

IEEE	Institute of Electrical and Electronic Engineering
ISO	International Organization for Standardization
LPC	Loss Prevention Council
LPCB	Loss Prevention Certification Board
MMAA	Ministry of Municipal Affairs and Agriculture
NEMA	National Electrical Manufacturer's Association
NFPA	National Fire Protection Agency
PCI	Prestressed Concrete Institute
PWA	Public Works Authority (Ashghal)
QCS	Qatar Construction Specification
QGEWC	Qatar General Electricity & Water Corporation
QS	Qatar Standards (Laboratories and Standardisation Affairs, Ministry of Environment)
Ooredoo	Qatar Telecom Provider
SIS	Swedish Standards Institute
UK DOT	United Kingdom Department of Transport
UPDA	Urban Planning and Development Authority
VDE	Verband Deutscher Elektrotechniker (Association for Electrical, Electronic and Information Technologies)

1.5.2 Site Conditions

1 The Site conditions shall be assumed to be as follows for tendering purposes:

Maximum ambient temperature	50°C
Minimum ambient temperature	5°C
Design ambient temperature	50°C
Maximum metal temperature under the sun	85°C
Maximum ambient humidity	100%
Minimum ambient humidity	20%
Design ambient humidity	100%
50-year return period Wind Speed:	
(a) Nominal wind speed for 3 sec gust	38 m/s (A per ASCE 7-05 / IBC 2012)
(b) Mean hourly wind speed.....	25 m/s (as per BS 6399-2)
(c) Mean 10 minutes wind speed.....	27 m/s (as per BS EN 1991-1-4)
Yearly rainfall	80 - 150 mm

2 The wind is very directional and that the W-NNW sector predominates for velocities greater than 8m/s (30km/h). However, the wind in coastal areas tends to exhibit a diurnal pattern, with onshore winds during daylight hours changing to offshore at night.

3 The temperature is relatively mild from October to May and hot from June to September.

4 The relative ambient humidity is generally low from October to May and generally high from June to September.

5 Under certain climatic conditions, considerable condensation may take place.

6 A considerable amount of salt is contained in the atmosphere which together with the relatively high ambient humidity, can produce severe corrosion problems.

- 7 Distribution and occurrence of rainfall events are very erratic. Rainfall events are generally of a high intensity with a short duration and usually occur between December and March.
- 8 The prevailing wind directions are from the north and west.
- 9 The seismic design for all building structure shall be based upon local seismic accelerations recommended as per ASCE 7-10, IBC 2012 or BS EN 1998-1:2004. Local seismic spectral accelerations based upon uniform hazard response spectra for 475 year and 2475 year return period as below.

Peak Ground Acceleration (PGA)		0.2 second Spectral Acceleration (g) - S _s		1 second Spectral Acceleration (g) – S ₁	
475 year	2475 year	475 year	2475 year	475 year	2475 year
0.045	0.10	0.090	0.147	0.045	0.065

- 10 Wind tunnel test is recommended for buildings under below criteria
- (a) Total building height exceeding 120m from ground.
 - (b) Structure with irregular geometry or shape.
 - (c) Unusual terrain or surrounding structure in the area.
 - (d) Any other factor as per design requirements or designer recommendation.
- 11 The ratio of the wind speed for any return period to the 50 year return period wind speed as per Peterka & Shahid Equation is

$$V_T / V_{50} = [0.36 + 0.1 \ln (12T)]$$

- 12 Building structure design working life shall be minimum as specified below

Design working life category	Indicative design working life (years)	Examples
1	10	Temporary structures ^(a)
2	10 to 25	Replaceable structural parts, eg. Gantry girders, bearings
3	15 to 30	Storage and similar structures
4	50 to 75	Building structures and other common structures
5	120	Civil engineering structures like bridges, tunnel etc.

(a) Structures or parts of structures that can be dismantled with intention of being reused, aren't temporary structures.

1.6 LANGUAGE

1.6.1 Contract Language

- 1 All communications, meetings and documentation shall be in English.

END OF PART