



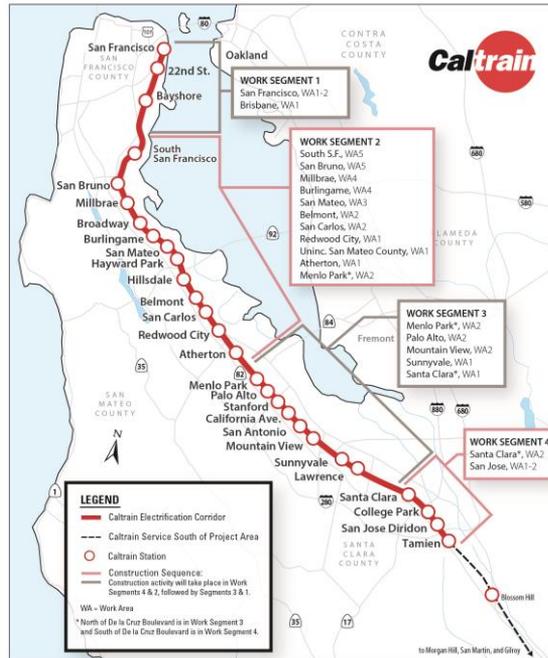
PENINSULA CORRIDOR ELECTRIFICATION PROJECT (PCEP)

Q3 Quarterly Update #18
January 1 – March 31, 2019

JPB Board Meeting
May 2, 2019
Agenda Item # 7a



PCEP Work Segment Map



CalMod ELECTRIFICATION CONTRACT UPDATE

Design Progress

IFC Design Packages in the *completed this period* column are under review and have not been finalized, this graphic is for information only.

Design Discipline	OCS				Signal				Traction Power			
	Required	Completed Previously	Completed this Period	Expected Completion	Required	Completed Previously	Completed this Period	Expected Completion	Required	Completed Previously	Completed this Period	Expected Completion
Segment 1	6	1	1	6/4/2019	3	0	0	6/18/2020	3	0	1	1/19/2019
Segment 2	11	11	0	1/6/2019	66	0	0	8/28/2020	3	2	0	12/18/2018
Segment 3	4	1	1	7/9/2019	10	0	0	12/11/2019	2	0	1	1/19/2019
Segment 4	9	6	2	4/30/2019	24	0	0	9/25/2019	4	4	0	10/22/2018
Systemwide	9	8	1	12/5/2017	14	2	3	12/10/2018	7	7	0	2/22/2019
Totals	39	27	5		117	2	3		19	13	2	

Note: Data as of March 31, 2019



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CalMod ELECTRIFICATION CONTRACT UPDATE

OCS Progress

Segment	Work Area	Foundations			Poles		
		Required	Completed this Period (01/01-03/31)	Total Completed	Required	Completed this Period (01/01-03/31)	Total Completed
1	Tunnels	34	22	34	32	0	0
2	5	242	0	184	186	0	160
	4	315	18	238	259	7	170
	3	182	3	60	147	0	0
	2	248	15	74	218	0	0
	1	206	15	78	155	0	0
4	A	251	23	23	181	0	0
	B	141	55	55	125	0	0
	CEMOF	112	0	0	102	0	0
Total:		1,731	151	746	1,405	7	330

Note:

Foundations Required do not match Poles Required as guy foundations are needed in some locations for extra support. The number of required poles and foundations fluctuate due to design changes.

Note: Data as of March 31, 2019



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CalMod ELECTRIFICATION CONTRACT UPDATE

Traction Power Facilities Progress

Facility	Sitework			Substation Building			Low / High Voltage Equipment			Transformer			Gantry		
	Last Period	This Period	To Date	Last Period	This Period	To Date	Last Period	This Period	To Date	Last Period	This Period	To Date	Last Period	This Period	To Date
TPSS-1	28%	0%	28%	0%	0%	0%	7%	0%	7%	100%	0%	100%	0%	0%	0%
TPSS-2	38%	32%	70%	10%	10%	20%	22%	8%	30%	100%	0%	100%	25%	0%	25%
SWS-1	5%	5%	10%	0%	0%	0%	0%	7%	7%	0%	0%	0%	0%	0%	0%
PS-1	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PS-2	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PS-3	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PS-4	0%	11%	11%	0%	0%	0%	0%	5%	5%	0%	0%	0%	0%	0%	0%
PS-5	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PS-6	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PS-7	5%	5%	10%	0%	0%	0%	5%	0%	5%	0%	0%	0%	0%	0%	0%
Wayside Power Cubicles							Required			Installed					
							28			5					

Note: Data as of March 31, 2019



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CalMod ELECTRIFICATION

Signal Progress

- Signal house installed at CP Mack
- Signal ductbank installed in Segments 2 and 4
 - CP Mack
 - CP Michael
 - CP Center
 - Luther Junction
 - Trousdale

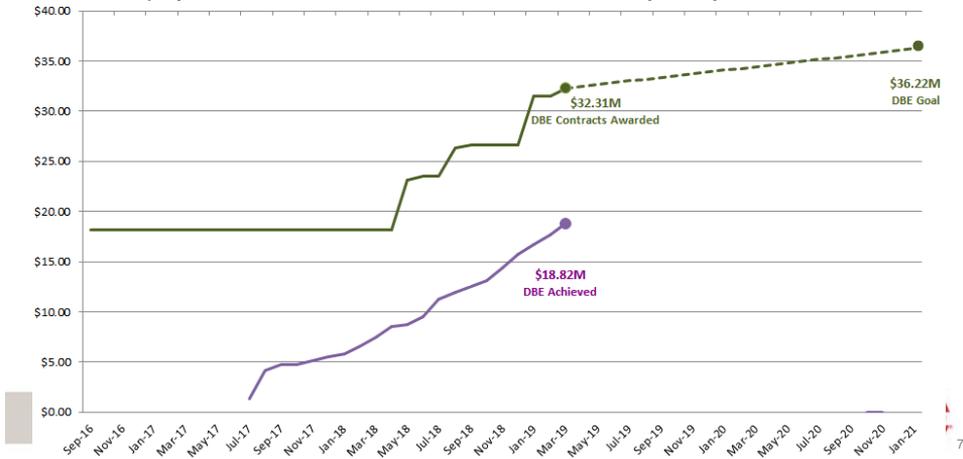


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CalMod DBE UPDATE

Disadvantaged Business Enterprises

- 5.2% (\$36,223,749) of the total DB contract value (\$696,610,558) subcontracted to DBEs
- DBE payments to date: 3/31/19: **\$18,824,329 (2.7%)**



CalMod DBE UPDATE

Summary Breakdown of Awarded DBE Agreements

Scope Area	DBE Award Amounts
Traffic Control	\$2,865,900
QA QC	\$7,393,276
Design	\$5,479,715
Signal/Communication	\$6,448,927
OCS Wire	\$3,153,742
Noise Monitoring	\$1,324,095
Safety and Security	\$2,384,000
Survey	\$800,000
Other	\$1,654,363
TOTAL	\$31,504,018

- \$4,719,731 remaining to be awarded to reach the \$36,223,749 goal

CalMod DBE UPDATE

Activities to Reach Goal

- BBII expects the number of DBE agreements to increase once major subcontractors identify DBE subcontractors
- BBII targeted outreach activities to fulfill goal
 - Conducts DBE participation quarterly meetings
 - Prepares requests for qualifications, proposals, bids for subcontracting firms to respond, and conducting the ongoing bid/solicitation process to evaluate and select firms for awards
 - Reports an increase in the number of DBE and SBE firms inquiring about subcontracting opportunities
 - Reached out to high-voltage cable testing firm and fencing contractors
 - Continuously updates vendor database with DBE firms



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CalMod ELECTRIFICATION

Other Electrification Contracts

- Supervisory Control and Data Acquisition (SCADA)
 - Continued implementation of clearance, remote power terminal and other feature development
 - Submitted Request for Information to clarify items from the Points List
 - Began unit testing as feature development progressed
- Centralized Equipment Maintenance and Operations Facility
 - Awarded contract to ProVen Management, Inc. in February
 - Scope includes:
 - Extension of the maintenance track 5 inspection pit
 - Conversion of office into electrical component repair room
 - Construction of prefabricated parts storage building
 - Purchase and installation of prefabricated office



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CalMod TUNNEL CONTRACT UPDATE

ProVen Management, Inc.

- Final Agreement signed on February 28, 2019 for Contract Amendment No. 1, which includes \$16,600,000 for OCS system in the tunnels
- 25 successful weekend tunnel closures (with bus bridges) occurred through March 31, 2019
- Construction Update:
 - Tunnel 1: Notching 95% complete; OCS Anchor Bolts fully installed/tested; track replacement work complete in addition to final surfacing from 16th St. through South Tunnel 1
 - Tunnel 2: Notching and shotcrete complete; OCS Anchor Expansion Bolts installed/tested
 - Tunnel 3: All work complete except OCS Termination Structure Installation and minor cleanup
 - Tunnel 4: Notching 95% complete (tunnel scans showed remaining tight spots); Track replacement work completed with bolted rail; destressing, welding and final surfacing of track remain; reconstruction of portal pending FTA/SHPO approval of revised plan based on existing conditions of portal archstones
 - All Tunnels: 34 of 34 OCS Termination Structure foundations installed

Note: Data as of March 31, 2019



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CalMod TUNNEL CONTRACT UPDATE

Tunnel Weekend Shutdowns



Bus Bridge near Bayshore Station



Trains Staged at Bayshore Station



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CalMod TUNNEL CONTRACT UPDATE

Tunnel 4 South Portal



Installation of Canopy Tubes for Steel Set Reinforcement



Steel Set Installed

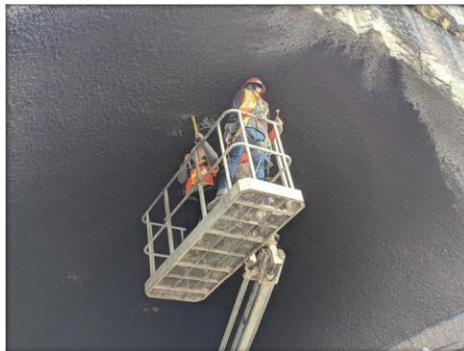


CalMod TUNNEL CONTRACT UPDATE

OCS Anchor Bolts for Drop Tubes



Tunnel 4: OCS Anchor Bolt Installation using Template (left) and Exposed Brick from Notching (right top)

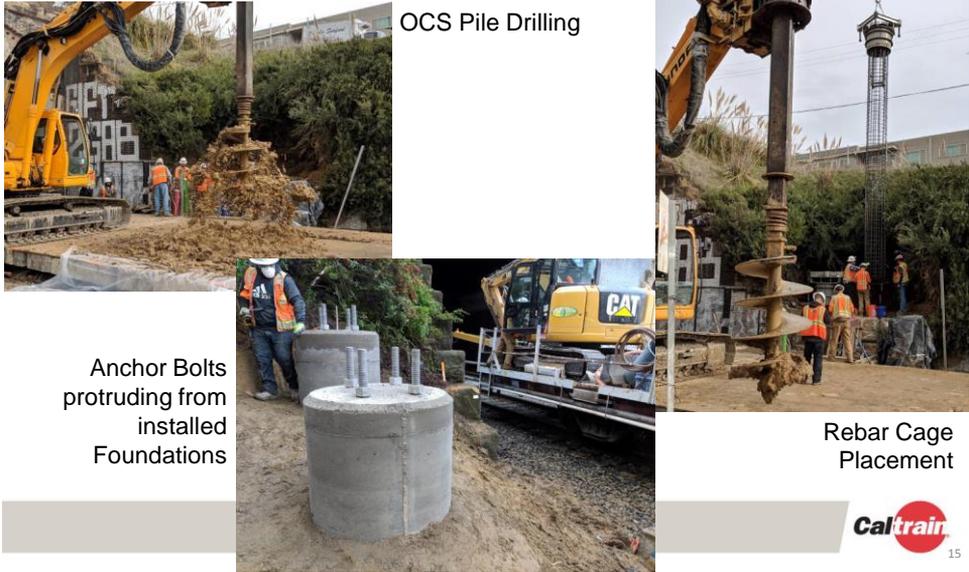


Tunnel 2: OCS Anchor Bolt Testing



CalMod TUNNEL CONTRACT UPDATE

Tunnel 4 OCS Termination Structure Foundations



OCS Pile Drilling

Anchor Bolts protruding from installed Foundations

Rebar Cage Placement



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CalMod EMU VEHICLES

EMUs – Design & Manufacturing

- Final design of 13 of 17 major system elements complete; remaining scheduled for completion by end of 2019, early 2020
- System Level Test needing to be repeated include: Engineers Seat, 4-Passenger Table, 1 of 4 Floor Fire Endurance tests, Propulsion Gearbox Low Temperature test
- Ongoing System Level Tests include, Truck Frame (bogie) Fatigue Test and Passenger Side Doors Endurance Test
- First Article Inspections (FAIs) of major components ongoing; 69 scheduled, 37 conducted, 17 closed and approved

Stadler EMU Manufacturing Progress: 133 Carshells (19 Trainsets of 7 Carshells)				
	Shells Shipped	In SLC	Out SLC	Cars at Caltrain
Trainset 1	7	7	0	0
Trainset 2	7	3	0	0
Trainset 3	1	0	0	0
Trainset 4	0	0	0	0
Trainset 5	0	0	0	0
Trainset 19	0	0	0	0
Total	15/133	10/133	0/133	0/133



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CalMod EMU VEHICLES

EMUs – Design & Manufacturing

- Significant change order in process to move first Trainset Level Design Conformance (Type) Testing to FRA test facility (TTCI) in Pueblo Colorado
- Production of system level components ramping up at sub-supplier facilities in U.S.A.
- FRA approvals of trainset designs advancing on schedule
- Trainset assembly underway in Stadler Salt Lake City facility
- Stadler Salt Lake City Facility Production Hall and Warehouse portions to be completed in April 2019



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CalMod EMU VEHICLES

Stadler New Facility Production Hall, with several cars for Trainset #1



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CalMod RISK MANAGEMENT

Next Steps

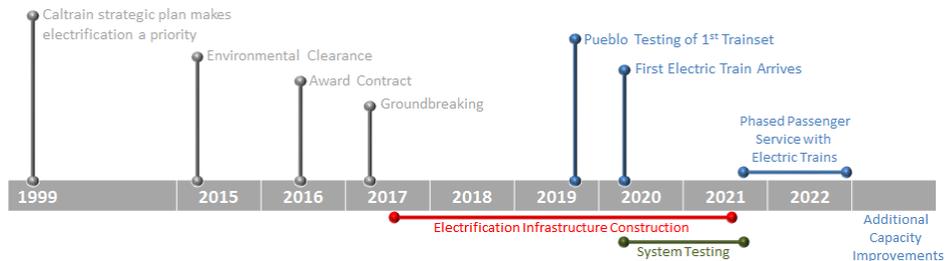
- Completed preliminary analysis of cost and schedule effects of risk
- Top 2 Risks:
 - Contractor sequencing of foundation construction may result in inefficiencies in construction, redesign, and reduced production rates.
 - Foundation train has begun work in Segment 4
 - Efforts have been concentrated in resolving DSCs in Segment 4 to limit impacts
 - Additional resources have been added to help lead the DSC resolution
 - Track access does not comply with contract-stipulated work windows
 - Work windows have been clarified to provide further detail to what was included in the contract documents. Contractors are reviewing the revised work windows for impacts
 - Project team is also breaking down current track access delays (TAD) data to categorize different areas of delays in attempt to mitigate each specific area of delay. Specific actions have been planned to further mitigate track access issues, such as changes to planning process.
 - Project continues to meet and work with Operations on potential mitigations for TAD moving forward



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CalMod SCHEDULE

MILESTONES



*Please keep in mind that testing and construction will overlap as each Segment will be tested individually, prior to final system testing.

Note: **Schedule Subject to Change**



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BUDGET & EXPENDITURES



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CalMod BUDGET & EXPENDITURES (in millions)

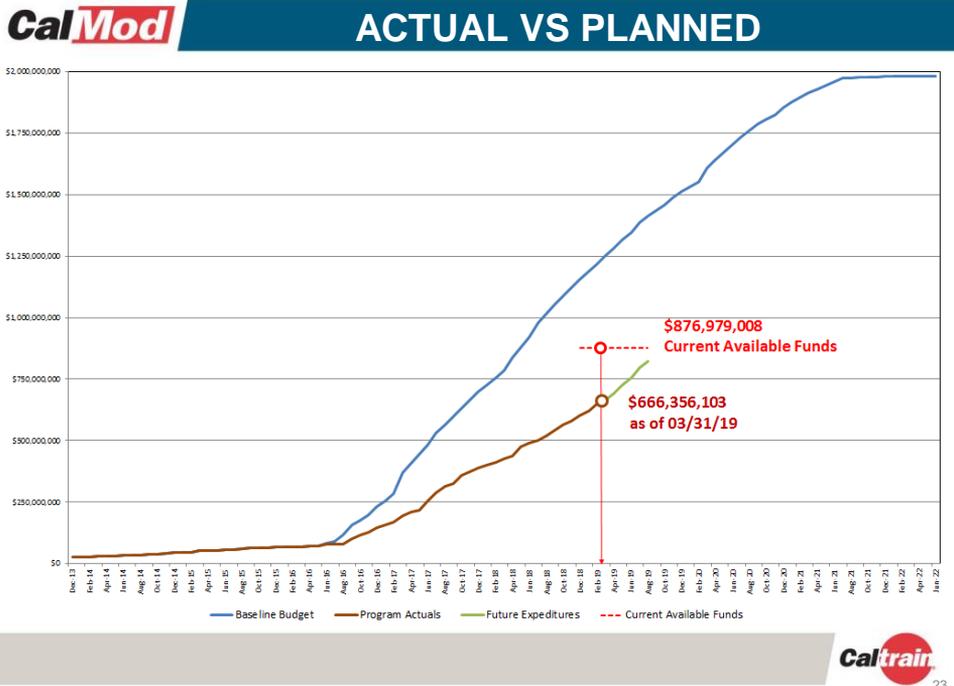
	Budget	Current Budget	FY19 Q3 Costs	Costs to Date	Estimate at Completion
Electrification	\$696.61	\$716.69	\$22.00	\$298.05	\$716.69
SCADA	\$0.00	\$3.45	\$0.00	\$1.93	\$3.45
EMU	\$550.90	\$550.79	\$15.32	\$112.70	\$550.79
PG&E	\$57.22	\$88.49	\$2.59	\$36.39	\$88.49
Tunnel Modifications	\$11.03	\$41.88	\$7.10	\$22.15	\$41.88
CEMOF Modifications	\$1.34	\$6.55	\$0.0	\$0.0	\$6.55
Separate Contract & Support Costs	\$347.62	\$342.10	\$15.26	\$195.13	\$342.10
Contingency ¹	\$315.53	\$230.30	\$0.00	\$0.00	\$229.02
Anticipated Changes	\$0.00	\$0.00	\$0.00	\$0.00	\$1.28
PCEP Total	\$1,980.25	\$1,980.25	\$62.28	\$666.36	\$1,980.25

Note 1: Contingency is not for out of scope changes.

Budget / Expenditures as of **March 31, 2019**



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CalMod CONTINGENCY¹ DRAWDOWN

Contracts	Amount	Contingency
Beginning Contingency		\$315,533,611
Drawdown		
Executed Change Orders	\$15,212,001	
SCADA Contract	\$3,446,917	
PG&E Supplemental #4	\$31,263,082	
Tunnel Modifications	\$31,386,286	
CEMOF Modifications	\$5,206,777	
Total	\$86,515,063	
Remaining Contingency		\$229,018,548

Note 1: Contingency is not for out of scope changes.

As of **March 31, 2019**

CalMod ANTICIPATED CONTINGENCY¹ DRAWDOWN

Contracts	Amount	Contingency
Remaining Contingency		\$229,018,548
Pending Contingency Drawdown		
Field Orders for Signal Cable Relocation	\$184,576	
Grade Crossing Warning – 5 mph Speed Check	\$446,982	
PS-5 Site Relocation (Design)	\$348,000	
Additional Daytime Potholing (Increase Quantity in Segment 4)	\$150,000	
Training for Additional Personnel to Complete Design and Potholing in Segment 1	\$136,611	
Total	\$1,266,169	
Anticipated Remaining Contingency		\$227,752,379

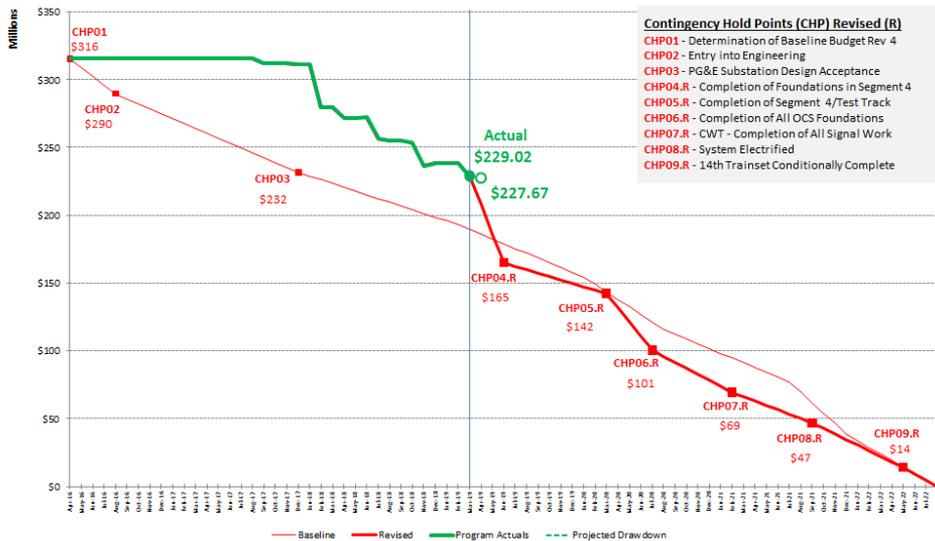
Note 1: Contingency is not for out of scope changes.

As of March 31, 2019



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CalMod CONTINGENCY¹ DRAWDOWN CURVE



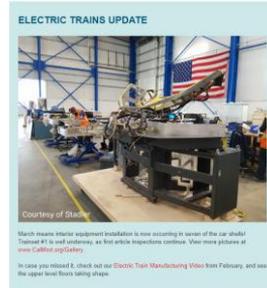
Note 1: Contingency is not for out of scope changes.



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CalMod OUTREACH

- 12 Outreach events (since Jan. 2019)
- 13,000 Direct mailers / door hangers (since Jan. 2019)
- 2,946 Subscribers to the monthly e-newsletter
- 1,732 Subscribers to the weekly e-update
- Website: CalMod.org



CalMod RECENT CAMPAIGNS / VIDEOS



CalMod.org/safety



CalMod.org/rider-benefits

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