



Elijah Saunders <elijah.saunders@sfcta.org>

SFCTA March 14 Board agenda item #10 Elimination of Caltrain diesel locomotives

Roland Lebrun <ccss@msn.com>

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To: "Mandelman, Rafael (BOS)" <rafael.mandelman@sfgov.org>

Cc: SFCTA Board Secretary <clerk@sfcta.org>, Caltrain Board <board@caltrain.com>, Transbay Info <info@tjpa.org>, SFCTA CAC <cac@sfcta.org>, Caltrain CAC Secretary <cacsecretary@caltrain.com>, CHSRA Board <boardmembers@hsr.ca.gov>, TJPA CAC <CAC@tjpa.org>

Dear Chair Mandelman and Directors,

Thank you for the opportunity to:

1. Bring to your attention multiple issues with Caltrain's current plans for a transition to Zero-Emission Vehicles (ZEVs) as outlined in a November 7 2022 letter to the California Air Resources Board (<https://www.arb.ca.gov/lists/com-attach/27-locomotive22-UzAHYAFsV3BSJgVk.pdf> attached for your convenience).
2. Introduce a solution to **eliminate all diesels in San Francisco by 2025 followed by a complete vacation of the 4th & King railyard as soon as the PAX and the DTX are fully operational.**

1) Caltrain comments on Proposed In-Use Locomotive Regulation followed by my responses:

Caltrain: *"In order to continue to serve communities between Tamien and Gilroy, Caltrain must continue to operate diesel service until such time that funding, manufacture and federal safety certification can be achieved for ZE equipment that can be placed into service. **At 2025 service levels, this would require five new trainsets.**"*

Response: It is unclear why five new \$60M trainsets (total cost \$300M) would be required when the remaining diesel locomotives could be replaced with six \$5M Battery-Electric Locomotives (total cost \$30M).

Caltrain: *"Caltrain is pursuing a request to the California State Transportation Agency for funding of a pilot project for one battery-equipped electric multiple unit (BEMU), which could charge along Caltrain's electrified territory and then run battery-powered service to Gilroy." "There is no ZE equipment yet approved for use in the United States for railroads regulated by FRA and the first customer of each type will bear the burden of a procurement process of up to ten years."*

Response: It is unclear why anyone would ever consider *"bearing the burden of a procurement process of up to ten years"* to **cripple Stadler EMUs acceleration/deceleration characteristics and energy consumption by lumbering them with over 100 tons of batteries.**

Caltrain: *"Zero-emission locomotive technologies discussed in Appendix F of the proposed regulation are also not yet commercially available and may not comply with federal Buy America requirements"*

Response:

- **BNSF tested these locomotives between Stockton and Barstow (350 miles) over a 3-month period in 2021** for a total of 13,500 miles without any significant failures. <https://www.wabteccorp.com/locomotive/alternative-fuel-locomotives/flxdrive>
- Union Pacific ordered 10 locomotives in January 2022 for delivery in fall 2023. Unlike Stadler EMUs, these locomotives are designed and manufactured in the United States:

<https://www.wabteccorp.com/newsroom/press-releases/union-pacific-railroad-makes-largest-investment-in-wabtec-s-flxdrive-battery-electric-locomotive>

- *“Wabtec has developed a range of battery and electric dual-mode locomotives for customers in regions that have overhead electric catenary systems, which can **provide zero emission high traction efficiency in electrified and non-electrified networks**”.*

Caltrain: *“There is no funding attached to this regulation and thus, passenger rail agencies will have no assistance or recourse to comply.”*

Response:

- *“Wabtec’s FLXdrive battery electric locomotive pilot is part of a grant project with the California Air Resource Board (CARB), BNSF and the San Joaquin Valley Air Pollution Control District.”*
- *“**BEL is part of California Climate Investments, a statewide program that puts billions of cap-and-trade dollars to work reducing greenhouse gas emissions, strengthening the economy and improving public health and the environment— particularly in disadvantaged communities.**” <https://www.wabteccorp.com/locomotive/alternative-fuel-locomotives/flxdrive>*

Market Analysis and Assessment of Commercial Availability:

Caltrain: *“The proposed regulation relies on the existence of freight test programs, and in particular, the availability of low horsepower switcher locomotives as the basis for presuming passenger rail equipment needs can be met.”*

Response: *“Wabtec’s FLXdrive battery electric locomotives currently have a maximum output of 4,400 HP (800 HP more than Caltrain’s most powerful diesel locomotives: <https://www.caltrain.com/about-caltrain/statistics-reports/commute-fleets>)”*

Conclusion: Caltrain have failed to consider a solution that would use Battery-Electric Locomotives (BELs) to extend electrified Caltrain service into non-electrified territory as follows:

1. Existing Bombardier bi-level cars would operate between San Francisco and Gilroy as at present with a BEL recharging while under the wire and capable of operating in battery mode between Tamien and Gilroy (and eventually Salinas).
2. Stadler EMUs would operate autonomously between San Francisco and Tamien but would couple to a fully-charged BEL at Tamien prior to continuing the trip to Gilroy (and eventually Salinas). Northbound BELs would decouple from EMU trainsets at Tamien and recharge while awaiting the next southbound train headed for Gilroy.

- Coupling video: <https://youtu.be/y1dAFbvrfGY?t=25>

- Coupling/Decoupling videos: <https://youtu.be/LMvgCPmqYT0?t=181>

Recommendations:

- 1) Terminate *“Pursuing a request to the California State Transportation Agency for funding of a pilot project for one battery-equipped electric multiple unit (BEMU), which could charge along Caltrain’s electrified territory and then run battery-powered service to Gilroy. If funded, this option would take three to five years to come into service due to the need for design review and test*

approval by the Federal Railroad Administration (FRA) in addition to normal manufacturing timelines and special consideration for procuring ZE parts that do not currently have a supply chain. **effective immediately.**

2) Reach out to the FRA and the Pueblo testing facility (<https://www.tci.tech/government-research-partnerships>) to **expedite the certification of BELs for passenger rail.**

3) Issue an RFP to US BEL manufacturers (currently Wabtec and Progress Rail) for BELs with a 60-mile off-wire range.

Respectfully presented for your consideration.

Roland Lebrun

cc: The Honorable Liane Randolph Chair, California Air Resources Board
Members, California Air Resources Board
Dr. Steven Cliff, Executive Officer, California Air Resources Board
Heather Arias, Chief, Transportation and Toxics Division, California Air Resources Board
Jamie Callahan, Chief of Staff, Office of Chair Liane Randolph, California Air Resources Board
San Francisco County Transportation Authority Board of Directors
Transbay Joint Powers Authority Board of Directors
Peninsula Corridor Joint Powers Board of Directors
California High Speed Rail Authority Board of Directors
Transportation Agency for Monterey County
San Francisco County Transportation Authority Citizens Advisory Committee
Transbay Joint Powers Authority Citizens Advisory Committee
Caltrain Citizens Advisory Committee
Caltrain Bicycle and Active Transportation Advisory Committee



California Air Resources Board (CARB) Proposed In-Use Locomotive Regulation.pdf
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