6. CONSTRUCTION SPECIFICATION

6.1 Field Instrumentation

6.1.1 Instrument Mounting and Hook-Ups

The installations shall be designed in such a way that all instruments, their measuring point and their process connections are safely and permanently accessible.

All instruments shall be installed, unless otherwise stated, so that they:

a) are not subject to excessive vibration or to mechanical stress and not exposed to extreme high temperatures and direct sun radiation.

b) can be easily read.

c) can be easily mounted and removed.

d) provide a accurate representative measurement of the process condition (IP rating).

e) are sufficient weatherproofed (IP rating).

For pipelines the branch nipple and isolating valve shall form part of the process piping and shall comply fully with the relevant piping specifications.

Instrument piping starts at the first detachable connection (screw thread or flange) downstream of the 1st isolation valve, except for connections installed in control valves and displacement chambers for level instruments, if applicable.

All instrument process connections for instrumentation shall be provided with valves with straight through trim to allow rodding out of plugged connections. Type and material of instrument valves shall be ball or gate valve and AISI 316 respectively.

Process connections on the surge vessel shall be made by means of 1" flanged branches with minimum ratings ASA 300 lbs, depending on the standards which are applied; stiffened when necessary for strength, branches shall be fitted with isolating valves for the connection of instrument piping. Different connections may be allowed to suit level instruments provided, but require specified ADWEA/ENGINEER's approval.

Welding is not allowed on instrument piping and connections.

The process connection shall normally terminate in a DN 15 lapped joint flange unless other sizes are dictated by the size of connections on the connections on the instrument.

Size and material of instrument piping shall be ½" and stainless steel AISI 316L/Ti.

All pressure instruments shall be installed at the pressure source with a block valve and a vent to facilitate zero checking and to enable the system to be depressurised prior to removal of the instrument. When the pressure instrument is located at a distance from the process