

CALIFORNIA AIR RESOURCES BOARD'S (CARB) ADVANCED CLEAN FLEETS (ACF) REGULATION

Board of Directors

October 19, 2023

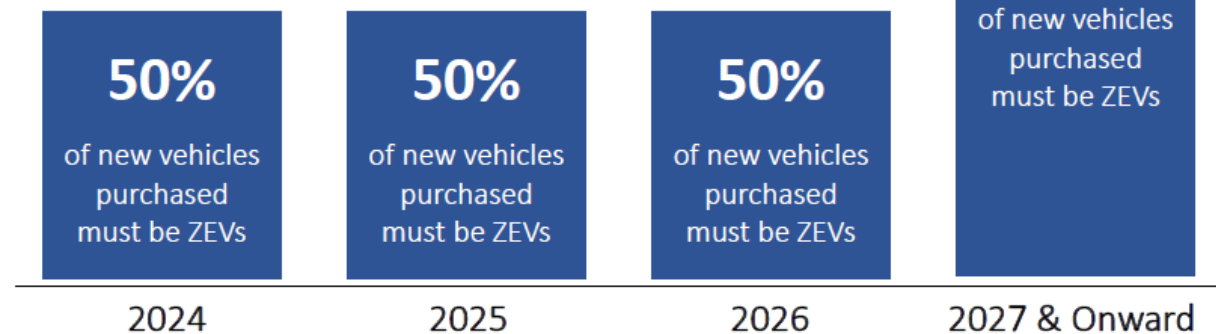


CARB's Advanced Clean Fleets

Compliance Option 1 (Default)

Advanced Clean Fleets Regulation

Default Option



Compliance begins January 1, 2024
Applies to Medium and Heavy Duty 8,500GVWR

Alternative Milestone Option

Compliance Option 2

ZEV Portion of Fleet	10%	25%	50%	75%	100%
G1: Box trucks, vans, 2-axle buses, yard tractors	2025	2028	2031	2033	2035+
G2: Work trucks, day cab tractors, 3-axle buses	2027	2030	2033	2036	2039+
G3: Sleeper cab tractors and specialty vehicles	2030	2033	2036	2039	2042

Exemption Pathways Provided By CARB

CARB has included several exception categories in the ACF regulation.

- Daily Usage- Reserved for cases where no electric vehicle is available that can meet daily usage needs. CARB reserves this exception for fleets that are already comprised of at least 10% ZEV's. **SFID would not qualify for the daily use exception.**
- Infrastructure Delay-Allows for delays related to permitting and construction processes-outside the control of the agency.
- Mutual Aid- Vehicles associated with mutual aid agreements, used during “officially declared” emergencies.
- Backup- Vehicles operated less than 1000 miles per year. **SFID has no vehicles designated as backup.**
- Intermittent Snow Removal-Snow plows or snow blower
- Non-Repairable-Vehicles requiring unexpected replacement, due to accident or onetime event rendering inoperative.

Note: CARB to present ZEV purchase exemption list, January 2025

Background

In consideration of the CARB's new ACF regulation, Santa Fe Irrigation District (District) engaged TerraVerde Energy (TerraVerde) to provide compliance planning support services. The scope of this engagement included:

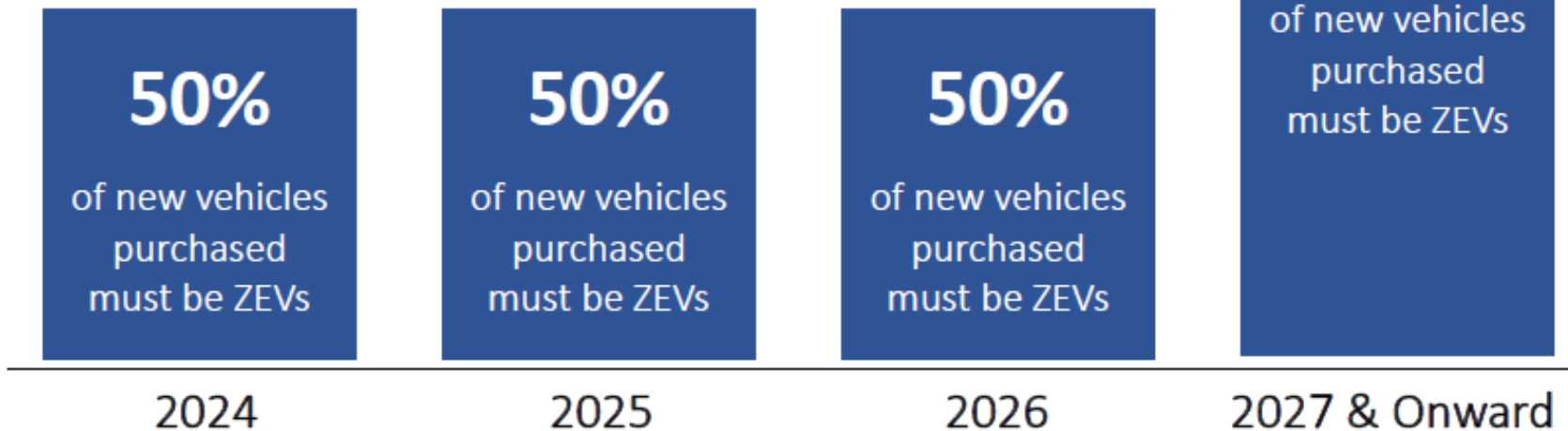
- Collecting & analyzing detailed information on the agency's vehicle fleet composition & utilization, identifying potential high-priority challenge vehicles
- Identifying electric vehicle options and rough order of magnitude (ROM) costs
- Mapping out the timeline of expected vehicle replacements
- Identifying applicable electric vehicle charging equipment options and indicative costs
- Identifying applicable incentive programs

Recommended Compliance Approach

Compliance Option 1 (Default)

Advanced Clean Fleets Regulation

Default Option



Comparison of Compliance Options for SFID

The **default compliance option** presents the District with the lowest number of ZEV purchase requirements and is based on a vehicle meeting 120k+ mileage.

Option	Year	2027	2030	2033	2036	2039	Total Purchases Through 2039
	Milestone Option, ZEV Portion of Fleet Requirement (G2)	10%	25%	50%	75%	100%	
1.	Milestone Option (purchase requirements)	2	1	5	3	4	15
2.	Default Option (purchase upon 15+ yrs. of age ¹)	4	0	5	3	2	14
3.	Default Option (purchase upon 120K+ mileage ²)	2	0	0	1	0	3

SFID's Near Term Vehicle Replacements (Next 10 years)

Based on the District's historical replacement statics, age & mileage upon retirement, the table below shows vehicles that will be considered for retirement within the next ten years:

Unit	Year, Make, Model	Replacement Status
13	2010 Ford F-550 Dump Truck	Expected Retirement Year: 2026 due to age. Likely exempt from ACF due to configuration
1	2016 Chevrolet Service Bed(Duty truck)	Expected Retirement Year: 2027, due to mileage
41	2016 Chevrolet Service Bed(Duty truck)	Expected Retirement Year: 2027, due to mileage
11	2010 Ford F-350 Stake Bed	Expected Retirement Year: 2029, due to age. <u>Possibly extended to 2036, if replaced due to mileage.</u>

¹ There are no ZEV dump trucks in CARB's/CALSTART's list of available vehicles and, CARB lists "dump truck" as one configuration that will appear in the forthcoming ZEV Purchase Exemption List, due not later than January 2025. Although the list is not yet published and their automatically exempt vehicle types could change, TerraVerde believes it reasonable to assume Class 5 dump trucks will appear on the list due to their weight, weight-carrying capacity and PTO loads.

Estimated ZEV Replacement Costs for Units 1, 41 & 11

Unit(s)	Description	Current Availability	Example potential future ZEV Replacement	Estimated MSRP	Estimated Incentives	Net Price
1,41	2016 Chevrolet 2500HD First Responder Duty Trucks with service bed	<ul style="list-style-type: none"> None Available 	RAM EV "Coming Q4 2024"	\$90,000 (each)	\$7,500 (each)	\$82,500 (each)
11	2010 F-350 Stake Bed Construction tow vehicle	<ul style="list-style-type: none"> None Available 	No comparable replacement available to market	\$225,000	\$7,500	\$217,500

Estimated EV Charging Equipment & Costs for Units 1, 41 & 11

Based on TerraVerde's assessment, if the District does not enter into binding agreements to procure gasoline and diesel trucks to replace Units 1, 11 or 41 before 2024, the District should budget *at least* **\$150,000** for the installation of charging equipment.

Unit	Description	Potential Retirement Year	Minimum Charging Power Requirements	Suitable Standard Charging Unit Name Plate Rating	\$/Unit, equipment + installation
Near-term District purchases					
1,41	2016 Chevrolet 2500HD First Responder Duty Trucks, Service bed	2027	234 kWh / 4hrs= 59kW	100 kW	\$90,000+ \$48,000
11	2010 F-350 Stake Bed Construction tow vehicle	2029	110 kWh / 12hrs= 9kW	15.4 kW	\$1,200 + 4,000

EV Charging Equipment Location (SFID Yard at 5920 Linea Del Cielo)

Both chargers should be installed behind a new dedicated utility meter from SDG&E in order to benefit from their EV-HP rate.

Project Phase	Estimated Duration
Design	1 - 3 Months
Procurement	2 - 4 Months
Installation	12 - 18 Months
Commissioning	1 - 2 Months



Estimated Electricity Costs for Units 1, 41 & 11

The theoretical incremental load that could occur at the electric meter to replenish these three units is estimated to be 115 kW-roughly five times the demand from the District's Administrative Building. SDG&E's new EV-HP rate proves to be the most cost effective for the District.

CARB's Low-Carbon Credits Program for displacing gasoline could potential provide \$1,000 in annual credits for these three units.

	Annual Costs (EV-HP Rate)
Demand Charges (\$ / Year) ¹	\$13,200
Energy Charges (\$ / Year)	\$2,100 - \$4,400
Total Costs (\$ / Year)	\$15,300 - \$17,600
Total Cost / kWh	\$0.87 - \$1.01

Estimated electricity demand for entire fleet once converted is approximately 1,827 kW.

Recommendation

Based on the current ACF rule, the availability of ZEV trucks that meet the District's current and future operational needs- staff recommends the Board Authorize earlier than anticipate procurements for both Units 1 & 41 (afterhours emergency response duty trucks).

- The total cost to purchase two (2) New 2024 Ford Super Duty F-250 Regular cab duty trucks equipped with Harbor Service Body, through National Auto Fleet Sales, is \$124,097.50.



SFID 10 year plan

- Closely monitor available incentives for ZEV's and charging Infrastructure
- Incorporate charging infrastructure within the District's long term CIP, in order to support future zero emission vehicle procurements and operations.
Consider future plans to construct a new corporate yard prior to implementation.
- Monitor the ZEV market for medium and heavy duty units that will meet the District's mission and operational needs.

QUESTIONS

WATER SUPPLY UPDATE

Board of Directors
October 19, 2023

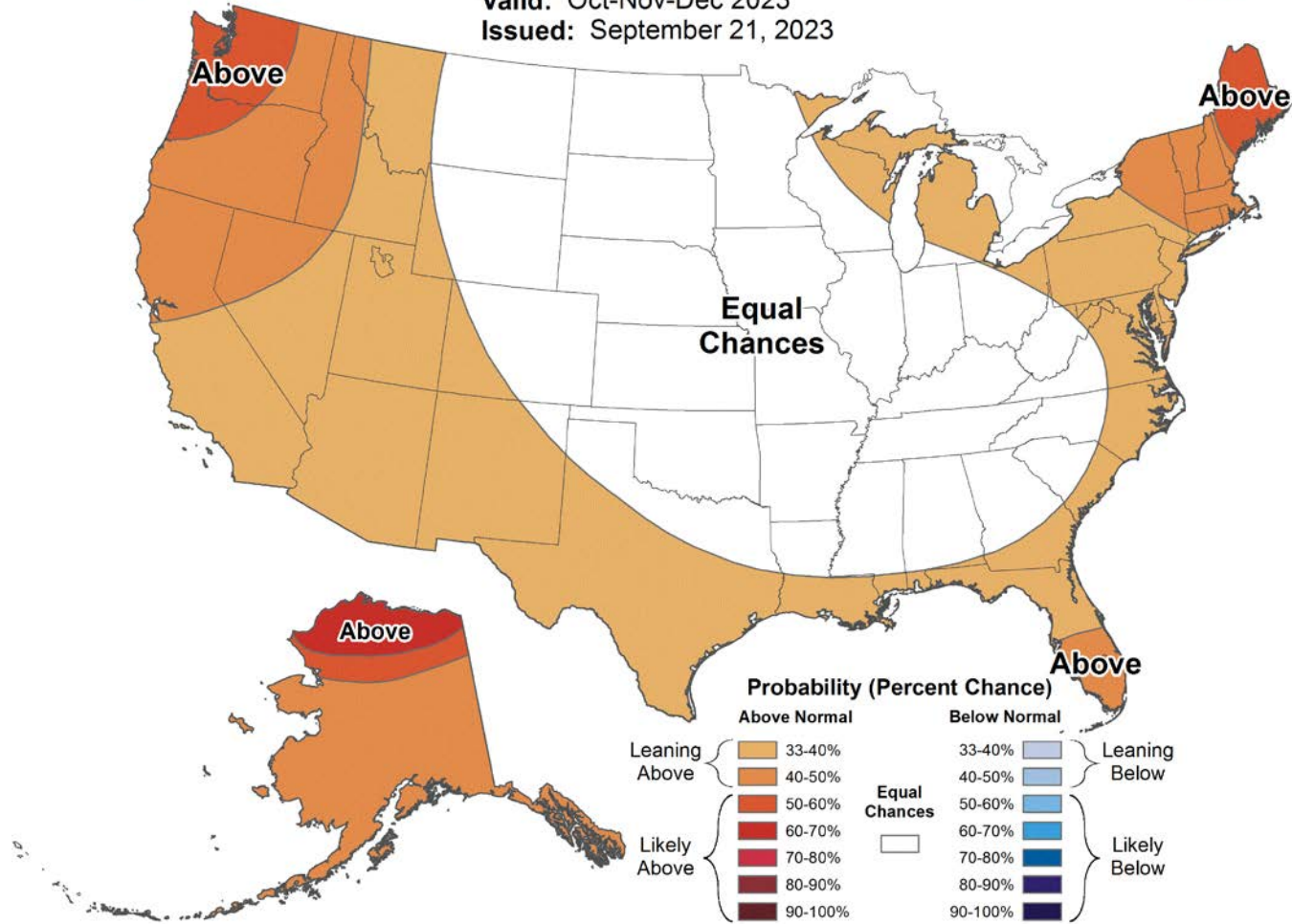




Seasonal Temperature Outlook



Valid: Oct-Nov-Dec 2023
Issued: September 21, 2023

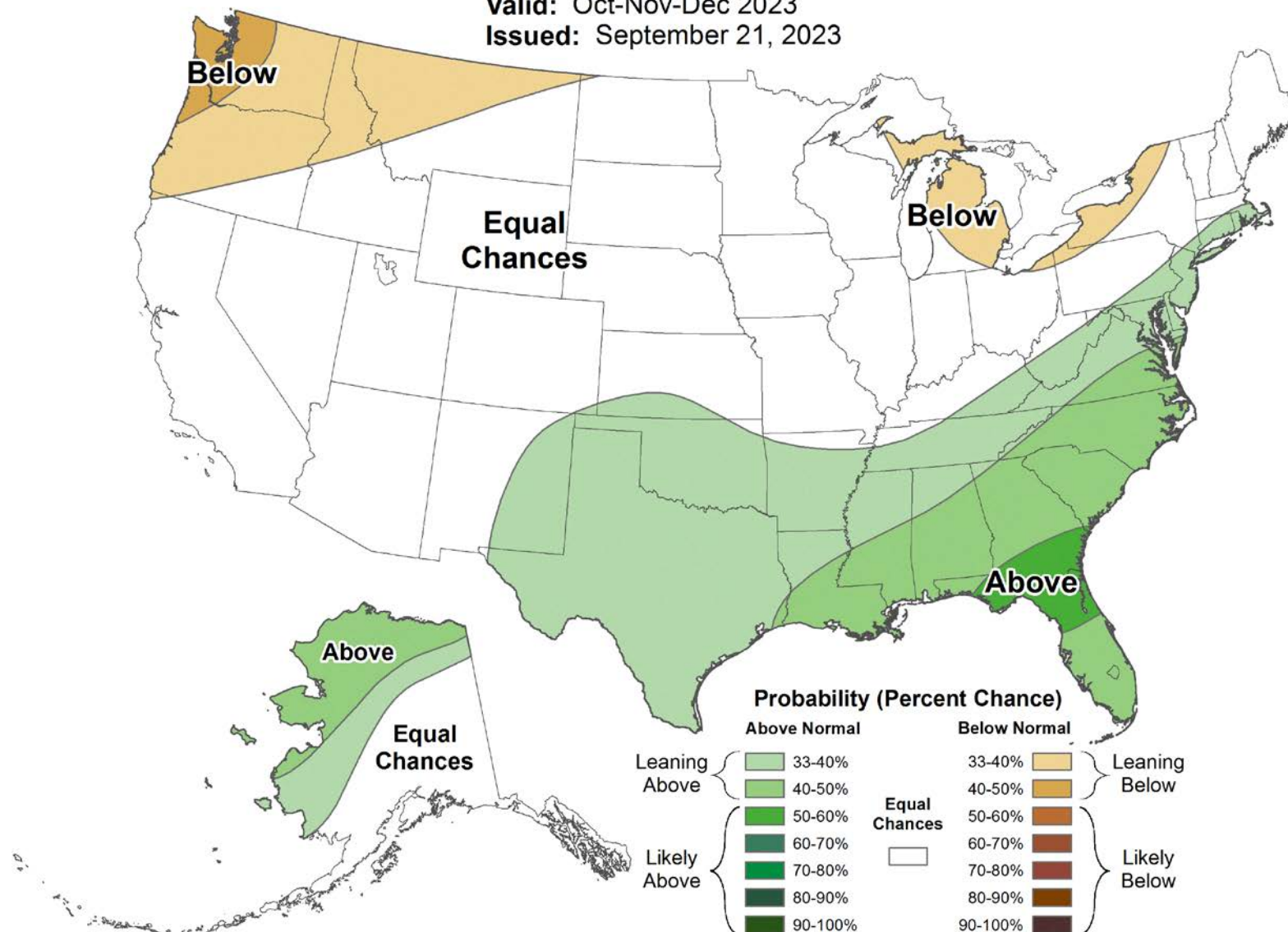




Seasonal Precipitation Outlook



Valid: Oct-Nov-Dec 2023
Issued: September 21, 2023



**Statewide
Snowpack:
26% of
average**

