CLAIMS

1. An assembly for transferring fluids between a vessel and a turret structure mounted in said vessel for a rotation around a substantially vertical turret axis, wherein said turret structure comprises a swivel having at least one fluid path and wherein the fluid path is connected with one end of a fluid piping of which the second end is connected to the vessel, **wherein** the assembly further comprises a swivel tower mounted around the swivel and engaging the remainder of the turret structure by a swivel tower bearing for a relative rotation with respect to said remainder of the turret structure around the turret axis, wherein a torsion lock mechanism substantially locks the swivel tower to the vessel for a rotation therewith, and wherein the fluid piping comprises a first fluid piping segment extending freely between the vessel and the swivel tower and a second fluid piping segment extending between the swivel tower and the fluid path of the swivel and wherein said first and second fluid piping segments are joined at an interconnection where the fluid piping is substantially fixed to the swivel tower by fixing device.

2. The assembly according to claim 1, wherein the vessel comprises a turret access structure positioned adjacent the turret structure and comprising a deck member which extends substantially across the turret structure and which is provided with an opening for the free passage of the swivel with surrounding swivel tower, wherein the first fluid piping segment extends between the swivel tower and said deck member.

3. The assembly according to claim 2, wherein the turret access structure is provided with at least one piping guide for guiding the fluid piping.

4. The assembly according to claim 3, wherein the fluid piping at the piping guide extends loop-shaped.

5. The assembly according to claim 3, wherein the piping guide allows a relative displacement of the fluid piping.

6. The assembly according to claim 3, wherein the at least one piping guide is provided on the deck member.

7. The assembly according to claim 2, wherein the torsion lock mechanism is supported by the turret access structure.

8. The assembly according to claim 1, wherein the swivel tower is provided with an extension extending in a direction away from the turret axis, wherein part of the first fluid piping segment is supported by said extension and wherein another part of said first fluid piping segment extends freely between said extension and the vessel.

9. The assembly according to claim 8, wherein the extension of the swivel tower is provided with at least one piping guide for guiding the fluid piping.

10. The assembly according to claim 9, wherein the piping guide allows a relative displacement of the fluid piping.

11. The assembly according to claim 1, wherein the swivel tower, at a level above the swivel tower bearing, is provided with at least one auxiliary bearing engaging the swivel.

12. The assembly according to claim 1, wherein the swivel tower bearing connects the swivel tower to the swivel in such a manner that the swivel tower and swivel define a unitary member which can be lifted by lifting the swivel tower.

13. The assembly according to claim 1, wherein the swivel tower bearing is located above or below the level of a fluid inlet of the swivel.

14. The assembly according to claim 1, wherein the swivel tower bearing is located substantially at the level of a fluid inlet of the swivel.

15. The assembly according to claim 1, wherein the swivel tower bearing is positioned on a swivel base part.