CHAPTER – VIII

BUILDING DESIGN AND CONSTRUCTION REQUIREMENTS

80. **Loads and Design.** Structure analysis, design, detailing and loading shall be in accordance with the requirements of current Uniform Building Code hereinafter referred to as UBC and American Code or British relevant Code or any other Code. Structure shall however be designed by only one approved Code.

81. **Seismic Design.** Seismic Risk Zone for Karachi will be zone-2B (with reference to UBC-97) which is equivalent to Peak Ground Acceleration (PGA) of 16% g to 24% g.

82. **Sub Soil Investigation.** In view of the structural design in seismic hazard zone, type of sub-soil for foundation should be thoroughly ascertained by geo-technical investigation under the direct supervision of qualified and experienced geo-technical engineers duly registered in PDOHA. The soil report should correlate sub-soil type with UBC-97, or current sub-soil list.

83. **Wind Load.** Wind load should be based on the velocity and gust factors data from local Meteorological Department.

84. **Erection on Reclaimed Site**

a. No building foundation shall be erected upon a site reclaimed by town sweepings or other refuse, except on recommendation of duly registered geo-technical and structural engineer.

b. No building plans shall be approved on open nallahs, public sewers and the like.

85. **Protection of Existing Services.** During the making of an excavation in connection with building works or services, adequate precautions shall be taken to secure the existing services.

86. **Foundation Near Drains.** Where a building is to be erected adjacent to existing buildings, near a drain, nallah, an excavation at a distance less than depth of the said drain, nallah, excavation, or such as to affect the stability of drains or nallahs, the owner through a structural engineer shall satisfy the PDOHA that the foundations of the building have been carried down to a level safe guarding its stability.

87. **Specifications.** Specifications of material quality control and workmanship will be of high quality and in accordance with the requirements of ACI Building Codes, Uniform Building Code (UBC) and ASTM Standards.

88. **Testing of Materials.** Regular testing will be carried out of materials such as aggregates, cement, concrete, reinforcing steel and all architectural materials, the quality control and quality assurance criteria laid down in standards of FIDIC, American Standard Testing Method (ASTM), OR ACI or UBC and project specifications. Quality assurance program of architect or engineer may also be followed.

89. **Supervision.** Construction supervision and quality assurance will be carried out by full time or top supervision by the designer, supervising engineers, architects and inspectors, etc., as required in these regulations. Contractors, builders or developers full time supervisory staff for the category of buildings in these regulations shall carry out supervision and quality control.