



# *Updated Information on* Clean Power Plan Modeling and Reliability

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California Environmental Protection Agency

 **Air Resources Board**

# CPP Analytic Requirements Overview

- Core elements are listed in 40 CFR 60.5740 and 40 CFR 60.5745. These include:
  - Identification of affected EGUs
  - Identification of applicable emission standards
  - Identification of applicable state measures and backstop
  - Demonstration that EGUs will achieve all applicable emissions goals
  - Projections of EGU emissions and future operating characteristics
  - Applicable schedules and compliance milestones

# Modeling Approach (1)

- CEC/ARB/PUC are collaborating on production cost modeling (via PLEXOS) of California power fleet, including affected EGUs.
- We are calculating applicable state targets based on updated affected EGU list.
- Results are tentative. Final EGU list and target will be included for review in state plan submission.

# Modeling Approach (2)

- Modeled scenarios include a “mid” case scenario and a “stress” scenario. Please see December workshop slides for detailed scenario descriptions.
- “Mid” scenario is based on mid-case IEPR from the CEC. It does not include more recent SB 350 policy measures, and so is a conservative case.
- “Stress” scenario includes higher economic and demographic growth, lower electricity rates, more vehicle electrification, lower carbon prices, extended drought conditions, and Diablo Canyon retirement. The stress scenario is intended to test the system, not as a likely forecast.
- Reserve margins were calculated for both scenarios.

# Draft Results

- Staff continue to review model run results. Sample years are shown. Note that EPA targets have been recalculated and interim targets are illustrative – they reflect an even division of target requirements by year. ARB may adjust targets.

Year	US EPA CPP Target Emissions (Short Ton)	Mid-Case Emissions Estimates (Short Ton)	Mid-Case Reserve Margin	Stress Case Target Emissions (Short Ton)	Stress Reserve Margin
2022	~ 57,319	37,051	<b>24.2%</b>	45,695	<b>21.0%</b>
2026	~ 52,251	34,868	<b>17.3%</b>	48,394	<b>13.1%</b>
2031	~ 50,442	33,296	<b>15-17%</b>	48,184	<b>15-17%</b>

# Interpreting the Draft Results

- California will comply with CPP emissions levels, even under the conservative assumptions used for the mid and stress cases.
- Reserve margin is maintained in healthy range in mid-case. Reserve margin after Diablo is retired is somewhat tighter in the highly unlikely stress case.
- In reality, capacity additions, transmission planning, and other measures would likely further anticipate and account for any emerging reserve margin issues.
- The CPP itself does not appear to be affecting reserve margin results because state policies and modeling assumptions, not the CPP, are driving generation behavior (emissions remain below CPP targets).

# Next Steps

- Full results will be presented with draft plan release in July.
- Feedback is welcome.