

# Plain Language Summary for New Source Review (NSR) Initial Application for Air New Source Review Permit Number 177783

*The following summary is provided for a pending air permit application being reviewed by the Texas Commission on Environmental Quality as required by 30 Texas Administrative Code Chapter 39. The information provided in this summary may change during the technical review of the application and are not federal enforceable representations of the permit application.*

FA VICTORIA I LLC (CN606312197) has submitted an application for an initial permit. The First Ammonia Victoria plant (RN112058920) will produce green ammonia in the Port of Victoria Industrial Park South, at the junction of Dupont Road and Navigation Road, off Texas State Highway-SH-185, Victoria, Texas. The distance to the closest residential area at Bloomington is 2.7 miles.

Producing green ammonia is a zero-carbon alternative to traditional ammonia manufacturing methods. To produce green ammonia, water is split into hydrogen and oxygen in electrolyzers. Hydrogen is then mixed with nitrogen that has been extracted from air. The mixture is sent through a catalyst, where it reacts to form ammonia. The gaseous ammonia is cooled and then stored and shipped as a refrigerated liquid.

The core process consists of three modular and prefabricated production trains, each including electrolyzers and ammonia synthesis equipment. Common installations for all trains comprise water supply from deep wells, water treatment, cooling towers, refrigerated ammonia storage tanks and barge loading facilities. The total production capacity will be 990 tons per day of green ammonia. Plant production will fluctuate with the supply of renewable power and thus has a positive impact on the grid stability. The proposed emissions from the facility emissions are:

Pollutant	tpy
Nitrogen Oxides (NOx)	1.36
Particulate Matter PM10	0.49
Particulate Matter PM2.5	0.02
Ammonia (NH3)	3.18

The process is completely closed, with only a very small waste gas stream, containing mainly hydrogen, nitrogen, and a small amount of ammonia, being controlled by a flare. This flare is also required as emergency control equipment. The ammonia tank is controlled by a boil-off gas recovery system. A second, smaller flare is used as backup control for the gas recovery system. The gases controlled by both flares are carbon-free and burn completely sootless. Another emission source is mineral particles from the cooling modules, which are reduced by drift eliminators. Fugitive emissions from seals and gaskets at flanges, valves, compressors, pumps etc. are mitigated by reducing the number of seals and flanges and selecting highly effective sealing systems, and by applying a leak detection and repair program.