Claims

1. A method for operating a liquefied gas storage tank (1) having a tank volume (2) for receiving LNG (10) and boil-off gas (BOG) (12), wherein a gaseous BOG stream and a liquid LNG stream are supplied to the tank volume,
wherein
- the BOG stream is introduced into the LNG stream, and
- subsequently, the resulting BOG-LNG mixture is introduced into the tankvolume,
characterized in that

the LNG stream and the BOG stream are supplied without cooling to a joining point (22, 222) where the BOG stream is introduced into the LNG stream, and that

the BOG stream is introduced into the LNG stream
either a) by avoiding the use of any pump and mixer at the joining point (22, 222) in order to dissolve the BOG in the LNG instead of generating and maintaining bubbles or b) by using a pump (48) or mixer at the joining point (22, 222) and introducing, in particular spraying, the resulting BOG-LNG mixture into gaseous BOG (12) above an LNG filling level (8) of the tank volume.

2. The method according to claim 1, wherein at least a part of the BOG for the BOG stream and/or at least a part of the LNG for the LNG stream is supplied to the liquefied gas storage tank proceeding from outside the tank volume, in particular from at least one connected reservoir (50) of a Floating Storage Unit (FSU) or an LNG carrier or a regas barge.

3. The method according to claim 1 or 2, wherein at least a part of the BOG for the BOG stream and/or at least a part of the LNG for the LNG stream is withdrawn from the tank volume.

4. The method according to claim 1 and 2, wherein BOG from the tank volume and from at least one connected reservoir (50) is supplied to the BOG stream, and/or wherein LNG from the tank volume and from at least one connected reservoir (50) is supplied to the LNG stream.

5. The method according to any of claims 1 to 4, wherein in case a) the BOG-LNG mixture is introduced into liquid LNG (10) below an LNG filling level of the tank volume.

6. A liquefied gas storage tank (1) with a tank volume (2) for receiving LNG (10) and boil-off gas (BOG) (10), including
- a BOG conduit (14, 114, 214) for conducting gaseous BOG,
- an LNG conduit (16, 116, 216) for conducting liquid LNG,

wherein the BOG conduit and the LNG conduit open into a common BOG-LNG conduit (24, 224, 324) that is formed to conduct a BOG-LNG mixture and that opens into the tank volume,

characterized in that

the BOG conduit (14, 114, 214) and the LNG conduit (16, 116, 216), which open into the common BOG-LNG conduit (24, 224, 324), are free of any cooling device, and that the BOG conduit (14, 114, 214) and the LNG conduit (16, 116, 216) open into the common BOG-LNG conduit (24, 224, 324) at a joining point (22, 222), which either a) is free of any pump and mixer, in order to be adapted to dissolve the BOG in the LNG instead of generating and maintaining bubbles,
or b) includes a pump (48) or mixer, and the orifice (26, 326) of the common BOG-LNG conduit into the tank volume is arranged above an, in particular predetermined, LNG filling level of the tank volume.

7. The liquefied gas storage tank according to claim 6, wherein the BOG conduit and/or the LNG conduit, in particular at their end away from the tank volume, includes a fluid interface (15; 17) to at least one connectable reservoir (50), in particular to a Floating Storage Unit (FSU) or an LNG carrier or a regas barge, and is equipped to supply BOG or LNG from a connected reservoir to the tank volume.

8. The liquefied gas storage tank according to claim 6 or 7, wherein the BOG conduit is equipped to withdraw gaseous BOG from the tank volume above an LNG filling level (8) and/or wherein the LNG conduit is equipped to withdraw liquid LNG from the tank volume below an LNG filling level.

9. The liquefied gas storage tank according to any of claims 6 to 8, wherein in case b) the orifice includes a spray nozzle (30) for spraying the BOG-LNG mixture.

10. The liquefied gas storage tank according to any of claims 6 to 8, wherein in case a) the orifice of the common BOG-LNG conduit into the tank volume is arranged below an, in particular predetermined, LNG filling level of the tank volume.

11. The liquefied gas storage tank according to any of claims 6 to 10, wherein the LNG conduit includes an interface to a consumer network (36) that is equipped to feed LNG from the tank volume into the consumer network.

12. The liquefied gas storage tank according to any of claims 6 to 11, wherein the BOG conduit includes an interface to a consumer network (52) that is equipped to feed BOG from the tank volume into the consumer network.

13. A Floating Storage Unit (FSU) or LNG carrier or regas barge or LNG-operated vehicle or LNG-operated power plant with at least one liquefied gas storage tank (1) according to any of claims 6 to 12.