



Safety is always first at Project YaREN

How is this facility designed for safety?

Our safety process doesn't begin on the first day of operations—it starts now.

The design of Project YaREN will be based on Yara's 100 years of experience producing ammonia. Ammonia is the second most manufactured chemical in the world, and Yara is one of the most experienced ammonia producers in the world with an excellent safety record and an extensive knowledge of the production process. From the earliest stages, Project YaREN will go through an intensive and thorough design analysis focused on keeping people safe by assessing and reducing risks to minimal levels.

Every year since 1956, the American Institute of Chemical Engineers (AIChE) has held a symposium on ammonia synthesis technology—with an emphasis on continual progress in ammonia plant safety. Engineers from around the world gather to share knowledge and best practices to advance safety in the industry. For the last decade, Yara has been a leading contributor as a member of the steering committee. YaREN is deeply committed to plant safety and our safety record reflects this commitment.

What safety controls will be in place at the facility?

Dedicated environmental, health & safety team and rigorous training

People are the key to maintaining a safe facility. The plant will have a **dedicated environmental, health and safety team** working at the facility who will perform periodic reviews and audits of safety operations. All employees will undergo **extensive training** before working with ammonia on standard operating procedures (SOP), mechanical integrity programs, the work permitting process for activities outside the SOP, and emergency response plans.

Active control room monitoring

The facility's operations will be continuously monitored by an **on-site control room, staffed 24-7 with authorized access only**. The control room personnel will watch equipment for changes of pressure, temperature, flow, levels, vibration, speed, and electrical loads—and respond according to protocol if changes occur outside of specified ranges. Control room **team members will observe the plant both electronically and during in-person patrols** to ensure the facility's safety.

We will **monitor stack emissions as well as ammonia levels within the facility**, both of which will facilitate real-time detection and response.

Like the safest facilities in the world, Project YaREN will:

Meet or exceed industry and federal regulatory requirements

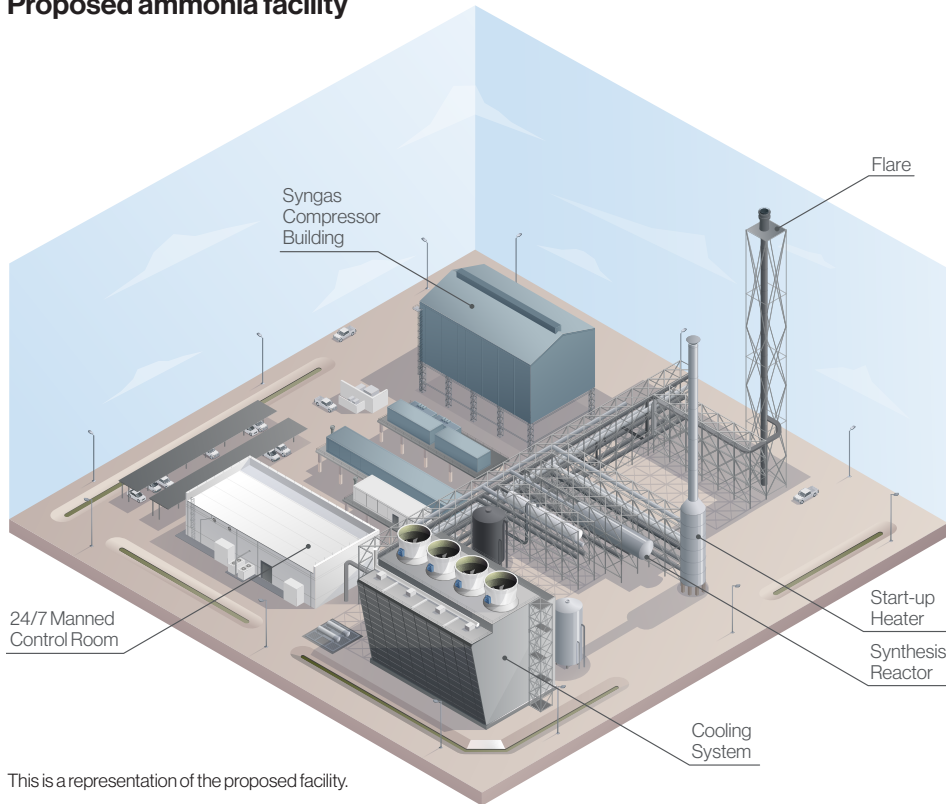
Follow industry safety protocols and best practices

Hire and train qualified personnel

Maintain a strong culture of safety

Have **emergency plans** in place—inside and outside of the facility

Proposed ammonia facility



This is a representation of the proposed facility.

Independent safety systems

Project YaREN staff will be assisted by a series of safety systems designed to minimize risks.

These include **double-walled ammonia storage tanks** with vapor recovery systems, **early detection warning systems**, automated **emergency shutdown systems**, **emergency back-up power**, redundancy for safety critical equipment, **fail-safe shutoff**, the **ability to manually shut down**, and use of proper **personal protective equipment**. The machinery will also be protected by **pressure and thermal relief systems**.

Thorough emergency response plans

At the time of commissioning, **Emergency Response Plans** will be in place for both the plant and the community. Plant personnel and local first responders will be trained and equipped with the necessary materials in the unlikely event of an incident.

Ensuring safety throughout the life of the plant

Safety performance will be maintained by explicit processes to address changes in personnel and machinery, continuous training of all personnel, and continuous improvement through active learning.

What products will be present at this facility?

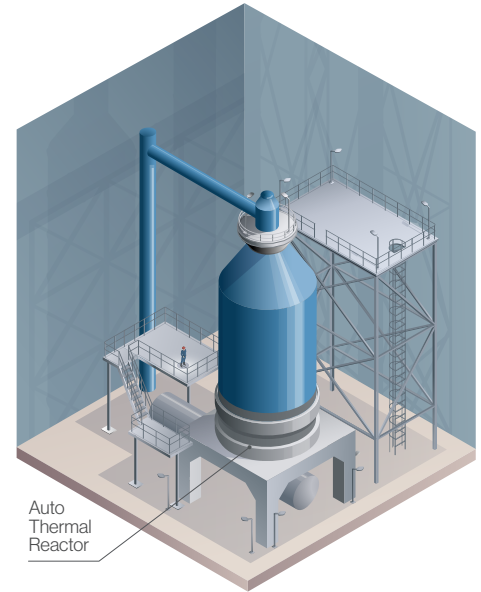
The facility will be manufacturing, storing, and exporting ammonia.

The manufacturing process includes the use of natural gas or methane, and hydrogen gas. Natural gas will be supplied to the site via a pipeline following all U.S. natural gas pipeline regulations and will not be stored on-site. Hydrogen gas will be created and used during the manufacturing process.

Ammonia manufactured at the facility will be stored as a liquified gas at cold temperatures and atmospheric pressure. Because it will be stored and handled in its liquid form, the risk of inhalation will be significantly minimized for the majority of the time that the ammonia is in the facility.

Project YaREN will produce ammonia gas, which is combustible under certain and very specific circumstances, but it is not explosive. Ammonia gas is a very different industrial chemical than ammonium nitrate.

Proposed Auto-thermal Reformer (ATR)



This is a representation of the proposed facility.

Ammonium nitrate is a solid fertilizer that has been linked with explosions and large-scale industrial accidents. There will be no ammonium nitrate onsite with Project YaREN.

How safe is exporting ammonia?

Ammonia produced by Project YaREN will be loaded onto ships and transported worldwide. Similar to the production process, global shipping of ammonia is a mature industry. The ammonia will be stored during transport the same way it is stored at the facility: as a liquified gas at cold temperatures and atmospheric pressure. Today the ammonia market ships approximately 20 million metric tons (MMT) of cold liquid ammonia on dedicated carriers safely overseas every year.

For questions about Project YaREN, please contact us at **361-461-0995** or email **EIECCommHotline@enbridge.com**.