



Launch Mission Execution Forecast



Mission: ASTRA VCLS DEMO 2

Issued: 5 Feb 2022 / 0800L (1300Z)

Valid: 5 Feb 2022 / 1300 – 1600L (1800 – 2100Z)

Forecast Discussion: A cold front moved through this morning, switching winds from the north, with sustained speeds between 15-20 kt and gusts near 25kt. A few light rain showers still moving through the Cape should clear out by 10-11L, leaving behind just an overcast stratocumulus deck through the afternoon. Winds are expected to gradually decrease by this afternoon to 15 kt sustained with gusts to 20kt. Therefore, the primary concern for launch is liftoff winds with a slight secondary concern of the Cumulus Cloud Rule. For the backup forecast, a surface low develops off the coast of the Spaceport along the frontal boundary, leaving a higher chance for more convective rain showers. Models are inconsistent on the exact location of this low, and if it forms slightly further offshore, as some models are now indicating, the forecast could improve. Therefore, the backup day POV remains at 60% for now with the primary concerns being the Cumulus Cloud Rule and Surface Electric Fields Rule.

		Probability of Violating Weather Constraints					
Launch Day	30%	Primary Concerns: Liftoff Winds, Cumulus Cloud Rule					
	Weather Conditions				Additional Risk Criteria		
	Weather/Visibility: None / 7 mi.	Clouds				Upper-Level Wind Shear:	Low
	Temp/Humidity: 63°F / 87%	Type	Coverage	Base (ft)	Tops (ft)	Solar Activity:	N/A
Liftoff Winds (30'): 360° 15 - 20 kts	Stratocumulus	Overcast	4,000	8,000			
		Probability of Violating Weather Constraints					
24-Hour Delay	60%	Primary Concerns: Cumulus Cloud Rule, Surface Electric Fields Rule					
	Weather Conditions				Additional Risk Criteria		
	Weather/Visibility: Sct. Showers / 7 mi.	Clouds				Upper-Level Wind Shear:	Low
	Temp/Humidity: 67°F / 86%	Type	Coverage	Base (ft)	Tops (ft)	Solar Activity:	N/A
Liftoff Winds (30'): 350° 7 - 12 kts	Cumulus	Broken	3,000	16,000			

Note: The Probability of Violation (POV) is the chance that a Lightning Launch Commit Criteria (LLCC) or certain user constraints (surface winds, precipitation, and temperatures, etc.) will be violated during the launch window. It does not take into account upper-level wind shear, booster recovery weather, and solar activity.

Next Forecast Will Be Issued | As required