apcd air pollution control district
SANTA BARBARA COUNTY

VSFB Commercial Aerospace Update

June 2024

APCD's Regulatory Authority for Commercial Aerospace

Pursuant to authority established in the California Health and Safety Code, the Santa Barbara County Air Pollution Control District (APCD) regulates and permits stationary sources of air pollution. For commercial aerospace operations, permitted activities and equipment typically include rocket and payload fueling and fuel storage, surface coating, solvent cleaning, abrasive blasting, and support engines. In addition, Rule 102 states that emissions from all marine vessels, including cargo carriers, servicing or associated with a stationary source shall be considered emissions from the stationary source. Therefore, the APCD also regulates and permits marine vessels used in commercial aerospace operations. We do not regulate or permit emissions from the rockets themselves, as rockets are considered mobile and therefore subject to regulation at the state and federal level.

All commercial aerospace operations at Vandenberg Space Force Base (VSFB) are permitted under the APCD's New Source Review (NSR) permitting program. The requirements NSR permitting include Best Available Control Technology (BACT), Air Quality Impact Analysis (AQIA), Health Risk Assessment (HRA), and Emissions Offsets, which are each triggered at different emissions-based thresholds. NSR is an important tool to help the District attain and maintain all State and Federal ambient air quality standards, while still allowing for new businesses to open and existing businesses to expand.

Current Commercial Aerospace Projects under APCD Permit

United Launch Alliance

Location: Space Launch Complex (SLC) 3, historically at SLC 6 as well.

Historical Operations: Lockheed Martin and Boeing historically operated separately on VSFB beginning in the 1990s. United Launch Alliance (ULA) was formed in 2006 as a joint venture between these two companies. ULA continued to operate their Atlas and Delta Evolved Expendable Launch Vehicle (EELV) programs at VSFB until 2022. Historical APCD permitted operations include rocket and payload fueling, surface coating, solvent cleaning, abrasive blasting, and support engines. Beginning in 2002, Boeing and later ULA also permitted and operated a marine vessel (the "Rocket Ship") that delivers rockets from Alabama to VSFB.

Current Operations: ULA is currently transitioning from the Atlas and Delta programs to the Vulcan rocket program and is not currently launching rockets from VSFB. No additional Atlas or Delta flights are scheduled. ULA also recently vacated SLC 6.

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Future Operations: ULA is in the design and construction phase of their new Vulcan launch facility at SLC 3 at VSFB. Most of the equipment associated with the Vulcan project will be new, as the Vulcan rocket uses different propellants than the Atlas and Delta rockets. They have submitted a complete APCD permit application, and their permit is scheduled to be issued by September 2024. ULA has not requested an increase to their historical permitted launch cadence of 6 rocket launches and 4 boat trips per year. ULA anticipates the first launch of the Vulcan rocket from VSFB to occur in 2025.

Space Exploration Technologies

Location: SLC 4E, will be expanding to SLC 6.

Historical Operations: Space Exploration Technologies (SpaceX) received their initial APCD permit for operations at VSFB in 2004 and conducted their first Falcon 9 rocket launch from VSFB in 2013. Historical permitted operations include rocket and payload fueling, surface coating, solvent cleaning, abrasive blasting, and support engines. Their permitted launch cadence was 4 per year in 2004, 5 per year in 2011, 13 per year in 2018 and 36 per year in 2023. Beginning in 2022, SpaceX also permitted and began operating tug and barge operations (called "roll on roll off" or RORO) that transports rockets between the Port of Los Angeles and Vandenberg Harbor.

Current Operations: SpaceX is currently permitted by the APCD for 36 Falcon 9 rocket launches and 36 RORO trips per year and operating at or near this cadence.

Future Operations: SpaceX has recently applied to the APCD to increase their launch cadence and RORO operations to 100 launches/trips per year. Their APCD permit application is currently incomplete. In addition, SpaceX has recently taken possession of SLC 6, and future operations at this facility are to be determined.

Firefly Aerospace

Location: SLC 2

Historical Operations: Firefly Aerospace received their initial APCD permit for operations at VSFB in 2020 and conducted their first Alpha rocket launch from VSFB in 2021. Historical permitted operations include rocket fueling, surface coating, solvent cleaning, and support engines. Their permitted launch cadence is 22 per year, although they have only launched 4 rockets to date.

Current Operations: Firefly Aerospace currently has 4 launches scheduled from VSFB in 2024.

Future Operations: Firefly Aerospace has not communicated to the APCD any plans to modify their operations at VSFB.