

Attachment A: Project Description
St Charles Clean Fuels Project

Step 5a: Describe the Project

St. Charles Clean Fuels, LLC (SCCF) is requesting authorization to construct and operate a new low-carbon production facility in St. Rose, St. Charles Parish, Louisiana. The SCCF Blue Ammonia Facility (Project) would be located on a 230-acre site on the east side of the Mississippi River within the International Matex Tank Terminal (IMTT) property at St. Rose. SCCF seeks to construct two (2) 4,000 metric-tons-per-day (MTD) low-carbon ammonia trains, producing ammonia from synthesis gas (syngas), via the reforming of natural gas, with total production capacity of 8,000 MTD of blue ammonia. Pure liquid blue ammonia, the final product, would be stored in refrigerated storage tanks located in the adjacent IMTT Terminal, then transferred via pipeline to adjacent ship-loading facilities on the Mississippi River for transport to market. The carbon dioxide produced in the blue ammonia production process would be segregated and shipped via a third-party pipeline to a third-party sequestration facility for subsurface storage.

The Proposed Facility will be comprised of the following elements.

- Two blue ammonia production trains, each with nameplate capacity of 4,000 MTPD pure ammonia, to be constructed on a phased basis.
- Each train includes carbon capture and compression facilities to capture CO₂ generated from the process, compress and route to CO₂ off-taker meter stations for transport via pipeline for injection and sequestration in Class VI well.
- One incoming natural gas pipeline and metering station for the natural gas supply to the two ammonia production trains.
- One onsite high voltage electrical substation constructed and operated by Entergy, for electrical power supply to support operation of the two ammonia production trains.
- Pipeline routing from the ammonia production trains to the ammonia storage tank farm comprising of four 75,000 MT capacity aboveground full containment storage tanks (two tanks per ammonia train), and with pipeline connection to the ship loading facility.
- IMTT loading dock extension with new loading pumps and loading arms to facilitate ammonia product loading to ships.
- One raw water (Mississippi River water) intake system for supply to the two ammonia production trains.
- Potable water supply from the Parish for use at the eyewash/safety showers and the buildings.
- Two cooling towers – one per train.
- Two independent flare systems, maintained under nitrogen purge:
 1. One elevated process gas flare common to the two ammonia production trains, for potential process gas releases.
 2. One elevated ammonia flare common to the two ammonia production trains, for potential ammonia releases.

Attachment A: Project Description St Charles Clean Fuels Project

- Two onsite Air Separation Units (ASUs) – one per train, constructed and operated by the selected ASU vendor, integrated with the associated ammonia train to provide the oxygen and nitrogen requirement for the ammonia production process.
- One firefighting system for the ammonia production site.
- One stormwater system for the site, with two retention ponds to support proper stormwater drainage.
- One shared control building, inclusive of an in-house laboratory, for the two ammonia trains and ASUs.
- Shared building/workspace and parking for personnel of the two ammonia trains. Workspace buildings:
 1. Administration, HSE and Technical
 2. Maintenance, Workshop & Warehouse
 3. Emergency Response – for storage and maintenance of emergency vehicles
- One security team, with one security building, for the production site.
- Heavy haul road – 100 ft wide to be constructed for transportation of equipment and prefabricated modules to the site during construction.
- A permanent access road to be constructed, inclusive of a railroad tunnel to facilitate access across the railroad tracks.

Construction Description

The SCCF Blue Ammonia project's Path of Construction is west-to-east, south-to-north (**Exhibit AA-1**). Initial activities after developing access to the work site are dewatering, clearing, grubbing, site fill, and surcharge which facilitate the opening of work fronts for piling, underground piping and underground electrical, as well as establishing onsite areas for construction temporary facilities such as project parking, lunch shelter(s), material laydown / module staging, craft & subcontractor fabrication areas, and project offices.

The Path of Construction for piling and works at grade (foundations and structures) will advance in a progression generally following the pipe rack module set down sequence, then into the adjacent process areas. The Path of Construction will continue to follow the west-to-east, south-to-north general progression from the southern OSBL areas to Train 1 to Train 2.

Operation and Maintenance Description

Once operational, the facility will have a permanent workforce of about 216 on-site personnel. In addition to the plant operations and maintenance jobs (which make up approximately 60% of the workforce), additional positions will exist in engineering, health, safety & environmental compliance, finance, accounting and purchasing, information technology, site security, human resources, public affairs and plant management and support.

Attachment A: Project Description
St Charles Clean Fuels Project

SCCF will operate and maintain the Project Facilities in accordance with all applicable government safety standards and regulations as well as established industry best practices intended to ensure adequate protection for our personnel, of the public and the environment through prevention of facility accidents and failures.

The facility has a designed operational life of over 20 years, and it has been common for similar facilities to operate safely and reliably for decades. After completion of the planned life, SCCF will continue to operate the facility as long as it is economically viable. Long-term operations of the facility could be affected by future CO₂ legislation and regulations, process performance and economics. For this application, SCCF assumes that the facility would operate for a minimum of 20 years.

SCCF will prepare Operating procedures for the Project after the final design is completed. The Operating procedures will address safe startup, shutdown, cool down, purging, maintenance and emergencies, as well as routine operation and monitoring.

The facility will have minor maintenance that does not require extended or planned plant shutdown on an ongoing basis. Planned major maintenance will be conducted on a 4–5-year cycle, typically lasting 4 weeks.