

EXHIBIT S — NAVIGATION LIGHTING & SAFETY EQUIPMENT

NAVIGATION LIGHTING

The preliminary locations and quantities of navigational equipment for Beacon Port Terminal including seventeen (17) obstruction lights, a rotating beacon, four (4) foghorns and a Racon are provided on the attached **Figure 1**. Similar equipment, except for the rotating beacon is provided for the WC167 Platform and is shown on **Figure 2**.

Final quantities and locations of navigation equipment will be available after installation and site survey have been completed.

SAFETY EQUIPMENT

The receiving terminal shall be designed, constructed and operated to provide a safe operation.

Safety Monitoring

Multiple different detectors, manual alarm stations and audible and visual alarm signaling devices shall be strategically located throughout the LNG Terminal to detect gas, fire or low temperatures. An online computer in the control room identifies a hazardous condition within the Terminal, alarms and locates the situation for operating personnel that continuously monitor the detector signals. The detector systems Includes:

- Automatic detection devices, low temperature and combustible gas detectors shall be installed to monitor the LNG spill containment sumps, trestle, 2nd stage send-out pumps, and high pressure relief valves at vaporizer discharge
- Flame detectors operating on the UV/IR principle shall be installed to monitor the LNG spill containment sumps, marine transfer berth, LNG vaporizer, 2nd stage send-out pumps, boil-off compressors and metering station.
- Heat detectors shall be installed at LNG storage tank relief valve tailpipes for dry chemical system actuation.
- Smoke detectors shall be installed in all buildings.

Emergency Shutdown Systems

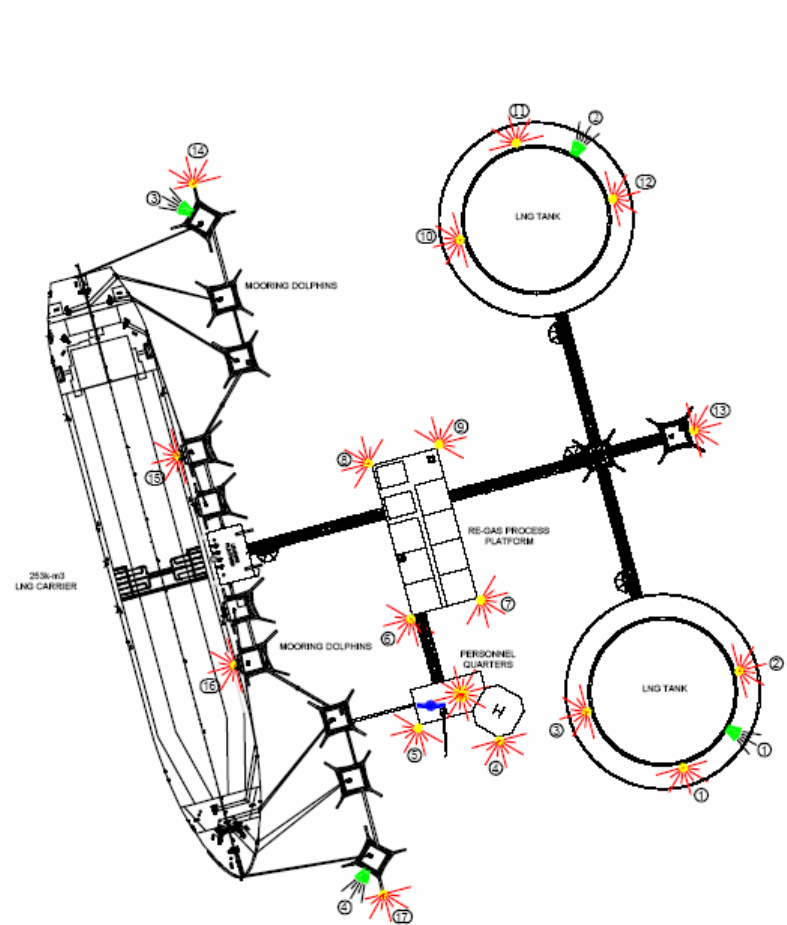
Emergency Shut Down (ESD) and Emergency Depressurization (EDP) system will be provided to protect plant personnel, plant equipment, and the environment in case of an emergency such as fire, potential dangerous process upset, or hydrocarbon leak. The ESD system will isolate the unit/system where an incident is occurring from the adjacent units/system. The EDP system will reduce the hydrocarbon inventory of the system and will decrease its pressure. Equipment and piping are divided into sections called ESD zones, considering the plot plan and the process flow.

Figure 1: Navigational Equipment at Terminal

TERMINAL OBSTRUCTION LIGHTS, ROTATING BEACON, FOGHORN & RACON LOCATIONS

FIXTURE DESCRIPTION	Y COORDINATE METRES FROM 27deg. 50min North LATITUDE	X COORDINATE METRES FROM 57° WEST LONGITUDE	LATITUDE	LONGITUDE
TERMINAL CENTER EDGE LOADING PLATFORM	495,400	3,593,556	28°-59'-30.4" N	-93°-59'-52.3" W
OBSTRUCTION LIGHT 1	NOT COMPLETED	NOT COMPLETED		
OBSTRUCTION LIGHT 2				
OBSTRUCTION LIGHT 3				
OBSTRUCTION LIGHT 4				
OBSTRUCTION LIGHT 5				
OBSTRUCTION LIGHT 6				
OBSTRUCTION LIGHT 7				
OBSTRUCTION LIGHT 8				
OBSTRUCTION LIGHT 9				
OBSTRUCTION LIGHT 10				
OBSTRUCTION LIGHT 11				
OBSTRUCTION LIGHT 12				
OBSTRUCTION LIGHT 13				
OBSTRUCTION LIGHT 14				
OBSTRUCTION LIGHT 15				
OBSTRUCTION LIGHT 16				
OBSTRUCTION LIGHT 17				
ROTATING BEACON				
RACON				
FOGHORN 1				
FOGHORN 2				
FOGHORN 3				
FOGHORN 4				

NOTE: LOCATION OF LIGHTS AND SOUND SIGNALS ARE PRELIMINARY ESTIMATES. FINAL PUBLISHED LOCATIONS WILL BE AVAILABLE AFTER INSTALLATION AND SITE SURVEY HAS BEEN MADE



LEGEND:

- ROTATING BEACON
- FOGHORN
- LIGHT
- RACON

BEACON PORT

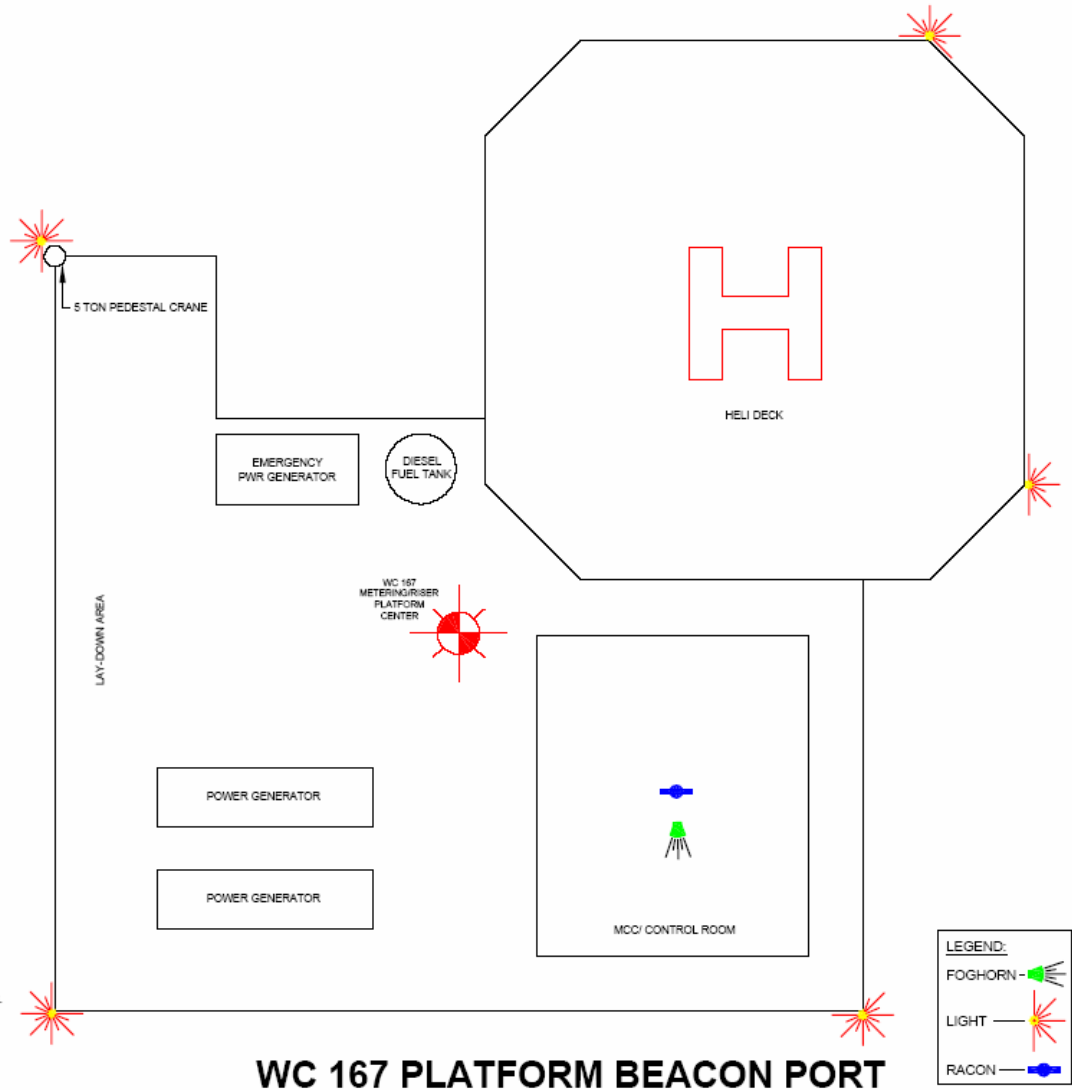
Figure 2: Navigational Equipment at Riser Platform



METERING / RISER PLATFORM OBSTRUCTION LIGHTS, FOGHORN & RACON LOCATIONS

FIXTURE DESCRIPTION	Y COORDINATE FEET FROM 28degs 40mins North LATITUDE	X COORDINATE FEET FROM 2,000,000 Ft at 91 degs 20mins West LONGITUDE	LATITUDE	LONGITUDE
WC 167 METERING/RISER PLATFORM CENTER	10,861,571.45	1,488,799.05	29°-22'-37.0"	-93°-28'-41.2"
OBSTRUCTION LIGHT 1	NOT COMPLETED	NOT COMPLETED	NOT COMPLETED	NOT COMPLETED
OBSTRUCTION LIGHT 2	NOT COMPLETED	NOT COMPLETED	NOT COMPLETED	NOT COMPLETED
OBSTRUCTION LIGHT 3	NOT COMPLETED	NOT COMPLETED	NOT COMPLETED	NOT COMPLETED
OBSTRUCTION LIGHT 4	NOT COMPLETED	NOT COMPLETED	NOT COMPLETED	NOT COMPLETED
RACON	NOT COMPLETED	NOT COMPLETED	NOT COMPLETED	NOT COMPLETED
FOG HORN 1	NOT COMPLETED	NOT COMPLETED	NOT COMPLETED	NOT COMPLETED

NOTE: LOCATION OF LIGHTS AND SOUND SIGNALS ARE PRELIMINARY ESTIMATES. FINAL PUBLISHED LOCATIONS WILL BE AVAILABLE AFTER INSTALLATION AND SITE SURVEY HAS BEEN MADE.



LEGEND:

- FOGHORN -
- LIGHT -
- RACON -

WC 167 PLATFORM BEACON PORT

The ESD System

The Emergency Shut Down system provides the operators with the capability of remotely shutting down the entire terminal. When the system is actuated, the Terminal is designed to quickly move to its fail-safe position to ensure the system is in the safely holding or shutting-down mode.

There are normally two area shutdown systems, the ESS-I and ESS-II. They can be actuated manually by the Terminal's personnel or automatically by selected input devices. Input information is analyzed as follows:

For Jetty Area Isolation (ESS-I)

If the emergency takes place at the jetty head (dock) and/or on the LNG ship, and the degree of severity does not require an overall plant shutdown, the following input devices are normally provided for jetty area isolation from plant operations:

(a) Manual input device:

ESS-I push buttons are located at the main control room, the unloading dock and on the LNG ship.

(b) Process input devices

Unloading arm angle switches and vapor arm angle switch which monitor and protect against extreme movement of the ship.

(c) Jetty Area safety input devices

- Fire detectors
- Gas detectors
- Low temperature detectors

For Overall Plant Shutdown (ESS II)

The following input devices are normally provided for the purpose of overall plant shutdown (including the dock area operation).

(a) Manual input device:

ESS-II push buttons located in the main control room and at the strategic process operating locations throughout the plant.

(b) Plant Wide safety input devices:

- Fire detectors
- Gas detectors
- Low temperature detectors

Any one of the following items: the ESS-I, unloading arm angle switches or selected safety input devices on the dock can actuate shutdown for isolation of dock/onshore operations. However, these input devices will not initiate an overall plant shutdown.

Either the ESS-II or any one of the safety input devices monitoring fire, gas or low temperature can actuate a complete plant shutdown (including the dock area). This action will automatically move the Terminal to a fail-safe operation.

To minimize false signals, which might cause unnecessary plant shutdown, the safety, input devices (both ESS-I and ESS-II) require that two or more similar devices be triggered at the same time. To provide some degree of operator control, a time delay function with an annunciator is provided for the safety input devices. Whenever two or more of the fire, gas, or low temperature detectors area actuated, they first go to alarm. This allows the operator to check the situation and make a judgment call. If the operator fails to correct the situation within a preset time limit, the ESS-I or ESS-II will proceed to shut down the Terminal.

The Terminal is provided with a computer to assist the ESS system. All the input and output circuitry to and from the computer operate in parallel to the hard wired ESS system. Therefore if the hardwired ESS system should malfunction, the computer shall act as a back-up system.

Instrument Air Failure

Instrument air for the Terminal is supplied normally by one operating and one 100% spare motor driven Instrument Air Compressor. In the event that the operating machine fails, the instrument air receiver supplies some surge capacity and the backup source of air is from the automatically started spare compressor. Therefore instrument air failure is a remote possibility. However, should it occur, the complete Terminal will move to a fail-safe position.

The control valves are designed to move to a “fail safe” position, fully opened or closed, depending on the service following a local or total instrument air failure.

Electrical Power Failure

Electrical power is provided by three 33% 6 MW Gas Turbine Generator with one 33% spare Gas Turbine Generator. An Emergency Generator is provided to enable the operators to safely secure the Terminal in the event of loss of normal power supply.

This unit is a diesel driven generator which supplies enough emergency power to provide lighting, ventilation, and power to operate the Terminal’s motor operated valves. Other critical items such as the firewater jockey pump, nitrogen superheater, air compressor and the loading arm hydraulic pumps are also provided back-up power by the emergency generator.

In the event of main generator failure, the Emergency Generator will automatically start and begin supplying power to loads connected to the “emergency bus”.

The Emergency Generator will be started and tested weekly to ensure its availability in the event of main generator outage.

An additional “emergency” back-up power source, a U.P.S. system (uninterruptible power supply), is provided for all the Terminal’s critical instrumentation including the fire and gas detection systems and computers. This system provides A.C. power, via an inverter, from battery banks and has a minimum 30-minute reserve capacity for powering the critical instrumentation and computers. While normally on standby, the batteries are maintained fully charged by an A.C. Converter.

In-Plant and Community Emergency Procedures

The plant operator shall develop both platform and externally, emergency procedures that can be implemented in the event of an incident on the platform. Coordination procedures shall be developed in conjunction with the local authorities, such as police, Navy, Coast Guard, hospitals etc.

In the handling of large, complex fires, related emergency activities shall be smoothly coordinated with the fire fighting, including:

- First aid for the injured
- Shutting down of equipment and rerouting the fuel from the fire area
- Special emergency maintenance work
- Control of utilities
- Auxiliary traffic control
- Transportation and marshaling of reserve manpower and fire-fighting equipment
- Liaison among the foregoing activities, particularly if multiple fire fronts are involved.
- Alarming/signaling systems for the ships in the vicinity.

To coordinate essential activities, an emergency plan shall be developed to have the senior supervisor in the LNG terminal set up his emergency headquarters in a platform incident command center, but safe location where telephone and other communications are readily available.

The operation supervisor shall be in charge of emergency shutdown operations. Supervision of the actual fire fighting shall be the responsibility of the LNG terminal acting fire-fighting supervisor or his alternate on duty. Other supervisors, specifically assigned, shall be in charge of transportation, reserve manpower, utilities, first aid, and other major activities. All supervisors shall report immediately to emergency stations and maintain continuous liaison by radio, intercom, and other means of communication until the emergency is over.

Training

Training of all personnel and subcontractors will be essential to maintain a safe working environment. Continuous monitoring of such programs and an active reporting system are essential to the successful operation of the facility. Regular fire and evacuation drill shall be part of the emergency procedures developed for the facility.

Security

An offshore safety zone of 500-meters radius shall be established for the offshore facility. The safety zone shall be enforced by marine vessels (tugs) as required. In addition, an automated radar marine traffic warning system shall alert central control room personnel of ships approaching the safety zone, so that appropriate measures may be taken (radio communications, vessel tracking, and response by platform tug boats).

Communications

The terminal shall be outfitted with up-to-date communication equipment capable of maintaining contact with the LNG Tankers scheduled to offload at the terminal and with the standby tugs. The terminal shall have direct communication links to a shore base by means of microwave signals and the Marsat system.

LIFESAVING EQUIPMENT**Beacon Port - Quantity and locations of lifesaving equipment:**

- **Life Boats** – Two (2) 50-man capacity on quarters platform.
- **Inflatable Life Rafts** – Two (2) 50-person capacity for Regasification platform.
- **Rescue/Safety/Pilot Boat** – One (1) at personnel platform.
- **Personal and Area Life Preservers** – One at each sleeping berth in the living quarters, 50 near each Life Boat, and additional Life Preservers at designated Operator locations.
- **Respiratory Equipment** – As required.
- **Medical Supplies** – As required.
- **Safety Shower/Eyewash Stations** – As required.

WC167 Platform - Quantity and locations of lifesaving equipment

- **Inflatable Life Rafts** – One (1) 10-person capacity.
- **Personal and Area Life Preservers** – 10 in MCC/Control Room.
- **Respiratory Equipment** – As required.
- **Medical Supplies** – As required.

- **Safety Shower/Eyewash Stations** – As required.

FIRE FIGHTING EQUIPMENT

Firewater System

The fire water system is provided with a separate, independent seawater supply. One operating and one standby jockey water pump of 240 gpm (60m³/hr) capacity at a pump head of 150 psig (10 barg) shall be used to maintain line pressure and supply a low flow for small fires.

Four (2 Electric + 2 Diesel) firewater pumps, each of 4000 gpm (1000 m³/hr) capacity at a pump head of 150 psig (10 barg), are provided. The two diesel driven pumps are on standby for loss of electric power and for when an electric driven firewater pump is out of service for maintenance.

An extensive distribution-piping network and a series of discharge devices and systems are dedicated to the firewater system. A distribution loop system equipped with isolation valves shall service each functional area of the facility.

Automatic sprinkler systems shall be located in the enclosed areas of the facility. Initial sprinkler water supply will be from potable water header with automatic switching to firewater header if potable water supply exhausted.

Water deluge systems shall be installed to protect the regasification and personnel platforms from heat radiated by fire. Separate firewater outlets shall be used to cool down structures, storage tanks and equipment against radiant heat.

Hydrants approximately 90 meters apart and firewater monitors approximate 60 meters apart shall be installed on the firewater main. Exact locations will be determined after detailed design of the facilities. Monitor spray systems shall be located near the Control Rooms and crew quarters.

Foam

Eight hours supply of High Expansion foams (1:500) for LNG spill and vapor fire shall be provided on site. Fire fighting foam is transported to the Terminal in liquid form by tank and stored at the Terminal in a 4-m³ storage tank. The annual usage of the foam normally less than 0.5 m³, and is regulated to testing and demonstration of the Terminal's fire protection systems. High Expansion Foam shall be located in all areas designed for LNG leakage recollection. The covering foam's effect is to isolate LNG from external heat to reduce its vaporization rate. The vapors that escape are warmed enough to dissipate and float. The foam shall be provided at Berth, spill areas where LNG is impounded, vaporizer area, process area, and LNG storage tank disk sumps.

The application of high expansion foam (expansion ratio 1:500) will not lead to extinguishing a LNG fire, but it will control a fire; reduction of radiation and reduce the downwind dispersion

distance of the vapor cloud. High expansion foam protection shall be provided in accordance with NFPA-11A. Foam generators shall be blower type, with hydraulic turbine-driven fans, producing a nominal 500:1 foam at an application rate of 120 m³/hour of expanded foam per m² of contained LNG spill surface area.

Dry Chemical

Dry chemical shall be used to put out LNG generated vapor fires. Urea-based potassium bicarbonate dry powder may be used to extinguish minor LNG fires. The dry chemical systems shall be provided at Berth, LNG tanks vents and the process relief flare stack area. Two dry chemical turret monitors shall be provided on the unloading platform. A mobile dry chemical unit shall protect impoundment area such as spill trenches and sumps where LNG is impounded, the vaporizer area, process area, and the LNG storage tank sumps.

Carbon Dioxide

Carbon dioxide system – to be provided in gas turbine enclosures, control rooms and other critical areas. New agents such as by DuPont may be substituted.

Fire Control Summary

The following safety features are installed for fire fighting:

- Deluge systems shall be installed on the vaporizers.
- Fixed dry chemical fire suppression systems are located on the tank roof and in process areas.
- Portable dry chemical extinguishers shall be installed on the tank roof platform.
- Fixed high expansion foam protection shall be provided. Foam generators shall be blower type, with hydraulic turbine-driven fans, producing a nominal 500:1 foam at an application rate of 120 m³/hour of expanded foam per m² of contained LNG spill surface area.
- Automatic actuation of shutdown systems by combustible Safety gas detectors and low temperature detectors installed near the entrance to the LNG spill sump, and automatic actuation of fire fighting system by means of voting UV/IR optical flame detectors.
- Hydrants and firewater monitors to be installed on the firewater main.
- Isolation valves in the fire water main
- Automatic sprinkler systems in living quarters and other designated enclosures.

WASTE TREATMENT EQUIPMENT

General Comments

LNG releases are either directed to the Terminal flare system or open containment areas on the platforms.

Handling Of Boil-off and Displaced Vapors

A Low Pressure Flare provides LNG Storage Tanks overpressure protection. If the tank pressure exceeds the maximum operating limit of 250 mbarg, a pressure control valve will automatically relieve excess vapor from the common vapor header to the flare, preventing the LNG Storage Tank overpressure relief valves from lifting.

Open Drain and Oily Water Treatment

Topside equipment that could release hydrocarbons is either located in a curbed area or on skids containing drain pans. Spills shall be redirected to safe locations onboard. The drain fluid is collected in an oily water sump and pumped to a CPI type oily water separator unit for separation. Clean water will flow overboard. Oil and hydrocarbon liquids shall be removed and stored in a waste oil holding tank for transport to an onshore reclaiming facility. Clean water from the separator will be monitored for oil content before discharge overboard.

Drainage from open areas of the GBS that are not subject to hydrocarbon spills will flow overboard.

Waste and Waste Water Treatment

A sanitary waste system consisting of a collection system and redundant, purpose designed and fabricated, packaged Sewage Treatment Unit will be provided. The sewage treatment unit prior to discharge shall treat domestic waste from the living quarters building and the various Terminal control rooms overboard. Sewage treatment shall be via chemical or biological treatment methods. Solid wastes shall be collected in containers and transported to shore for proper disposal.

Utility Water

The utility water system shall consist of two 100% electric motor driven Utility Seawater Lift Pumps. The seawater shall enter the lift pumps through coarse intake strainers. Downstream of the pumps, the seawater shall be strained with self-cleaning strainers. The seawater header pressure shall be sufficient to supply a minimum of 2 barg (30 psig) at the highest point on the facility. The pumps shall feed the hypochlorite system, the potable water system, and utility stations for wash down.

A potable water system shall consist of two 50% reverse osmosis water purifiers to produce approximately 2 m³/hr of fresh water from seawater, two 100% potable water storage tanks (API type), and a potable water pressure set. The potable water from the RO unit shall be chlorinated, collected in one of two 200-barrel (bbl) storage tanks, and distributed on demand from a potable water pressure set. The hypochlorite generator shall furnish hypochlorite on demand for treating sewage, all seawater pumps, and the firewater pumps. The potable water produced shall meet minimum World Health Organization potable water quality standards.