



ENERGY

INFRASTRUCTURE

MINING & METALS

NUCLEAR, SECURITY  
& ENVIRONMENTAL

23°46'20"S 151°11'38"E

Queensland Curtis LNG Curtis Island, Australia

# Specialized LNG Services





# We built it. Let us help you sustain and enhance it.

Bechtel has designed, built, commissioned, started up, and operated more than one-third of the world's current liquefaction capacity — and we did it with superior plant performance in mind. Because we built your plant, we have the right data, knowledge and expertise to help you keep your facilities running safely and at optimum capacity.

Our **Specialized LNG Services** deliver solutions to support customers wherever they are in their energy transformation journey, whether their goal is to increase access to renewable energy sources, improve energy efficiency, or decarbonize their existing infrastructure across the project lifecycle.

Our Specialized LNG Services include:

- Technical Advisory Services
- LNG Decarbonization Services
- Plant Support Services

As one of the world's leading integrated project delivery firms, Bechtel understands the complexity of brownfield construction in operating facilities. Our dedicated **Plant Support Services** partners with our customers to implement small capital projects and develop and implement solutions to enhance plant production and improve safety, reliability and operability.

We work closely with plant engineering, operations, maintenance and project execution personnel to plan our deliverables to meet your scheduled plant downtime, minimize impacts to production, and work within your HSE program.

Bechtel's **Technical Advisory Services** is solely dedicated to delivering design improvements, innovations and efficient project execution. We have expertise in several liquification technologies including Optimized Cascade (OCP), C3 MR, dual mixed refrigerant (DMR), single mixed refrigerant (SMR), nitrogen cycles and servicing plant capacities from base-load to medium scale and small-scale LNG.

The Technical Advisory Services can support you early on in the development process by carrying out conceptual and feasibility studies, liquification technology selection, driver selection, and early site selection.



Whether our customers have operating LNG facilities or are developing future projects, they are focused on establishing zero-carbon liquefaction plants and reducing methane emissions to support their environmental commitments and meet regulatory and investor requirements.

Our **LNG Decarbonization Services** work alongside customers throughout the entire lifecycle to help them achieve their decarbonization and methane abatement targets by developing and implementing innovative designs and technology, construction, and operations solutions.

The Bechtel Difference — We perform a full range of engineering, procurement, construction, startup and operational services ranging from feasibility studies through FEED, detailed engineering, procurement, construction and start-up and operational support. Our unmatched global procurement resources leverage knowledge of local infrastructure, suppliers, and construction contractors' capacity everywhere we have worked.

LNG plant operators face an increased demand to deliver a product that is economically attractive to their global customers while meeting the growing environmental demands of the energy industry. Specialized skills and expertise in LNG plant design, technology and innovative construction practices are needed to deliver measurable improvements that meet these customer and community expectations.

Bechtel's global network of specialized resources allows us to optimize solutions for your plant needs. We have subject matter experts in a wide range of specialties, such as process technology, dynamic simulations, acoustic induced vibration, compressors/gas turbine drivers, control system automation, advance process control, marine, geotechnical, pipe stress and program management.

Our Specialized LNG Services is dedicated to helping our customers succeed — let Bechtel deliver for you with smooth continuity in your operations.



**Our commitment starts prior to and goes beyond EPC execution.** Bechtel's expertise can help during early scope development through to a full suite of services to assist LNG operators throughout the plant life cycle.

#### During Development

- Conceptual and feasibility studies
- Liquefaction technology selection and development
- Driver selection
- Early site selection study

#### During Execution and after turnover

- Identification of increased capacity opportunities, including studies and EPC solutions for upgrades and debottlenecking
- Process improvement studies and solutions to increase availability, or troubleshooting for improved reliability and operability
- Safety assessments including fit for service to qualify existing safety systems for increased throughput applying current standards
- In-house procurement and traffic and logistics teams experienced in international sourcing and open-water transport, customs, and import/export clearance
- Expedited, innovative execution strategies that fit your shutdown schedules delivering certainty of outcome in compressed timelines
- Life extension services for plants approaching design life

#### Construction/Construction Management Services

- Flexible direct-hire or subcontract construction and management models
- Incorporation of permit-to-work systems, advanced work packaging and inclusion of SIMOPs into our design and planning activities

- Identification and use of local service providers familiar with your plant's safety program and work permit protocols
- Customized modular and pre-assembled execution strategies to move construction work away from the brownfield environment

#### Operations and Support Services

- Evaluation of operations procedures and equipment performance to identify recommended equipment operations improvements
- Plant personnel for operations support and training activities
- Advanced simulation / operator training simulator
- Support for HAZOP/Re-HAZOP and other engineering or technical services for optimal operation
- Maintenance of as-built drawings and other plant documentation
- Real-Time Process Operations Optimization and Facility Health Checks

#### Decarbonization Services

- Efficiency improvement assessments and implementation services
- eDrive approaches
- Optimization of liquefaction processes
- Carbon capture and sequestration options
- Activities that support a transition to a hydrogen economy
- Seal gas recovery systems to reduce continuous seal emissions by routing back to the process in lieu of flaring
- Gas recovery systems to recover refrigerant vapor during shutdown and reinject it to the process on resuming operation, in lieu of flaring
- Dynamic nitrogen dryout procedures prior to cooldown using nitrogen instead of defrost gas flaring
- Plant cooldown procedures with minimal flaring



For more information,  
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[bechtel.com](http://bechtel.com)

The three LNG plants  
Bechtel built simultaneously  
side-by-side on Curtis  
Island, Australia account  
for approximately 8% of the  
world's LNG production.

