6.32 Pumping Stations

6.32.1 Design of Pump Stations

The required pressure in AADC existing and proposed networks usually provided or requested at the interface points with Transco. Accordingly small portion of the distributed water in Al Ain region is supplied through few pump station belong to AADC. These arrangements reduce considerably the need for new pump station in AADC system, but not eliminate the need for pump stations.

The pump stations are not covered in details in this design guideline because new pump stations may be rarely required in AADC system.

Generally the design works at AADC pump station may be limited to rehabilitation works, upgrading/ improving the capacity and chlorination systems, etc.

The design of pumping system shall be according to ADWEA standard specifications.

6.32.2 Water Pumps Configuration

The Configuration of Water Pumps shall be as recommended by the RSB in the WSC as follows :

a. A pump-group(s) in a pumping station shall have a combination of duty and standby pumps.

b. Where more than one pump-group is installed in a pumping station, each pump-group shall have its own standby pump.

c. The level of security shall be between 30% to 40% standby capacity provided at the pumping station. This is to maintain security of water supply in case duty pump(s) failure (depending on the frequency of the failure) or in planned maintenance situations.

d. The number of standby pumps required to be provided shall be in accordance with Table 1 shown below. However increased number of standby pumps must be justified by undertaken risk analysis to individual parts of the system to ascertain the optimum number of standby pumps. Increased numbers are also needed to be considered in the case where no alternative supplies is available in the event of frequent failures or to areas classified as critical