## CLAIMS

1. A containerised LNG liquefaction unit comprising:

a LNG liquefaction plant; and

a transportable container wherein the LNG liquefaction plant is wholly contained within the transportable container; and

one or more connectors supported on the container the one or more connectors arranged to enable separate and isolated flow of services, fluids and utilities, the one or more connectors arranged to enable a feed stream gas to flow into the container, a flow of LNG out of the container and connection of the LNG liquefaction plant to an external source of electrical power.

2. The LNG liquefaction unit according to claim 1 wherein the transportable container is hermetically sealed.

3. The LNG liquefaction unit according to claim 1 or 2 wherein the connector includes a heat transfer fluid inlet port and outlet port enabling the removal of heat energy from the container.

4. The LNG liquefaction unit according to any one of the preceding claims wherein the connector includes any one or both of: (a) a drain enabling removal of gases or liquids from the container; and, (b) one or more utility fluid port enabling supply of fluids to facilitate operation of equipment and/or instrumentation of the LNG liquefaction plan.

5. The LNG liquefaction unit according to any one of the preceding claims wherein the container is filled with any one of: (a) an inert fluid; or (b) nitrogen gas: or, (c) an inert fluid pressurised to a positive pressure relative to atmospheric pressure.

6. The LNG liquefaction unit according to any one of the preceding claims comprising a monitoring system capable of monitoring status and performance of the LNG liquefaction plant and providing remotely accessible status and performance information pertaining to the liquefaction unit.

7. The LNG liquefaction unit according to claim 6 wherein the monitoring system is further capable of monitoring environmental characteristics within the container.

8. The LNG liquefaction unit according to claim 7 wherein the environmental characteristics include one or more of: atmospheric pressure within the container; composition of the atmosphere in the container; temperature within the container; and temperature of one or more selected components of the LNG liquefaction plant.

9. The LNG liquefaction unit according to any one of the preceding claims wherein the LNG liquefaction plant comprises a main cryogenic heat exchanger (MCHE);

and a refrigerant circuit for cycling a refrigerant through the MCHE the refrigerant circuit including at least one compressor and at least one electric motor for driving the at least one compressor.

10. The LNG liquefaction unit according to claim 9 wherein the MCHE has an aspect ratio of ≥1, where the width and/or depth is greater than the height.

11. The LNG liquefaction unit according to claim 9 or 10 wherein the MCHE comprises two or more separate heat exchangers.

12. The LNG liquefaction unit according to claim 11 wherein each separate heat exchanger has an aspect ratio of ≥ 1.

13. The LNG liquefaction unit according to any one of claims 9-12 wherein the MCHE is arranged to operate with a thermal stress of up to 100°C per metre in a vertical direction.

14. The LNG liquefaction unit according to any one of claims 9-13 wherein the electric motor is arranged to rotate the at least one compressor a speed of at least 10,000 rpm or up to about 25,000RPM.

15. The LNG liquefaction unit according to any one of claims 9-14 wherein the at least one compressor comprises a low-pressure compressor and a high pressure compressor.

16. The LNG liquefaction unit according to claim 15 wherein the at least one motor comprises a single motor which drives both the low-pressure compressor and the high pressure compressor.

17. The LNG liquefaction unit according to any one of claims 9-16 wherein the refrigerant circuit includes at least one separator for separating liquid and gas phases of the refrigerant, wherein the at least one separator has an aspect ratio of greater ≥1.

18. The LNG liquefaction unit according to claim 17 comprising at least one intercooler in the refrigerant circuit between the at least one compressor and the separator.

19. The LNG liquefaction unit according to any one of claims 1-18 comprising a kill port arranged to facilitate the injection of a material capable of preventing air from accumulating in, or displacing air from, the container.

20. The LNG liquefaction unit according to any one of the preceding claims wherein the LNG liquefaction plant is configured to produce up to 0.30 MTPA of LNG.

21. The LNG liquefaction unit according claim 20 wherein the LNG liquefaction plant is configured to produce up to 0.10 MTPA of LNG.

22. An LNG production plant comprising: a plurality of containerised LNG liquefaction units according to any one of claims 1-21, each containerised LNG liquefaction unit arranged to produce a predetermined quantity of LNG; and a manifold system connectable to the one or more connectors and enabling connection between the plurality of containerised LNG liquefaction units; and, at least: a feed stream of natural gas, a source of electrical power, and an LNG storage facility.

23. The LNG production plant according to claim 22 wherein some of the plurality of LNG liquefaction units are stacked on top of each other.

24. The LNG production plant according to claim 22 or 23 comprising at least one bank of stacked LNG liquefaction units and wherein the manifold system runs adjacent to the at least one bank of the LNG liquefaction units.

25. The LNG production plant according to claim 24 wherein the at least one bank comprises at least two banks of the stacked LNG liquefaction units wherein the manifold system runs between mutually adjacent banks or about an outside of the banks.

26. The LNG production plant according to any one of claims 22-25 wherein the LNG liquefaction units and the manifold system are arranged to enable one face of every LNG liquefaction unit to be directly accessible to the manifold system.

27. The LNG production plant according to any one of claims 23-26 wherein each LNG liquefaction unit has a length Xm, a height Ym, and a width Zm wherein X>Y, and each bank has a length Lm, a height Hm, and a width Wm, where Lm > Wm and wherein in each bank, a length direction of each liquefaction unit is perpendicular to a length direction of the bank.

28. The LNG production plant according to any one of claims 24-27 comprising one or more cranes configured to construct and de-construct each bank of LNG liquefaction units.

29. The LNG production plant according to claim 28 wherein the crane comprises a gantry crane which spans a width of the LNG production plant and is capable of placing an LNG liquefaction unit in a bank or remove an LNG liquefaction unit from a bank.

30. The LNG production plant according to any one of claims 22-29 wherein each containerised LNG liquefaction unit comprises a closed loop refrigerant circuit.

31. The LNG production plant according to any one of claims 22-30 wherein each containerised LNG liquefaction unit comprises an open loop heat transfer fluid circuit arranged to connect to the manifold system enabling heat transfer fluid to flow into and out of each containerised LNG liquefaction unit.

32. The LNG production plant according to claim 31 comprising a cooling facility in fluid communication with the manifold system and arranged to facilitate cooling of the heat transfer fluid.

33. The LNG production plant according to claim 32 wherein the cooling facility comprises an air and/or water cooling facility.

34. The LNG liquefaction unit according to any one of claims 1-13 wherein the liquefaction plant comprises a pre-treatment facility arranged to remove one or more of: water, sour gases, mercury and carbon dioxide from the feed stream gas prior to liquefaction.

35. The LNG production plant according to any one of claims 22 to 34 comprising a pre-treatment facility arranged to remove one or a combination of any two or more of more of: water, sour gases, mercury and carbon dioxide from the feed stream gas prior to liquefaction.

36. A method of constructing an LNG production plant at a production site comprising: using a manifold to connect or disconnect a plurality of containerised LNG liquefaction units according to any one of claims 1-21 together to enable discrete incremental change in LNG liquefaction capacity as required to match a mass flow rate of natural gas in a natural gas feed stream; and

conducting through the manifold: a flow of natural gas from the natural gas feed stream and electrical power to connected ones of the containerised LNG liquefaction units; and, LNG liquefied by the connected ones of the containerised LNG liquefaction units to a LNG storage facility.

37. The method according to claim 36 comprising stacking the one or more containerised LNG liquefaction units to form one or more banks of stacked containerised LNG liquefaction units.

38. The method according to claim 37 wherein stacking the one or more containerised LNG liquefaction units comprising autonomously stacking the one or more containerised LNG liquefaction units to form the one or more banks.

39. The method according to any one of claims 36-38 comprising using the manifold to connect the containerised LNG liquefaction units to a heat transfer fluid circuit arranged to enable a flow of a heat transfer fluid through each of the connected containerised LNG liquefaction units and an external heat exchanger.

40. The method according to any one of claims 36-39 comprising using the manifold to connect the one or more containerised LNG liquefaction units to a supply of an inert gas.

41. A method of producing LNG comprising: selectively connecting or disconnecting a manifold to one or more containerised LNG liquefaction units according to any one of claims 1-21, each unit being operable to produce a discrete volume of LNG from the natural gas, wherein the connection or disconnection is performed to match mass flow rate of the natural gas from a natural gas feed stream; conducting through the manifold to connected ones of the containerised LNG liquefaction units the natural gas and electrical power;
operating the connected containerised LNG liquefaction units to liquefy the natural gas to produce LNG from the natural gas; and conducting the LNG through the manifold to a LNG storage facility.

42. The method according to claim 41 wherein the discrete volume of LNG liquefaction is between 0.01 MTPA and 0.30 MTPA.

43. The method according to claim 41 or 42 comprising monitoring operational status of each of the containerised LNG liquefaction units to detect a failure of or fault in the units, and upon detection of a failure or fault in a unit, disconnecting or otherwise isolating the unit from the natural gas feed stream.

44. The method according to claim 43 comprising for each containerised LNG liquefaction unit detected as failed or having a fault, connecting the manifold to a fresh containerised LNG liquefaction unit whereby natural gas is conducted to the fresh containerised LNG liquefaction unit.

45. The method according to any one of claims 41-44 comprising circulating a heat transfer fluid through the connected containerised LNG liquefaction units and an external heat transfer fluid heat exchanger via the manifold.