Receive Update on Battery Electric Multiple Unit (BEMU) Project



JPB AMP Committee
November 18, 2026

Battery-Electric Multiple Unit (BEMU)

- First US Major Passenger Rail BEMU Deployment
- Achieving Zero Emission, Decarbonization Policy
- Extend Electric Service beyond Wired Territory using on-board Battery
- First of Kind Bi-level Battery KISS in the World
- It is a National Demonstration Project



BEMU Overview Continued

- Order is for one, four-car trainset
- Pilot program use case: service from San Jose to Gilroy
- Demonstration program use case: San Jose to Salinas
- Initial Maximum Authorized Speed will be 79 mph
- Designed / tested for up to 110 mph



Location

- Tamien (San Jose) to Gilroy: 28 miles
- San Jose to Salinas: 68 miles





BEMU: Trainset

Battery B (BB)-car

C-car

D-car

A-car



Power Car

Restroom Car

Bike Car

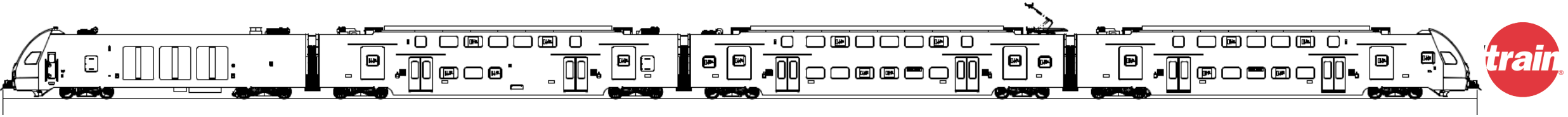
Cab Car

BEMU Cars A, C, and D identical to EMU cars

BEMU: BB-Cab Car

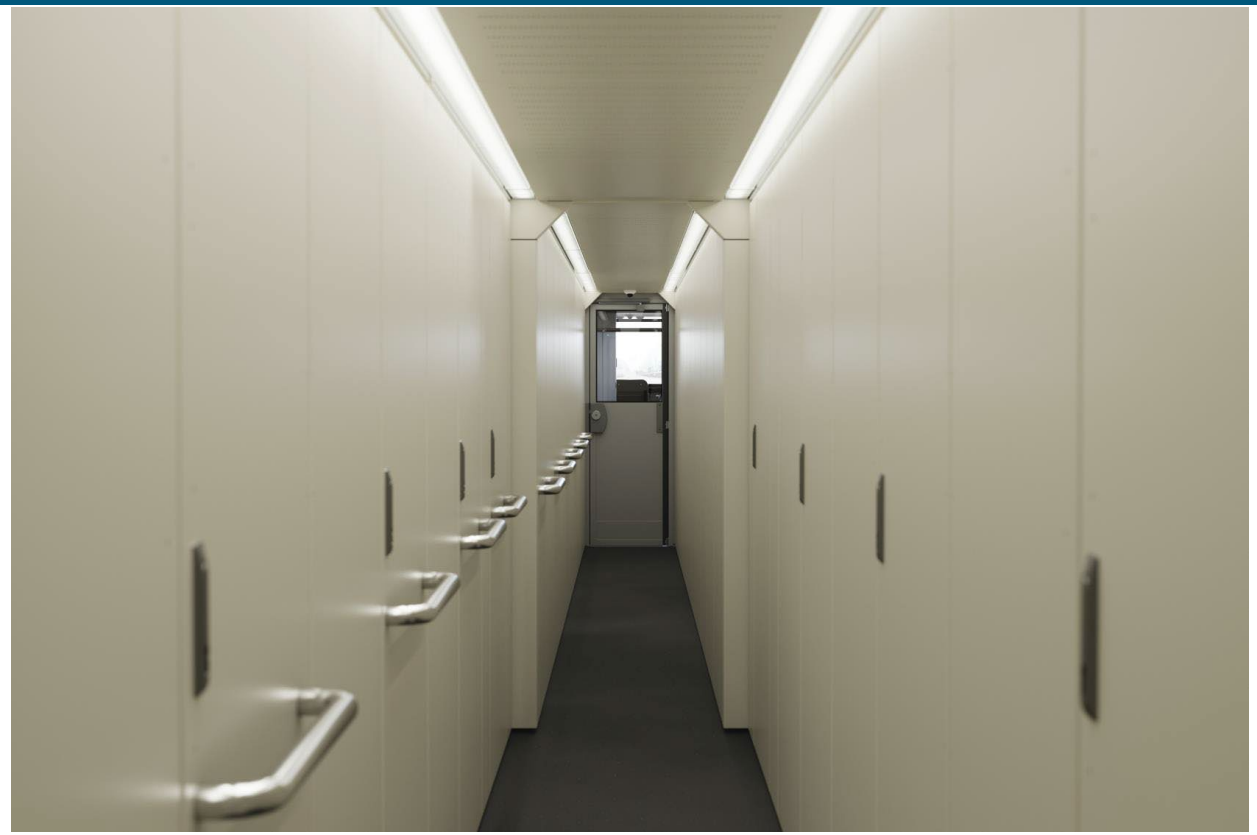
- Cab will be the same as EMU cab, except for:
  - Side doors for cab access
  - Console additions:
    1. Power source selector switch
    2. Battery cutoff pushbutton



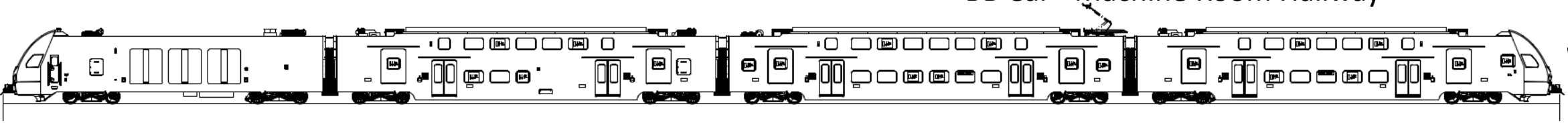


BEMU: BB-Cab Car





BB Car –Machine Room Hallway

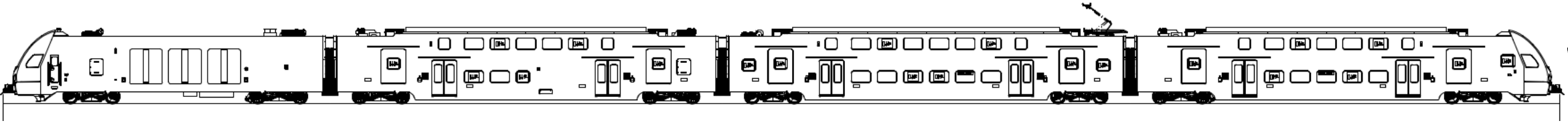


BEMU

- Battery charging can be accomplished via:
  - OCS (~2 hours)
  - 480-volt wayside charging station (~5 hours)



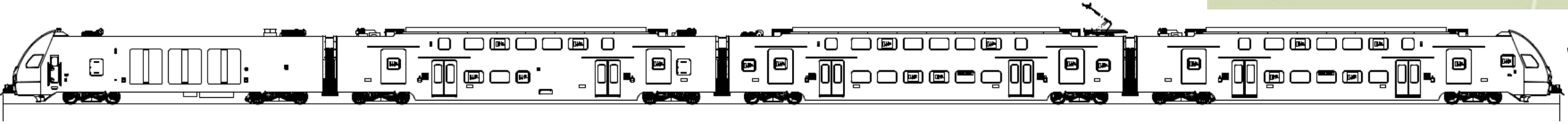




BEMU Concept of Operation – Proposed

- Initial Service - Replace one of the diesel trains operating from Gilroy to Diridon
- Demonstration Project to Salinas
- ConOps will guide
  - Charging infrastructure design, operating plans, maintenance planning and agency readiness





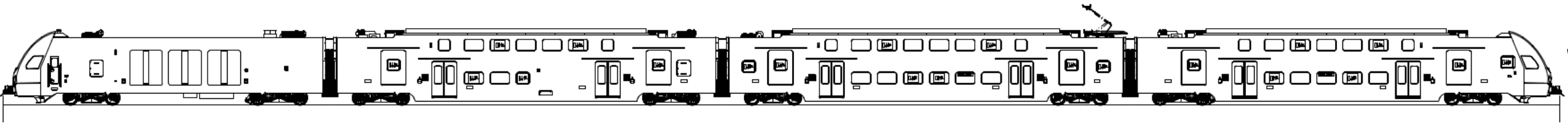
Current Project Schedule

Activity	Completion Date
Notice to Proceed	August 2025
Design (CDR/PDR/FDR)	September 2027
Production	July 2028
Qualification Testing (TTCI)	February 2029
Delivery (On Site)	March 2029
Qualification Testing (On Site)	June 2029
Training	July 2029
Certification and Acceptance	July 2029
Revenue In Service	August 2029

Budget and Funding

- $80M TIRCP Fund was awarded in 2023
- Exercised EMU Contract Option with Stadler for one BEMU
- Received Flexible State Rail Assistance (SRA) $4M to support BEMU testing and demo

	(a)	(b)	(c)	(d) = (b) + (c)
Cost Category	Project Current Budget	Cost to Date thru' 10/31/26	Estimate to Complete	Estimated at Completion (EAC)
Contractor - STADLER	$ 61,537,023	$ 27,818,620	$ 33,718,404	$ 61,537,023
Other Contracts	$ 1,064,706	$ 172,862	$ 5,134,152	$ 5,307,014
Program Mngt. & Admin Costs	$ 9,957,167	$ 1,392,472	$ 6,659,219	$ 8,051,691
Project Contingency	$ 6,842,800	$ -	$ 3,646,402	$ 3,646,402
ICAP	$ 598,304	$ 114,227	$ 1,343,642	$ 1,457,869
Total BEMU Project	$ 80,000,000	$ 29,498,180	$ 50,501,819	$ 80,000,000



BEMU Project Key Risks

- Battery Technology - Propagation Test
- Supply Chain and Tariff Impact
- UPRR Corridor and TRA
- Infrastructure Scope
- EMU Storage Security Concern



What's Next

- Finalize Battery Option Path Forward
- Complete Final Design
- Battery Car Shell Production
- Finalize Wayside Charging Infrastructure Scope
- Finalize Concept of Operations
- Coordination with UPRR
- Continue FRA Compliance Review and Meetings



FOR MORE INFORMATION

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