

- d) Special precautions shall be taken in the selection of materials and the design of enclosures to prevent failure and deterioration of mechanical and electrical components due to the prevailing humidity, high temperature and very corrosive atmosphere. As a minimum, all equipment mounted in control rooms shall be suitable for operation at 45°C. Field mounted equipment shall be suitable for operation upto 52°C and shall be provided with sun shields.
- e) The CONTRACTOR shall furnish, design and install all equipment in accordance with the requirements of the National Electrical Code. Special care shall be taken in areas classified as hazardous, such as areas near the flammables.

4. DRAWINGS & DOCUMENTS

The CONTRACTOR shall prepare and submit all the required drawings and documents for the instruments and control systems in hard copies and in soft copies (if required by ADWEA/ENGINEER).

All drawings and documents shall be subject to approval of the ADWEA/ENGINEER, and shall be appropriately detailed and properly described in the English language.

The set of instrumentation drawings and documents as well as instrumentation of package units shall include, but not be limited to the following:

4.1 Piping and Instrument Diagram

All instrumentation systems for measurement and control required for the project shall be shown on the Piping and Instrument Diagram (P&ID). All the basic functions of the instrumentation and control systems shall be shown.


The symbols and identification numbers to be used for the graphical representation and identification of instruments shall be in accordance with ISA S5.1, or the latest standard.

4.2 Instrument Index List

This list shall show all instrument tag numbers, description, location, service and remarks.

4.3 Instrument Schedule

This list shall show all instrument tag numbers, drawing number on which the instrument is shown, location, description of the instrument, manufacturer name, model type, power supply type, adjusted range, set point operate range, material wetted parts. Process connection, field hook-up drawing and references of specification of instrument.

	Client	ADWEA				
	Project:	STANDARD SPECIFICATIONS FOR WATER WORKS				
	Title:	SPECIFICATION FOR INSTRUMENTATION & CONTROL SYSTEMS INSTALLATIONS				
tender:	project:	document: W-I-SS-008	rev: 0	sheet: 5	of: 32	