

## PERSONAL COMMUNICATION RECORD

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**Communication With:** Satya Sardar, CARB EMFAC  
**Dudek Participant:** Jennifer Reed, Dudek  
**Communication Date:** December 13, 2019  
**Communication Time:** 9 am  
**Communication Type:** Phone call  
**Subject:** SAFE Rule emission factor adjustments in CalEEMod

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### COMMUNICATION SUMMARY

- After email correspondence the first week of December 2019 with CARB EMFAC team, we set up a call to discuss the SAFE Rule emission factor adjustments for criteria air pollutant emissions. Reference: [https://ww3.arb.ca.gov/msei/emfac\\_off\\_model\\_adjustment\\_factors\\_final\\_draft.pdf](https://ww3.arb.ca.gov/msei/emfac_off_model_adjustment_factors_final_draft.pdf)
- One of the primary goals was to understand if there is an easy way to use the web-based EMFAC tool emission rates to replace the CalEEMod vehicle emission factors, which we discussed.
- Since the CalEEMod vehicle emission rates are weighed (one number for all vehicle fuels) and it is not the emission rates that change, but instead the VMT distribution between EV, gas, and diesel (less EV adoption, more non-EV) that changes, there is no easy way to adjust the CalEEMod emission factors. One cannot multiply the emission rates by the adjustment factors provided by CARB. Satya noted that the VMT split between EV, gas, and diesel data is not publically available.
- The adjustment factors CARB released are to adjust the inventory emissions (tons per day) for gasoline light duty vehicles (LDA, LDT1, LDT2, and MDV). In essence, the gasoline light duty emission inventory is anticipated to increase very slightly due to increased gasoline vehicles in the fleet that were previously assumed to be EV vehicles. Since the EV adoption increases overtime, the increase in emissions associated with less EV in the fleet is especially minimal in the early years (2021) and increases overtime (2050), although staying minimal in later years. For example, in 2021 with a NOx adjustment of 1.0001 (EMFAC2014) or 1.0002 (EMFAC2017), 100 pounds per day of NOx from

gasoline light duty vehicles would increase to 100.01 or 100.02 pounds per day of NO<sub>x</sub>, respectively. At the high end in 2050, with a NO<sub>x</sub> adjustment of 1.0210 (EMFAC2014) or 1.0129 (EMFAC2017), 100 pounds per day of NO<sub>x</sub> from gasoline light duty vehicles would increase to 102.10 or 101.29 pounds per day of NO<sub>x</sub>, respectively. Depending on the assumed fleet mix, how this change affects the overall mobile source emissions from a project will differ, though it is anticipated to be extremely minimal as Satya agreed. (I did these calculations pre-call and discussed the minimal nature with Satya).

- Satya indicated that it is an extremely small change in emissions and would not be worth the effort to modify the CalEEMod rates for an individual project. He also indicated that things might change in a month and since this is evolving, there is a chance we would have to re-do our calculations.
- Nonetheless, I was thinking we could move EV VMT to gasoline VMT (or adjust the EV VMT down and then redistribute that reduction in VMT to gas and diesel based on the percent of each in the total VMT) if data was available. As such, Satya indicated that he will look into if the statewide percent redistribution between fuel type by year is available. Otherwise, we would have to run the inventory model in custom activity mode as instructed in the CARB off-model adjustment guidance, which takes time and is not worth the effort based on the anticipated nominal to minor increase in emissions.