



JPB Board of Directors  
Meeting of June 1, 2023

Correspondence as of May 5, 2023

<u>#</u>	<u>Subject</u>
1	Caltrain CalSTA Request for BEMU Demonstration Project
2	RE_ Update on Stadler Contract Option and \$280M Rail Vehicle Acquisition



BOARD OF DIRECTORS 2023

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EXECUTIVE DIRECTOR

April 13, 2023

Toks Omishakin, Secretary  
California State Transportation Agency  
400 Capitol Mall, Suite 2340  
Sacramento, CA 95814

**Re: Battery-Equipped Electric Multiple Unit Demonstration Project**

Dear Secretary Omishakin:

On behalf of the Peninsula Corridor Joint Powers Board (Caltrain), I want to thank you and the California State Transportation Agency (CalSTA) for the support for our railroad's transition to electrified service. The recent award from the Transit and Intercity Rail Capital Program (TIRCP) for the Peninsula Corridor Electrification Project will allow us to complete the first diesel to electric rail transition in the American West and serve as a model for other systems throughout the country. While we are excited to launch electrified service from San Francisco to San Jose in fall of 2024, we continue to look toward the future and pursue a fully zero emission corridor in our region.

In 2018, Caltrain received a TIRCP award that enabled us to expand the number of planned trainsets for the Electrification Project and expand other benefits for riders. The award of \$164,522,000 was made to fund our Peninsula Corridor Electrification Expansion Project and included option cars under the electric multiple unit (EMU) contract we initiated in 2016 with Stadler US for their KISS model double-level train sets. The award for 37 cars allowed us to expand the EMU fleet from 16 six-car trains to 19 seven-car trains.

As we provide electric service from San Francisco to San Jose, we will continue to run diesel trains south of San Jose to Gilroy as there is no electrification infrastructure on the Union Pacific Railroad (UPRR)-owned portion of our corridor. In recent years, battery technology has advanced and our carbuilder, Stadler, is a leader in this technology in Europe. Under our contract with Stadler, we have the opportunity to order more option vehicles until August 15, 2023. This opportunity could include a single EMU demonstration train with added battery storage to serve on non-electrified railroad track for commuter and intercity service, further reducing greenhouse gas emissions and pollutants resulting from diesel train use.

We are aware of CalSTA's request included in the state's Fiscal Year 2021-22 Budget Act for various transportation infrastructure projects, including \$406.7 million (\$100 million General Fund, \$280 million

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Public Transportation Account, and \$26.7 million Federal Trust Fund) for purchase, lease or demonstration of zero emission rail and transit equipment and infrastructure (or retrofit of existing equipment), and operation of expanded intercity rail and intercity bus service. Within this is included a proposed investment of \$280 million in Zero-Emission Intercity Rail and Bus Rolling Stock and a proposed investment of \$100 million in Zero-Emission Rail and Transit Demonstration Projects, which would be used for zero-emission rail and transit demonstration projects and research and development to offer improved bus and rail equipment to California agencies.

Caltrain offers the State of California a unique opportunity with its existing EMU contract options to implement an intercity demonstration project that also benefit commuters on the San Jose to Gilroy segment by working with Stadler to design a zero emission, battery-equipped EMU (BEMU) to operate from San Jose through Gilroy, and potentially to Salinas with a stop at Pajaro/Watsonville as envisioned in Monterey County's Rail Extension Project Phase 2. Caltrain has engaged the Federal Transit Administration in conversation and has received its written opinion of no objections to equipping a single EMU with energy storage.

A BEMU demonstration project would benefit not only riders and surrounding communities but also the state's climate goals by enhancing the availability of zero emission equipment for intercity rail. The Caltrain EMU is double-level, with doors at elevations fit for serving high- and low-level platforms. These high-capacity coaches accommodate mobility devices, bicycles and come equipped with restrooms making them ideal for both a commuter and intercity experience.

With a BEMU demonstration project, an off-wire electric train could be on the path to Federal Railroad Administration (FRA) approval – a key step in any intercity or commuter program. This approval, which is much more involved for passenger rail vehicles than for freight rail vehicles, is expected to be rigorous and time-consuming given that battery technology for traction has not yet been placed in service in the United States. Caltrain has an experienced team already on hand to work with FRA on the approval process. This team previously worked to gain FRA approval for the aluminum carbodies under new regulations and is prepared to take on the procedures involved in approval for a BEMU demonstration train.

BEMU technology is a tremendous opportunity to enable zero emission service to Salinas and communities along this rail line. A BEMU demonstration project would also have interim benefits for communities along the San Jose to Gilroy segment in terms of potentially improved air quality, service, and safety. The continued transition from diesel to an electric rail service will also significantly decrease noise pollution in these equity priority communities. This project would also enable future enhanced access and service to help Caltrain serve a more diverse group of riders, including people with lower incomes and members of racial and ethnic minority groups.

Moreover, the California Air Resources Board has proposed the In-Use Locomotive Regulation which requires all diesel locomotive operators in the state to transition to zero emission rail vehicles. The regulation will require Caltrain to transition its remaining diesel fleet regardless of the timing of construction and implementation of an electric overhead catenary system on the UPRR line. A BEMU demonstration project could support CARB's new regulation with the state funding the research and development phase in order to gain FRA approval. This could in-turn allow Caltrain and other rail operators in the state and the rest of the nation to apply for federal dollars to acquire new BEMU fleets as a way to

gain zero emission service on railroad lines designed for diesel locomotives, which are almost all railroad lines in the entire country.

Having alternatives readily available will be key to making the zero emission transition in all aspects of transportation, especially commuter and intercity rail. Given the time sensitivity of our Stadler option to purchase a BEMU demonstration train on our existing EMU contract, we respectfully request to enter into more detailed discussions with CalSTA regarding this potential project.

Thank you again for your support of a zero emission future for rail in California and for your consideration of this request. To begin discussion or for any questions or requests for more information please contact me or our Zero Emissions Vehicle Technology Advisor Lisa Cobb ([cobb1@caltrain.com](mailto:cobb1@caltrain.com), (707) 787-8877).

Sincerely,

A handwritten signature in black ink, appearing to read "Michelle Bouchard". The signature is fluid and cursive, with the first letters of the first and last names being capitalized and prominent.

Michelle Bouchard  
Executive Director

cc: Peninsula Corridor Joint Powers Board of Directors  
Chad Edison, Chief Deputy Secretary for Rail and Transit, California State Transportation Agency



CHAPTER IV (pp 22-23 attached for your convenience as Attachment 1) Section e.(10) “Time Limits for Options on Rolling Stock Contracts” stipulates: “*May not exercise the option to acquire railcars or replacement parts later than **seven (7) years after the date of its original contract.***”

Moving on to the contract AKA “Agreement” (Attachment 2), **the date of the original contract may be subject to interpretation** specifically:

Page 3 (“Contract Summary”) of the Agreement defines the “**Effective Date of Contract**” as follows:

*Limited-Notice-to-Proceed (LNTP) – August 15, 2016 thru February 28, 2017*

***Notice-to-Proceed (NTP) – March 1, 2017 thru August 31, 2021***

Given that the March 1, 2017 NTP date was caused by a Trump administration attempt to delay the FFGA, the FTA may be open to a clarification establishing that **the date of the 7-year deadline should be March 1, 2024** (7 years after the NTP date), not August 15, 2023.

### **Questionable cost estimates**

The Base and Option car costs are listed in the Compensation Section of the Agreement (page 4)

Base Vehicles - 96: \$550,899,459.00 (**\$5.75M/railcar**)

**Option Cars** - 96: \$390,294,450.00 (**\$4.07M/railcar**)

Article 5 Options (page7) stipulates: “*The JPB, in its sole discretion, may exercise Options for additional EMUs and for Maintenance Services as set forth in Special Provision 1.10.*”

Special Provision 1.10 is located in “Volume 5 Special Provisions” (pp 20-23) attached for your convenience as Attachment 3) which reads as follows: “*Unit prices for the corresponding Option Vehicle type(s) ordered during the Option 2 period will be the unit price for Option Vehicles set forth in the Option Cars price form, subject to the adjustment set forth in Section 1.10.1.2. Additionally, for the 1st order of vehicles in the Option 2 period the Re-mobilization and Project Management Fee will apply.*”.

It is currently unclear how staff came to the conclusion that “*procuring four replacement EMUs under the option would save approximately \$100 million to \$120 million in total costs (45% to 60% savings).*” when their \$50-55M estimate for a 7-car trainset translates to

**\$7.14M to \$7.86M/railcar (75-93% INCREASE).**

Conclusion: please consider directing staff to return to the May Finance Committee with a

breakdown detailing how the "Economic Price Adjustment/Escalation" outlined in Section 1.10.1.2 somehow resulted in an option for four 7-car trainsets escalating from \$114M to \$200-220M (**\$100M INCREASE over the Option cars price form**).

### **Battery EMU (BEMU) costs/capabilities**

There are multiple issues with this proposal regardless of who ends up paying for it:

- While Battery-Electric Multiple Unit (BEMU) passenger trains with a 50–60-mile range are becoming common, there are currently no Bi-Level BEMUs anywhere in the world (**excessive weight to battery power ratio**).

- **Staff have not provided any range or battery weight estimates for this \$85M "prototype"**.

- It is unclear why the JPB (or anyone else) would ever consider spending \$500M on 6 Bi-Level BEMUs to provide service between San Jose and Salinas when 6 battery-electric locomotives would get the job done for \$30M **without collateral impacts on rail operations between San Jose and San Francisco**.

Thank you in advance for your consideration of these issues.

Roland Lebrun

CC

SFCTA Commissioners  
TJPA Board of Directors  
SFCTA CAC  
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Caltrain CAC

