

ALLEGATO 4
PROCEDURA TIPICA DI MANUTENZIONE DI UNA POMPA PRIMARIA GNL



Tiziana Pezzo

MAINTENANCE PROCEDURE FOR LNG STORAGE TANK PUMPS (PRIMARY LNG PUMPS)

The Primary LNG Pumps are “In-tank” submersible pumps with motor and impeller fitted on the same shaft and located within a well inside the LNG storage tank. The pump sits on a pump actuated, spring loaded suction valve. The maintenance of the pump requires complete removal from the LNG storage tank by the following procedure:

1. Isolate the pump from the process and electrical systems.
2. Close pump suction valve by raising the lifting rod.
3. Pressurise the well with nitrogen and displace LNG from the well in to the tank.
4. Depressure the well to the flare, disconnect the head plate and withdraw the pump from the well.
5. Replace head plate and reseal the well.
6. Disconnect power cable from pump prior to removal for maintenance in the workshop.

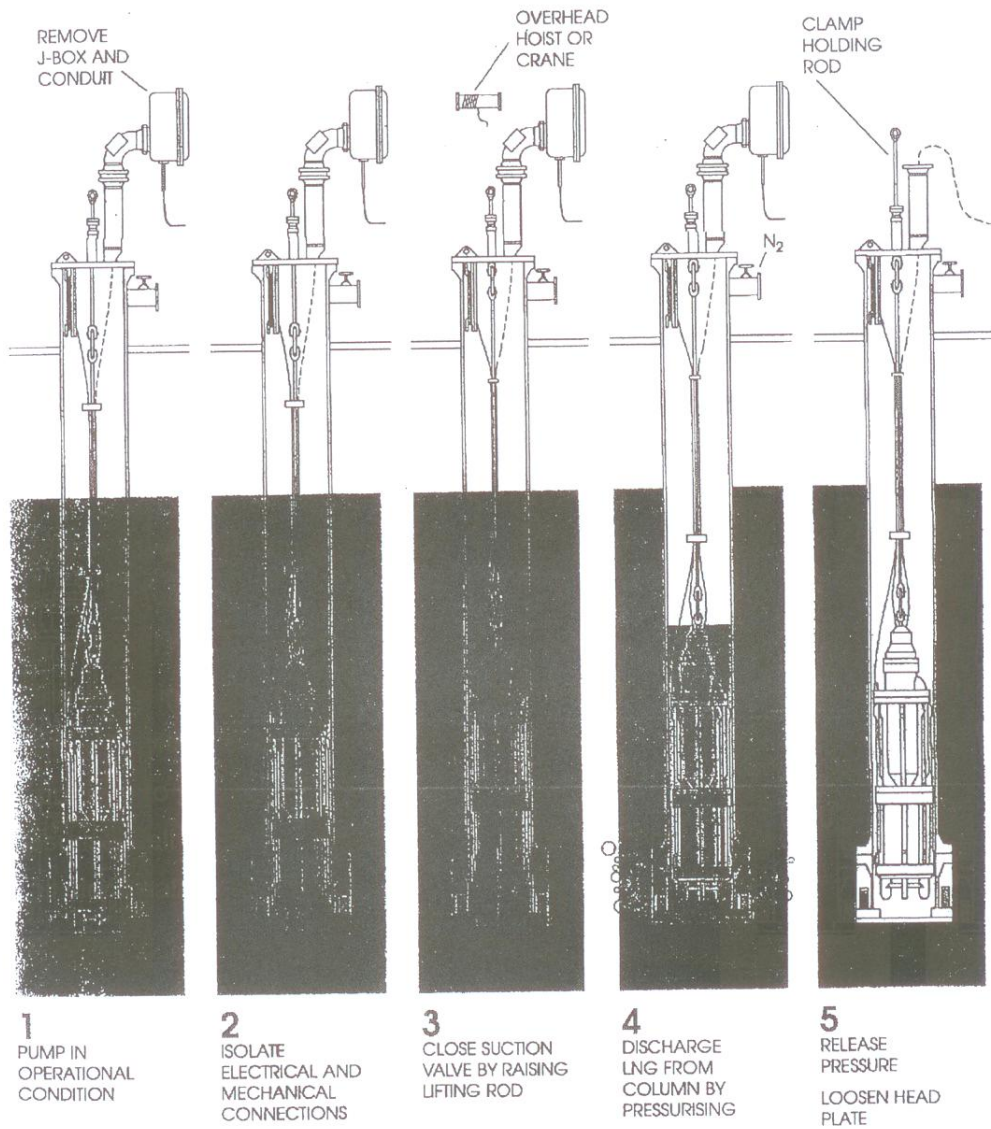
The reinstallation of the pump is a reverse of the removal procedure:

1. Pressurise the well with nitrogen gas.
2. Depressure the well to the flare.
3. Remove the well head plate.
4. Install the pump in the well and leave overnight suspended above the suction valve.
5. Purge the well with nitrogen to tank pressure.
6. Lower pump in to position until suction valve is open 10 – 20 mm.
7. Depressurise well and lower pump fully on to suction valve.
8. Make all electrical connections.

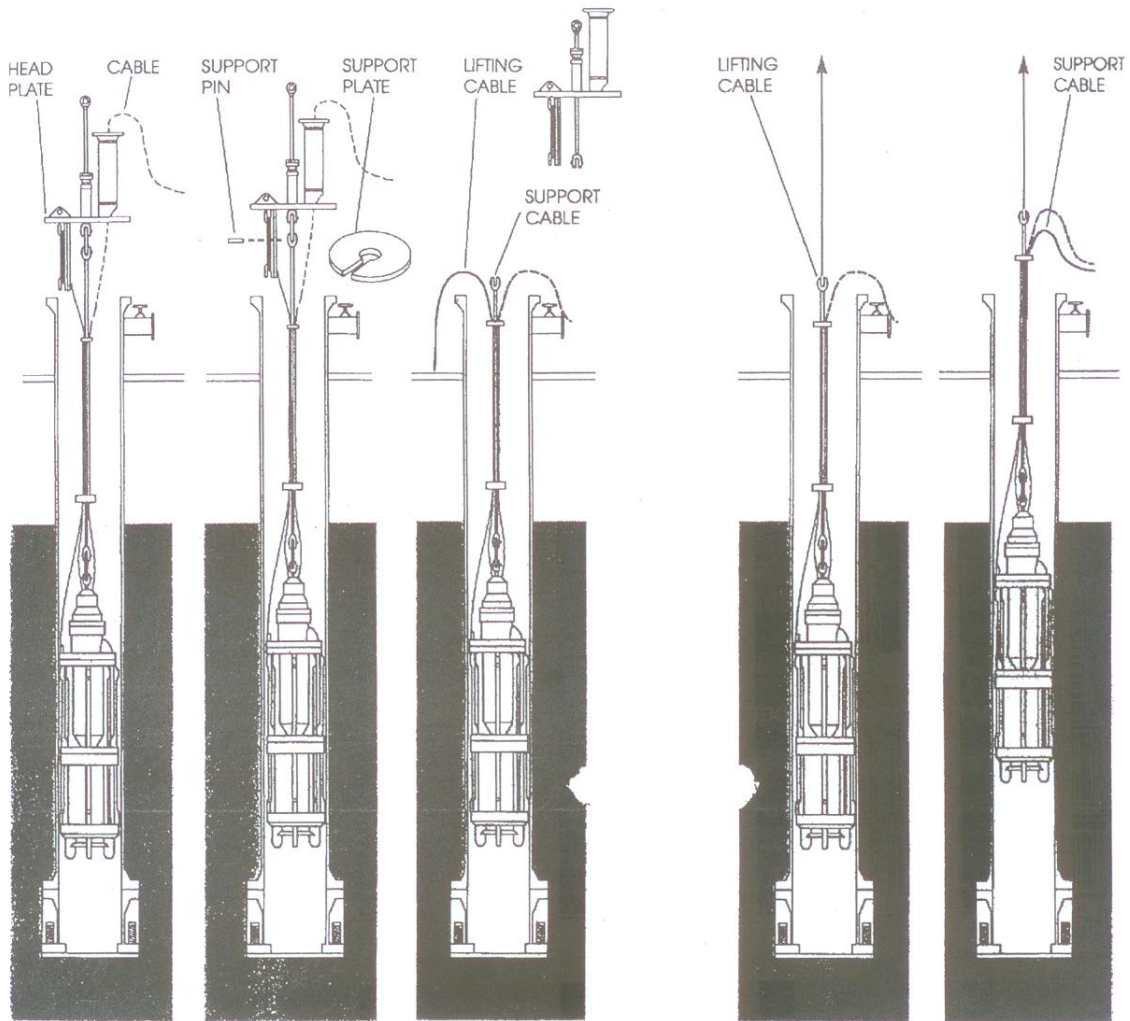


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TYPICAL PROCEDURE FOR PUMP RETRACTION



LNG Receiving Terminal and Regasification Plant
Brindisi, Italy



6
HOIST PUMP

7
SET SUPPORT PLATE
AND INSERT
SUPPORT PIN

LOOSEN
LIFTING CABLE

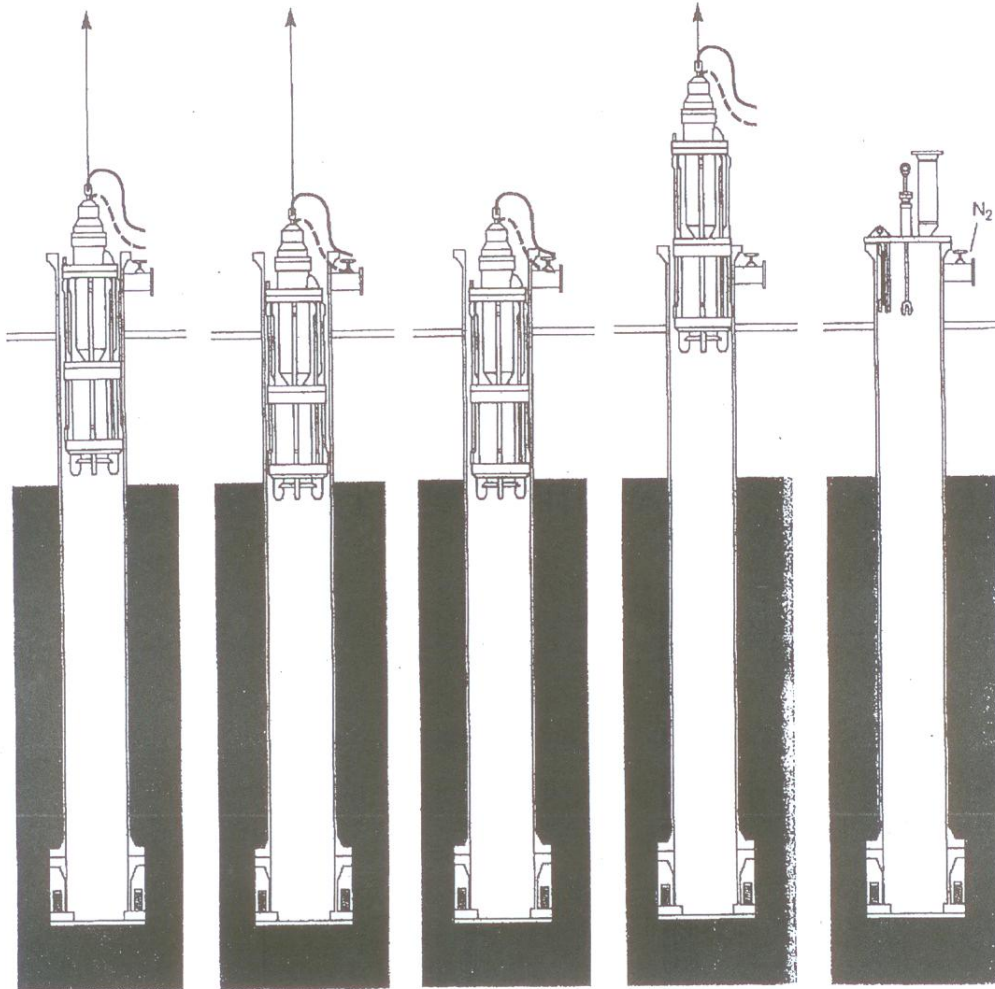
8
DISCONNECT
HEAD PLATE
FROM SUPPORT
CABLE

9
SECURE
LIFTING CABLE
TO HOIST

10
HOIST PUMP BY
LIFTING CABLE
THEN REMOVE
SUPPORT PLATE



LNG Receiving Terminal and Regasification Plant
Brindisi, Italy



11
HOIST PUMP TO
COLUMN TOP

12
SET SUPPORT PLATE
AND INSERT
SUPPORT PIN

13
DISCONNECT
LIFTING CABLE
FROM PUMP

14
HOIST PUMP
REMOVE
SUPPORT PLATE

15
PLACE PUMP ON DECK
DISCONNECT POWER CABLE
FROM PUMP

INSTALL HEAD PLATE AND FIT
ON COLUMN FOR SEALING

