New South Wales (NSW) currently imports over 95% of its domestic gas needs from other Australian States. This means NSW industries, businesses and households are exposed to any supply or price shocks occurring in other States.

Australian Industrial Energy (AIE) proposes to develop a liquefied natural gas (LNG) import terminal at Port Kembla, Wollongong, NSW.

The Port Kembla Gas Terminal will have the capacity to supply over 70% of NSW gas demand from as early as 2020 or all of NSW’s industrial gas needs.

LNG import terminals are common around the world, including in major developed countries. By cooling natural gas and turning it into a liquid form, the gas can be safely and easily transported anywhere in the world.

LNG will be sourced from worldwide suppliers and transported by LNG carriers to Port Kembla, where it will be transferred to a floating storage and regasification unit (FSRU) moored at the eastern side of the inner harbour. Australian Industrial Energy is currently proposing that an LNG carrier will arrive in Port Kembla every two to three weeks to offload its cargo into the FSRU. This requires the incoming LNG carrier to pull alongside the moored FSRU. The LNG will then be transferred from the LNG carrier to the FSRU via cryogenic loading arms or hoses, as depicted in the image above. The loading arms are able to withstand the -161 degrees Celsius temperature of the LNG. The offloading process from the LNG carrier is expected to take around 24 hours.

The LNG will be stored in a series of double-hulled tanks inside the FSRU. The double-hulled nature of the tanks provides protection against accidental leaks or rupture. LNG is not required to be stored under pressure in the FSRU, as cold temperatures ensure the gas remains in liquid form.

When gas is needed, seawater is used to warm the cold LNG resulting in a slow evaporation back into a gaseous state. The gas rises to the top of the tank and is then moved through a regasification and pressurisation system, still on board the FSRU, to prepare the gas to enter the NSW gas transmission network.
Construction of the LNG Import Terminal

The construction of the Port Kembla LNG Terminal is anticipated to take 12 months to complete, subject to planning approvals. AIE will work with NSW Ports to construct additional required infrastructure, including upgrades to the existing berth. The short, regional trunk pipeline linking the terminal to the existing east coast gas network will also be constructed during this time. When construction is complete and the Project is ready to commence, the FSRU will arrive completely fitted out and berth at the terminal site ready to receive LNG cargoes.

Both the FSRU and the LNG carriers remain seaworthy at all times, meaning that should the NSW gas market situation improve and new supplies of LNG are no longer needed, the vessels can be sailed to other global locations. The remaining bulk liquid handling berth and associated wharf infrastructure can then be repurposed.

The Port Kembla Gas Terminal will be designed by a WorleyParsons, a global leader in the design of LNG liquefaction and regasification projects. WorleyParsons has designed a significant number of the world’s nearshore regasification projects (planned and in operation). All design, construction and operational phases of the Project will be done to the strictest international and local safety, environmental and other standards.

Contact us

Please visit our website at www.ausindenergy.com for more information.