

Claims

1. A floating vessel equipped with a power plant and comprising a hull and a process deck arranged on a portion of the hull above one or more compartments
5 within the hull,
the power plant comprising a fuel source, and at least one electrical power generator driven by a gas turbine; the fuel source arranged for providing fuel to the gas turbine of the at least one power generator, wherein
the fuel source is a fuel gas source comprising at least one LNG storage tank for
10 storing LNG and a regasification unit coupled to the at least one LNG storage tank for producing a stream of regasified natural gas from stored LNG,
and
per one or more gas turbine, the floating vessel is equipped with a steam
production unit coupled to an exhaust of the gas turbine for receiving heat to
15 produce pressurized steam;
per each steam production unit, the floating vessel is equipped with at least one secondary power generator driven by a steam turbine, which is coupled to the steam production unit for receiving produced steam;
each gas turbine and steam production unit are positioned on or above the
20 process deck, and
each secondary power generator and steam turbine are positioned under the process deck in the one or more compartments, and
wherein the floating vessel is a converted LNG carrier having a number of LNG storage tanks originally installed for storage of the fuel gas, in which a portion
25 of the number of originally installed LNG storage tanks is removed at positions within the location of the process deck.
2. The floating vessel according to claim 1, wherein a conduit for transporting steam is provided between each steam production unit on/above the process
30 deck and the steam turbine associated with the steam production unit that is positioned under the process deck in the one or more compartments.

3. The floating vessel according to claim 1, wherein the at least one LNG storage tank is a Moss-type LNG tank or a membrane LNG tank or a type-C LNG tank.
4. The floating vessel according to any one of claims 1 – 3, wherein the steam
5 production unit is stacked above the gas turbine.
5. The floating vessel according to any one of claims 1 – 4, wherein the floating vessel on the process deck further comprises a power transformer unit for transforming an input voltage to an output voltage, provided with a power input
10 coupled to one or more of at least one power generator and at least one secondary power generator for receiving the input voltage and provided with a power output for outputting the output voltage.
6. The floating vessel according to claim 1, wherein the one or more
15 compartments within the hull are arranged at the location of removed LNG storage tanks.
7. The floating vessel according to any one of the preceding claims, wherein the vessel comprises a turret mooring system.
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8. The floating vessel according to any one of the preceding claims 1 – 7, wherein each power transformer unit is coupled to a pair of power generators or a pair of secondary power generators or a pair of a power generator and a secondary power generator, with each power generator coupled to a gas turbine and each
25 secondary power generator coupled to a steam turbine.
9. The floating vessel according to any one of the preceding claims, comprising a water supply unit within the compartment in the hull,
the water supply unit comprising a seawater lift pump, filter and purification
30 unit(s), in which the seawater lift pump is arranged at a bottom location of the compartment for in-take of water.

10. The floating vessel according to claim 1, wherein the fuel source comprises an additional LNG storage vessel provided with LNG storage tanks for storing LNG.
- 5 11. Method for manufacturing a floating vessel equipped with an electric power plant, comprising:
providing a LNG carrier vessel as the floating vessel, the LNG carrier vessel having a number of LNG storage tanks mounted in the hull;
removing a portion of the number of LNG storage tanks;
10 arranging a process deck or reinforcing an existing process deck on the hull at the location of the removed LNG storage tanks, and creating one or more compartments within the hull under the process deck;
arranging on the vessel at least one electrical power generator driven by a gas turbine, with the remaining LNG storage tanks coupled through a LNG
15 regasification system to the gas turbine of the at least one power generator for delivery of fuel gas to the gas turbine;
per each gas turbine, providing a steam production unit that is coupled to an exhaust of the gas turbine for receiving heat to produce steam,
per each steam production unit, providing an secondary power generator driven
20 by a steam turbine, which steam turbine is coupled to the steam production unit for receiving steam;
wherein the method further comprises:
positioning the gas turbine and steam production unit on or above the process deck, and
25 positioning the secondary power generator and steam turbine under the process deck in the one or more compartments, stacked below the gas turbine and steam production unit.
- 30 12. Method according to claim 11, further comprising:
providing a power transformer unit on the process deck for coupling to one or more of the at least one power generator and the at least one secondary power generator,
providing electric terminals for connecting a power output of the power

transformer unit to an external power grid.