CLAIMS

1. A system (18) for loading and/or unloading fluid from a transport structure (14) floating in a body of water (12) to a fluid receiving structure (16) comprising at least one fluid tank (32), the loading and/or unloading system (18) comprising:

- a reference structure (42), anchored to the bottom of the body of water (12), the reference structure (42) being distinct from the floating transport structure (14);
- a fluid transfer pipe (44) for extending from the fluid receiving structure (16) towards the reference structure (42);

an intermediate floating unit (46) comprising a pontoon (80), a flexible pipe (82) for connecting to a loading and/or unloading port on the floating transport structure (14), and a transfer connector (84) between the flexible connection pipe (82) and the fluid transfer pipe (44) characterized in that the loading and/or unloading system (18) comprises at least one rigid link (48) for mounting the intermediate floating unit (46) to the reference structure (42) allowing at least one degree of freedom between the intermediate floating unit (46) and the reference structure (42), the intermediate floating unit (46) being designed to be permanently uncoupled from the floating transport structure (14),

wherein the intermediate floating unit (46) is movable between a loading and/or unloading operational position, wherein the or each rigid link (48) connects the intermediate floating unit (46) to the reference structure (42) and an inactive securing position, in which the intermediate floating unit (46) is away from the reference structure (42), the or each rigid link being disconnected from the side of the intermediate floating unit (46) and/or the side of the reference structure (42).

2. The system (18) according to claim 1, comprising a mooring structure (40) of the floating transport structure (14), the reference structure (42) being separate from the mooring structure (40) or being formed by part of the mooring structure (40).

3. The system (18) according to any one of the preceding claims, wherein the rigid link (48) comprises a bar (102) hinged at a first end (104) on the reference structure (42) and at a second end (106) on the intermediate floating unit (46).

4. The system (18) according to any one of claims 1 to 3, wherein the reference structure (42) comprises at least one bollard (60) or pillar (162), the or each rigid link (48) comprising a member engaged around the bollard (60) or pillar (162), movable along the bollard (60) or pillar (162), the member engaged around the bollard (60) or pillar (162) advantageously being a cuff (132).

5. The system (18) according to any one of the preceding claims, comprising at least two rigid links (48) each independently connecting the reference structure (42) to the intermediate floating unit (46).

6. The system (18) according to any one of the preceding claims, characterized in that the reference structure (42) comprises at least one reference bollard (60) anchored at the bottom of the body of water (12), the rigid link (48) connecting the reference bollard (60) to the intermediate floating unit (46) with at least one degree of freedom between the reference bollard (60) and the intermediate floating unit (46).

7. The system (18) according to any one of claims 1 to 5, wherein the reference structure (42) comprises an open-worked mesh (152) partially submerged in the body of water (12), the open-worked mesh (152) being anchored to the bottom of the body of water (12).

8. The system (18) according to claim 7, wherein the open-worked mesh (152) defines at least one housing (160) for receiving the intermediate floating unit (46), the intermediate floating unit (46) being able to be inserted into the housing (160) in a loading and/or unloading operational position.

9. The system (18) according to any one of the preceding claims, wherein the connector (84) of the intermediate floating unit (46) comprises a quick disconnect and isolation device (98).

10. The system (18) according to any one of the preceding claims, wherein the intermediate floating unit (46) comprises a storage assembly (86) of the flexible connecting hose (82) suitable for allowing deployment of the flexible connecting hose (82) from a storage configuration, received or coiled within the storage assembly (86), to a connection configuration, connected to the unloading port (26) on the floating transport structure (14).

11. An installation (10; 120; 130; 140; 150) for transferring fluid comprising:

- a fluid transport structure (14) floating in the body of water (12);
- a fluid receiving structure (16), comprising at least one fluid tank (32); and
- a loading and/or unloading system (18) according to any of the preceding claims, the fluid transfer pipe (44) connecting the fluid tank (32) to the connector of the intermediate floating unit (46), the flexible connection pipe (82) connecting an unloading port (26) on the floating transport structure (18) to the intermediate connector (84).

12. The installation (10; 120; 130; 140; 150) according to claim 11, wherein the intermediate floating unit (46) is movable between a loading and/or unloading operational position with the or each rigid link (48) connecting the reference structure (42) to the intermediate floating unit (46) and a securing inactive position, in which the intermediate

floating unit (46) is away from the reference structure (42), the or each rigid link being disconnected on the side of the intermediate floating unit (46) and/or on the side of the reference structure (42), the fluid transfer pipe (44) being a flexible pipe, the receiving structure (16) comprising at least one assembly (34) for repatriation of the fluid transfer pipe (44), to jointly return the fluid transfer pipe (44) and the intermediate floating unit (46) to the vicinity of the receiving structure (16).

13. The installation (10; 120; 130; 140; 150) according to claim 11 or 12, wherein the receiving structure (16) is a floating unit or is on land.

14. A method for loading or/and unloading fluid comprising the following steps:

- providing a loading or/and unloading system (18) according to any of claims 1 to 10 in a body of water (12);
- bringing a floating transport structure (14) into the vicinity of the reference structure (42);
- connecting the flexible connection pipe (82) to a unloading port (26) on the floating transport structure (14);
- loading or unloading fluid through the flexible pipe (82), the transfer connector (84) and the fluid transfer pipe (44) from the floating transport structure (14) to the fluid tank (32);
- upon loading or unloading, relative movement of the intermediate floating unit (46) in relation to the reference structure (42) and in relation to the floating transport structure (14).

15. The method according to claim 14 comprising:

- unmounting the or each rigid link (48) mounting the intermediate floating unit (46) on the reference structure (42); and
- moving the intermediate floating unit (46) to an inactive position away from the reference structure (42).

16. The method according to claim 14 or 15 comprising the step of mooring the floating transport structure (14) after the step of bringing a floating transport structure (14) into the vicinity of the reference structure (42) and before the step of connecting the flexible connection pipe (82) to a unloading port (26) on the floating transport structure (14).