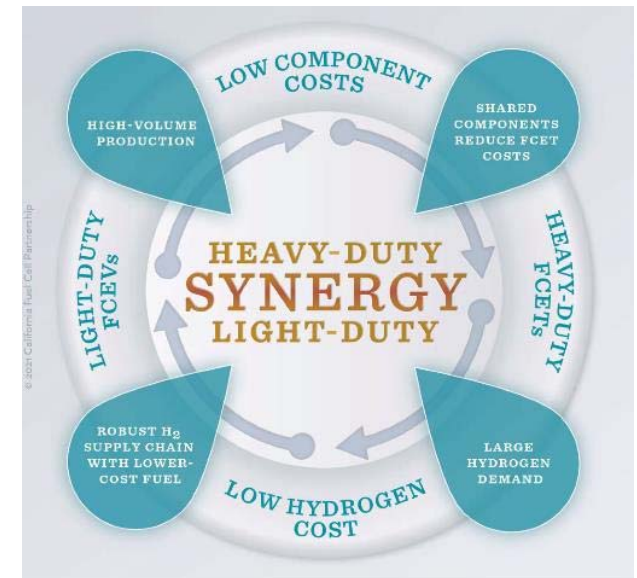
UC Irvine Hydrogen Station Expansion

- Expansion to 800 kg/day with liquid delivery, increased storage, and four fueling positions
- Public use will continue 24/7, with buses scheduled to refuel at night
- Final design will incorporate state-of-the-art technology
- Co-funding approved & contracts executed: Total \$1.8M expansion
- Equipment will be moved to new location on UCI property (at UCI expense), then upgraded



Infrastructure Challenges & Opportunities

- Policy & funding predictability: Coordination across all gov levels
- Supply Chain: H2 Production, distribution, parts, materials, Need multiple suppliers & scale
- Skilled labor, workforce training
- Focus on safety always; codes & standards
- CEQA/Permits
- Site specific development & operational issues
- Increasing capacity stations are starting to reduce dispensed cost; working on refined HD fueling protocols to become “Recommended Practice”
- Address short-term H2 network fragility
- Increase renewable H2 production dedicated to transportation



CaFCP: 2021 HD Vision



South Coast Air Quality Management District

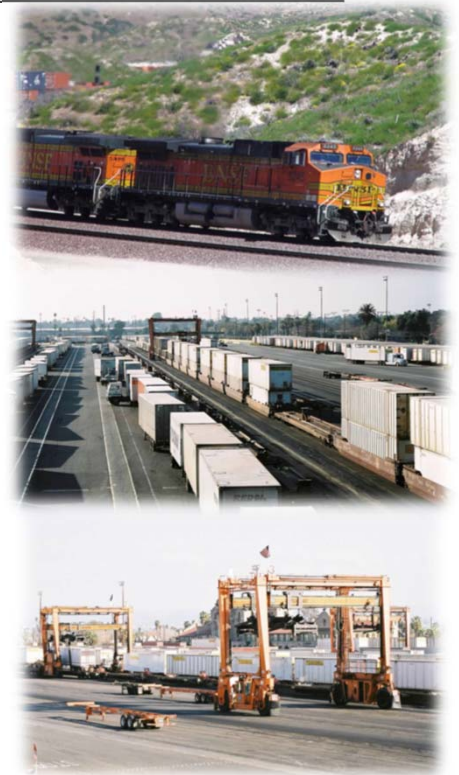
Proposed Rule 2306 - Indirect Source Rule for New Intermodal Facilities

YOUNG LEADERS ADVISORY COUNCIL

OCTOBER 2021

Agenda

- ❑ Background
 - 2016 Air Quality Management Plan and Assembly Bill (AB) 617
 - Proposed Rule (PR) 2306 – Indirect Source Rule for New Intermodal Facilities
- ❑ Two New Proposed Intermodal Facilities in the South Coast Air Basin
 - Potential Emission Sources
 - CEQA Review Process and CEQA Limitations
 - Proposed Colton Intermodal Facility
 - Proposed Southern California International Gateway (“SCIG”)
- ❑ Need for PR 2306
- ❑ Overview of Rule Development Process
- ❑ Potential Technologies for PR 2306
- ❑ Working Group Meetings
- ❑ Next Steps
- ❑ Staff Contacts



Background

- ❑ 2016 AQMP included control measure MOB-02: Rail Yard and Intermodal Facilities which is one of four facility-based mobile source measures for NO_x and PM
- ❑ Goal of MOB-02 is to assist in implementing the State SIP Strategy “Further Deployment of Clean Technologies” measures related to
 - On-road heavy-duty vehicles
 - Off-road equipment
 - Federal sources that operate in and out of intermodal facilities
- ❑ In May 2018 the South Coast AQMD Governing Board directed staff to initiate rulemaking for MOB-02



Assembly Bill (AB) 617

- ❑ AB 617 was signed into state law in 2017
- ❑ Requires air agencies to identify priorities and actions to reduce toxic air contaminants and criteria pollutants in disproportionately affected communities
- ❑ There are currently five designated communities in the South Coast AQMD where Community Emission Reduction Plans (“CERPs”) have been developed that prioritizes actions
- ❑ Emissions from railyards have been identified as areas of concern and an air quality priority in the CERPs in four of the AB 617 communities:
 - San Bernardino, Muscoy (“SBM”),
 - Wilmington, West Long Beach, Carson (“WCWLB”),
 - Boyle Heights, East Los Angeles, West Commerce (“ELABHWC”), and
 - Southeast Los Angeles (“SELA”)

Community Emission Reduction Plans (“CERPs”)

- Identified measures in the CERPs focused on reducing emissions at railyards and included:
 - Pursue development of an Indirect Source Rule
 - Reduce localized impact from railyards
 - Expand zero emission infrastructure
 - Work with CARB to develop new requirements to reduce emissions
 - Implement fenceline monitoring around intermodal facilities

Proposed Rule 2306 – Indirect Source Rule for New Intermodal Facilities

- ❑ PR 2306 is designed to partially implement MOB-02 by focusing on new intermodal facilities
- ❑ In general, new intermodal facilities include new facilities where locomotives and truck transportation modes are used for conveying goods
- ❑ Through the rulemaking process staff will work with stakeholders to identify criteria to identify new intermodal facilities that would be applicable to PR 2306
- ❑ Considerations include:
 - Number of containers moved
 - Potential emissions related to federal NO₂ standards, attainment of federal ambient air quality standards, and/or general conformity
 - Proximity to Environmental Justice communities

Two New Proposed Intermodal Facilities in the South Coast Air Basin

- ❑ There are two new proposed intermodal facilities:
 - Freight Component of the California High-Speed Rail Project in Colton
 - Southern California International Gateway (“SCIG”) by the Port of Los Angeles
- ❑ Both facilities would be operated by Burlington Northern Santa Fe (“BNSF”) and are currently under environmental review
- ❑ Unique opportunity exists now to ensure that these new proposed intermodal facilities:
 - Implement the cleanest technologies feasible
 - Incorporate infrastructure to support zero emission technologies
 - Include measures that minimize air quality and public health impacts
 - Address community air quality priorities identified in CERPs

Potential Emission Sources at New Intermodal Facilities

Potential emission sources at new intermodal facilities includes:

- Drayage Trucks
- Cargo Handling Equipment
 - Such as container gantries and yard hostlers
- Locomotives (Line Haul and Switchers)
 - Including maintenance and testing areas
- Transport Refrigeration Units (TRUs)
- Others



CEQA Review Process

□ Proposed Colton Intermodal Facility

- The California High-Speed Rail Authority (Authority) is the CEQA Lead Agency
- The Authority initiated the CEQA/NEPA review process and released a Revised NOP in August 2020
- Based on the Revised NOP, impacts on Environmental Justice and air quality are expected to be significant
- The Authority is expected to release the Draft Environmental Impact Report in 2021 or early 2022

□ Proposed Southern California International Gateway (“SCIG”)

- Port of Los Angeles is the CEQA Lead Agency and began the CEQA review process in 2005
- The South Coast AQMD has provided numerous written and oral comments raising concerns about SCIG’s air quality and public health impacts on Environmental Justice communities and lack of measures to mitigate those impacts
- The South Coast AQMD and others challenged the SCIG’s EIR and prevailed
- In May 2021, the Port released a Revised Draft EIR and identified the proposed SCIG project would cause significant localized air quality impacts related to NO₂, PM₁₀, and PM_{2.5} during operation
- The Revised Draft EIR lacks any mitigation for reducing NO₂ impacts. The only mitigation for PM is street sweeping, which is not sufficient to reduce the significant localized PM emissions

CEQA Limitations

- ❑ CEQA analyzes a project's incremental ("net new") impacts from a baseline, but does not consider impacts already existing on the ground ("existing conditions") as project's impacts
- ❑ Projects are required under CEQA to implement feasible mitigation for incremental adverse impacts found to be significant compared to the baseline, but does not require a project to mitigate impacts already existing on the ground
- ❑ A project located in an Environmental Justice area with a high-pollution baseline has the potential to obscure the project's of incremental impacts, and mitigation may not be required
- ❑ CEQA requires public disclosure and allows balancing with other public interests
 - A project can still be approved to be built even if it has unavoidable, significant air quality and health risk impacts
- ❑ PR 2306 will be focusing on the potential impacts that the community surrounding new intermodal facilities is already experiencing and will experience in the short and long-term

Proposed Colton Intermodal Facility

- ❑ Proposed intermodal facility planned for the City of Colton
 - Freight component of the California High-Speed Rail Project, Los Angeles to Anaheim Section
- ❑ Located next to two existing railyard facilities:
 - Within five miles south of an existing BNSF intermodal facility
 - Expects to be double the acreage of the existing BNSF intermodal facility
 - Directly adjacent to an existing railyard operated by Union Pacific
- ❑ Based on the Revised Notice of Preparation (“NOP”)¹, it will add 10 trains per day
 - South Coast AQMD estimates:
 - Annual average of 3,650 train trips; and
 - Annual average of 1.4 million round truck trips

¹California High-Speed Rail Authority. California High-Speed Rail Los Angeles to Anaheim Project Section. Revised Notice of Preparation. August 2020. Accessed at: https://hsr.ca.gov/wp-content/uploads/docs/programs/statewide_rail/proj_sections/los_angeles_anaheim/CHSRA-LA-A-Revised-Notice-of-Preparation_English.pdf



Map Legend

- Residential Area
- 1-Mile Boundary

Samuel W. Simpson Elementary

Georgia Morris Elementary

William G. Jehue Middle

Ernest Garcia Elementary

Paul Rogers Elementary

Colton Middle

Arrowhead Regional Medical Center

Slover Mountain High School

Ulysses Grant Elementary

Abraham Lincoln Elementary

Colton High School

Existing Union Pacific Facility

Proposed Facility

Proposed Colton Intermodal Facility (Cont'd)

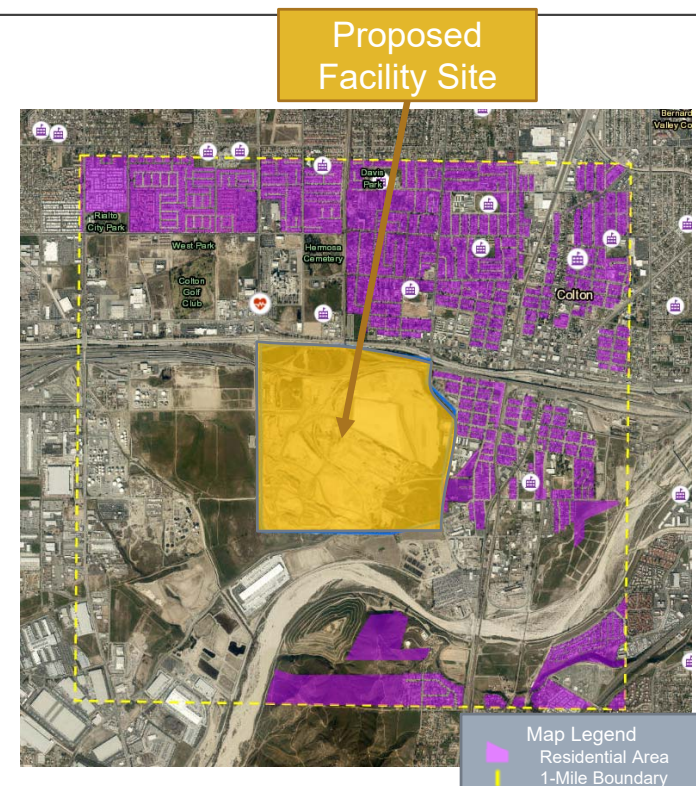
Woodrow Wilson Elementary School

1 Mile

Environmental Justice Communities Near Colton Intermodal Facility

According to data obtained from CalEnviroScreen²:

- ❑ Communities immediately northeast and east of the facility all score in the top 95th percentile, meaning they experience the greatest pollution burden compared to other areas in the state
- ❑ 45,600 residents, one hospital, and ten schools are within a one-mile radius
- ❑ 18,100 residents are located in census tracts within 1,000 feet of the proposed facility boundaries
 - Within recommended buffer zone³ for siting new sensitive land uses adjacent to a major service and maintenance rail yard
- ❑ Average 69% of population are reported to be below the poverty level
- ❑ Average 77% of population are Hispanic or African American



² South Coast AQMD Staff. ArcGIS and CalEnviroScreen 3.0 tool. June 2021.

³ Air Quality and Land Use Handbook: A Community Health Perspective. April 2005. California Environmental Protection Agency and California Air Resources Board. Accessed at: <https://ww3.arb.ca.gov/ch/handbook.pdf>

Proposed Southern California International Gateway (“SCIG”)

- ❑ Proposed intermodal facility planned by the Port of Los Angeles
- ❑ Adjacent to an existing Union Pacific Intermodal Container Transfer Facility (“ICTF”)
 - SCIG will lead to two mega intermodal facilities adjacent to one another in an area with existing high polluting facilities
- ❑ Located within 2 miles from the Port of Long Beach and within one mile from the Phillips 66, Marathon and Valero Refineries
- ❑ Based on the Revised Draft EIR⁴, it will add an annual average of 2,880 train trips
 - Adding annual average of 1 million round truck trips

⁴ City of Los Angeles Harbor Department. Southern California International Gateway Project. Revised Draft Environmental Impact Report. May 2021. Accessed at: <https://kentic.portoflosangeles.org/getmedia/0aadeb20-a89a-4a7f-b954-7ed6a1730699/SCIG-Revised-Draft-EIR-Final-May-2021>. Revised Draft EIR based on the same assumption that the proposed SCIG project would be operational in 2016.



Environmental Justice Communities Surrounding SCIG

According to data obtained from CalEnviroScreen:

- ❑ Multiple communities within a one-mile radius score in the top 95th percentile
 - Communities experience the greatest pollution burden compared to other areas in the state
 - One community to the immediate east of the proposed facility score in **the top 99th percentile**
- ❑ 50,200 residents, seven schools and a Veteran Housing Facility are within a one-mile radius from the facility
- ❑ 12,000 residents are located in census tracts within 1,000 feet⁵ of the proposed facility boundaries
- ❑ Average 71% of population are reported to be below the poverty level
- ❑ Average 61% of population are Hispanic or African American



⁵ Recommended distance of at least 1,000 feet for siting new sensitive land uses next to a major service and maintenance rail yard. Air Quality and Land Use Handbook: A Community Health Perspective. April 2005. California Environmental Protection Agency and California Air Resources Board. Accessed at: <https://ww3.arb.ca.gov/ch/handbook.pdf>

Need for PR 2306



Minimize Public Health Impacts to Surrounding Environmental Justice Communities



Ensure Project Will Not Interfere with Attainment of Federal Air Quality Standards



Ensure Project will Meet Federal Conformity Requirements

PR 2306 is Needed to Minimize Public Health Impacts to Surrounding Communities

- ❑ Loma Linda University's School of Public Health and Center for Community Action and Environmental Justice conducted assessments⁶ on health outcomes of residents in San Bernardino near the BNSF intermodal facility
 - Found significant association with increasing proximity to the railyard and adverse respiratory health outcomes, particularly among children
 - Subsequent research⁷ found that children are at the highest risk of permanent damage to their respiratory systems
- ❑ Health impacts associated with living in close proximity of intermodal facilities are not unique to San Bernardino

⁶ Dr. Sam Soret and Dr. Susanne Montgomery. Loma Linda University School of Public Health and School of Behavioral Health. Project ENRRICH: A Public Health Assessment of Residential Proximity to a Goods Movement Railyard. Accessed at: http://www.aqmd.gov/docs/default-source/clean-air-plans/clean-communities-plan/enrich_final_report_29may2014.pdf

⁷ Preventative Medicine Reports. Volume 13, March 2019. Association of Major California Freight Railyards with Asthma-Related pediatric Emergency Department Hospital Visits. Accessed at: <https://www.sciencedirect.com/science/article/pii/S2211335518302626?via%3Dihub>

Health Effects of Diesel Particulates

- ❑ The California Office of Environmental and Human Health Assessment (OEHHA) determined in 1998 that diesel exhaust is a carcinogen⁸
 - Cause multitude of non-cancer health effects such as respiratory ailments that can aggravate asthma
- ❑ OEHHA found that diesel exhaust particles pose the highest cancer risk of any toxic air contaminant that was evaluated^{9,10}
- ❑ The U.S. EPA stated that there is substantial evidence supported by decades of research that exposures to particulate matter from diesel exhaust are strongly linked with cancer¹¹

⁸ OEHHA. April 22, 1998. Accessed at: <https://oehha.ca.gov/media/downloads/air/document/diesel20exhaust.pdf>.

⁹ OEHHA. Accessed at: <https://oehha.ca.gov/media/downloads/calenviroscreen/indicators/diesel4-02.pdf>.

¹⁰ OEHHA. 2011. PDF page 483. Accessed at: <https://oehha.ca.gov/media/downloads/cmr/appendixb.pdf>.

¹¹ U.S. EPA. December 2009. Integrated Science Assessment for Particulate Matter (Final Report). Washington, DC U.S. Environmental Protection Agency. EPA/600/R-08/139F.

PR 2306 is Needed to Ensure New Intermodal Facilities Will Not Interfere with Attainment of Federal Air Quality Standards

- NAAQS are federal air quality standards established by the United States Environmental Protection Agency (“U.S. EPA”) under the authority of the federal Clean Air Act (“CAA”)
- Primary purpose is to protect public health

	<u>Averaging Time</u>	<u>Concentration</u>
Nitrogen Dioxide (NO ₂)	1-Hour	188 ug/m ³
Respirable Particulate Matter (PM ₁₀)	24-Hour	150 ug/m ³
Fine Particulate Matter (PM _{2.5})	24-Hour	35 ug/m ³

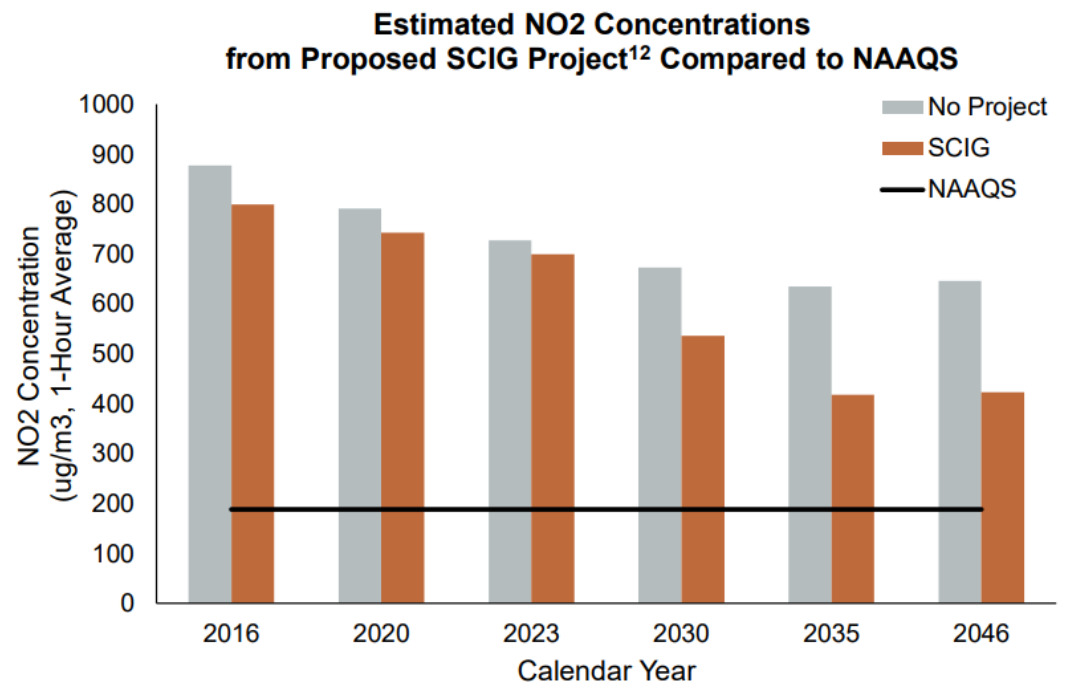
<https://ww2.arb.ca.gov/sites/default/files/2020-07/aaqs2.pdf>

New Intermodal Facilities Have the Potential to Have Substantial NOx Emissions

- ❑ New intermodal facilities will potentially operate a various emission sources, such as:
 - Drayage Trucks
 - Various Forms of Cargo Handling Equipment
 - Locomotives
 - Transport Refrigeration Units
- ❑ Equipment are generally fueled with diesel which emit ozone precursors such as NOx as well as emitting diesel particulate, PM10, and PM2.5
 - The South Coast Air Basin is designated as an extreme non-attainment area for ozone
- ❑ 2035 NOx emissions for the Proposed SCIG project are 245 tons per year
 - Compared to 2020 emissions for NOx RECLAIM, the proposed SCIG project represents the 10th highest NOx emitter

New Intermodal Facilities Have the Potential to Exceed Federal Air Quality Standards

- ❑ According to the Revised Draft EIR¹², the NO₂ concentrations for the proposed SCIG project during operation exceed the applicable NAAQS by 325%
- ❑ Exceedances are projected to continue for decades after facility completes construction
- ❑ South Coast Air Basin is currently in attainment of the 1-hour federal NO₂ standard
 - Proposed SCIG Project on its own could potentially put Basin into nonattainment



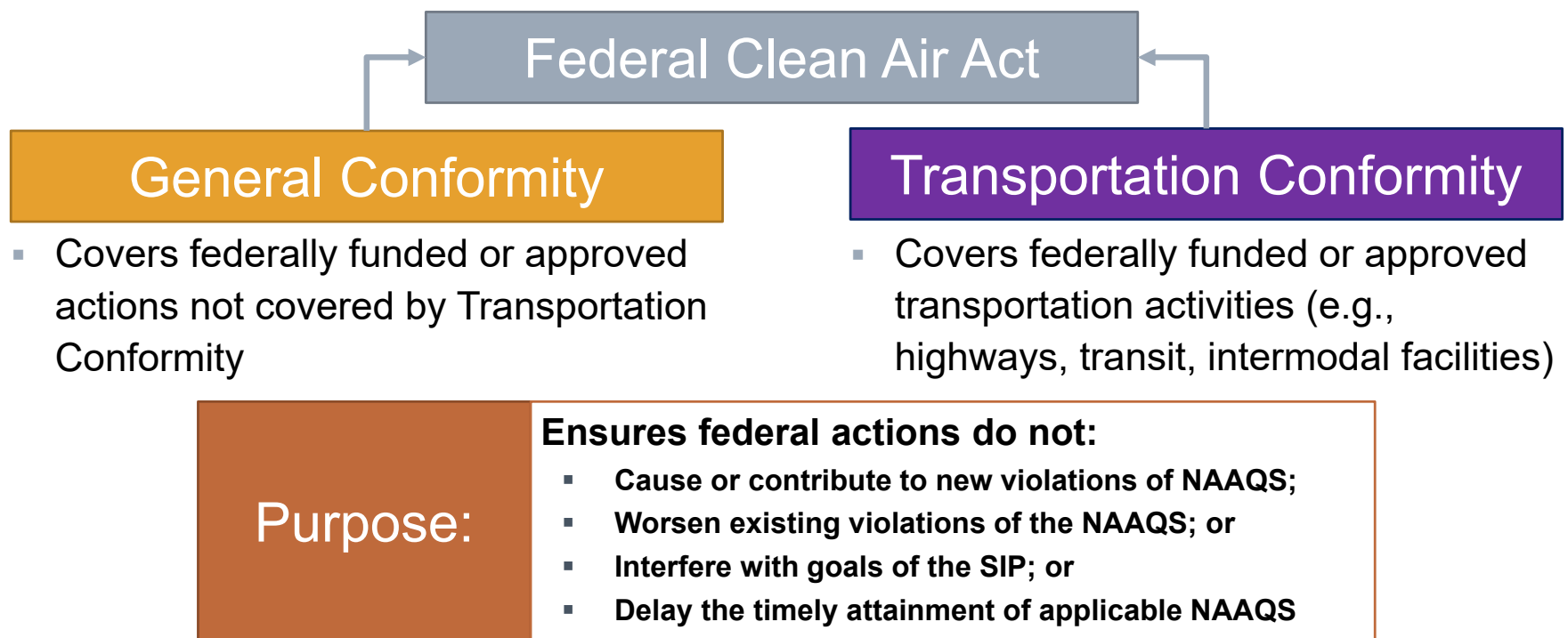
¹² Southern California International Gateway Project: Revised Draft Environmental Impact Report. May 2021. Los Angeles Harbor Department. Accessed at: <https://kentic.portoflosangeles.org/getmedia/0aadeb20-a89a-4a7f-b954-7ed6a1730699/SCIG-Revised-Draft-EIR-Final-May-2021>. Revised draft EIR based on same assumption that proposed SCIG project would be operational in 2016.

Federal Conformity Requirements

What is Federal Conformity?

- Conformity is required under the federal Clean Air Act for improving air quality and to protect public health
- Applies to federal actions conducted or sponsored by federal agencies to ensure consistency with state air quality goals in areas designated by the U.S. EPA as “non-attainment” or “maintenance”
- There are two categories of conformity:
 - General Conformity and
 - Transportation Conformity

General and Transportation Conformity



South Coast AQMD Responsibilities for General Federal Conformity

- ❑ The South Coast AQMD has responsibility under the federal Clean Air Act to ensure that federal action conforms to the latest approved SIP as well as federal conformity requirements
- ❑ Previous air quality plans include a budget that allows for growth, and new development needs to "conform" to that budget
 - General conformity budgets are established in a set-aside account in AQMP that is included in the adopted State Implementation Plan (SIP) approved by U.S. EPA
 - The SIP must account for any federal action
 - If emission increases are greater than the de minimis thresholds for the relevant pollutants or precursors, a conformity determination from the South Coast AQMD is needed

Transportation Conformity and Relationship to AQMP

- ❑ Southern California Association of Governments (“SCAG”) has responsibility under the federal Clean Air Act to ensure federally-supported transportation action conforms to or is consistent with the latest approved SIP
 - SCAG’s Regional Transportation Plan (“RTP”) is included in the AQMP as regional transportation strategies and control measures
 - Not being included in the RTP has the potential to create new violation of the federal air quality standards, worsen the existing violation, or delay the timely attainment of the applicable air quality standards
 - Has the potential to obstruct the implementation of the adopted AQMP
- ❑ The Colton intermodal facility is **not** included in the latest approved SIP (2016 AQMP)
 - The Colton intermodal facility is **not** in the adopted 2020 RTP which means it will not be accounted in the forthcoming 2022 AQMP
 - Project-level particulate matter hot spot analysis pursuant to federal conformity requirements may be needed

Overview of Rule Development Process

Information Gathering and Analysis

Initial Objective and Scope

Rule Development Concepts

Draft Proposed Rule Language

Information Gathering and Analysis

- ❑ Information gathering and analysis occurs throughout the rule development
 - Initial data gathering starts well before the first Working Group Meeting to identify potentially affected facilities and equipment
 - Additional information gathered from stakeholders, other agencies, facilities, technology suppliers
- ❑ Information and analysis presented to the Working Group



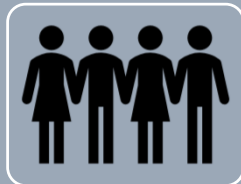
Stakeholder Input



South Coast AQMD's rule development process is designed to be collaborative



Objective is to work through key issues through communication



Early participation from stakeholders during the rulemaking process is highly encouraged





Staff to hold periodic working group meetings to update stakeholders on latest developments




Introduction to Potential Technologies for PR 2306

- ❑ On July 30, 2021, Working Group Meeting #1
- ❑ Since then, staff has initiated discussions with technology providers for:
 - Locomotives (Line-Haul and Switcher);
 - Drayage Trucks; and
 - Cargo Handling Equipment
- ❑ Discussions involved zero emission and near-zero emission technologies

Overview of Potential Technologies

Potential Emission Sources		Description	Potential Technologies (Zero and Near-Zero Emissions)
	Switcher	Rail transport vehicle that moves goods containers for short distances	<ul style="list-style-type: none"> - Tier 4+ Diesel and Renewable Diesel - Hydrogen Fuel Cell - Battery Electric - Electric with Overhead Catenary
	Line-Haul	Rail transport vehicle that moves goods containers for long distances	
		Class 8 trucks that transport goods containers to and from the intermodal facility.	<ul style="list-style-type: none"> - Tier 4+ Diesel and Renewable Diesel - Hydrogen Fuel Cell - Battery Electric - Electric with Overhead Catenary

Overview of Potential Technologies

Potential Emission Sources	Description	Potential Technologies (Zero and Near-Zero Emissions)
 <p>Cargo Handling Equipment</p>	Transport equipment used to move containers within the intermodal facility	<ul style="list-style-type: none"> - Tier 4+ Diesel and Renewable Diesel - Hydrogen Fuel Cell - Battery Electric
 <p>Transport Refrigeration Units (TRU)</p>	Refrigerated containers used to transport temperature sensitive goods	<ul style="list-style-type: none"> - Tier 4+ Diesel and Renewable Diesel - Hydrogen Fuel Cell - Battery Electric
 <p>Other (Support Structures)</p>	Other sources of emission including locomotive maintenance facilities	<ul style="list-style-type: none"> - Emission capture bonnet systems attached to control device for PM, NOx, CO, etc.

Working Group Meetings

- ❑ On September 30, 2021, railroad representatives presented the status of technologies in Working Group Meeting #2
- ❑ Technology providers will have opportunity to present on the status of technologies for emission sources at new intermodal facilities at the next Working Group Meeting

Next Steps

- Continue Working Group Meetings
- Schedule technology providers to present during future Working Group Meetings
- Provide draft rule concepts

Staff Contacts

General Questions	Proposed Rule 2306	
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