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8 APPENDIX - A

A.1 Generator Details of Kelanitissa Power Station.

Generator Name	Manufacture	Year of Install	Rated Output (MVA)	Rated Voltage (kV)	Insulation Class	Cooling type	Duty	Present Status
KPSGT1	BRUSH Ele. Mac. UK	1980	33.12	11.5	F	Air	Cont.	Available
KPSGT2	BRUSH Ele. Mac. UK	1980	33.12	11.5	F	Air	Cont.	Available
KPSGT3	BRUSH Ele. Mac. UK	1980	33.12	11.5	F	Air	Cont.	Not Available
KPSGT4	ALSTHOM Atlantique	1981	26.69	11	F	Air	Cont.	Available
KPSGT5	ALSTHOM Atlantique	1981	26.69	11	F	Air	Cont.	Not Available
KPSGT6	ALSTHOM Atlantique	1981	26.69	11	F	Air	Cont.	Available
KPSGT7	GEC ALSTHOM	1996	150	15	F	Air	Cont.	Available

A.2. Generator Details of Sapugaskanda Power Station

Generator Name	Seirial Number	Manufacture	Year of Installed	Rated Output (MVA)	Rated Voltage (kV)	Power factor	Rated Speed (rpm)	Air gap (mm)	Insulation Class	Cooling type	Duty
SPSG1	411942	ALSTHOM Atlantique Belfort-France	1984	25.625	11	0.8	428.6	12 mm	F	Air	Cont.
SPSG2	411943	ALSTHOM Atlantique Belfort-France	1984	25.625	11	0.8	428.6	12 mm	F	Air	Cont.
SPSG3	411944	ALSTHOM Atlantique Belfort-France	1984	25.625	11	0.8	428.6	12 mm	F	Air	Cont.
SPSG4	411945	ALSTHOM Atlantique Belfort-France	1984	25.625	11	0.8	428.6	12 mm	F	Air	Cont.
SPSG5	D9260205601	SIEMENS Germany	1998	12.9	11	0.8	428.6	6.5 mm	F	Air	Cont.
SPSG6	D9260205602	SIEMENS Germany	1998	12.9	11	0.8	428.6	6.5 mm	F	Air	Cont.
SPSG7	D9260205603	SIEMENS Germany	1998	12.9	11	0.8	428.6	6.5 mm	F	Air	Cont.
SPSG8	D9260205604	SIEMENS Germany	1998	12.9	11	0.8	428.6	6.5 mm	F	Air	Cont.
SPSG9	D9260207401	SIEMENS Germany	1999	12.9	11	0.8	428.6	6.5 mm	F	Air	Cont.
SPSG10	D9260207402	SIEMENS Germany	1999	12.9	11	0.8	428.6	6.5 mm	F	Air	Cont.
SPSG11	D9260207403	SIEMENS Germany	1999	12.9	11	0.8	428.6	6.5 mm	F	Air	Cont.
SPSG12	D9260207404	SIEMENS Germany	1999	12.9	11	0.8	428.6	6.5 mm	F	Air	Cont.

A.3. Generator Details of Kelanitissa Combined Cycle Power Station

Generator Name	Serial No.	Manufacture	Year of Installed	Rated Output (MVA)	Rated Voltage (kV)	Power factor	Rated Speed (rpm)	Insulation Class	Cooling type	Duty
KCCPGTG	500486	ALSTOM France and UK	2000	132	15	0.8	3000	F	Air	Continuous
KCCPSTG	500602	ALSTOM France and UK	2001	75.955	11.5	0.8	3000	F	Air	Continuous

. APPENDIX - B

Appendix B.1 ISO 8528-9:1995

Declared engine speed	Rated power output of the generating set		Vibration displacement[1)], x_{rms}			Vibration velocity, v_{rms}			Vibration acceleration[1)], a_{rms}		
	(cos φ = 0,8)		RIC engine[3) 4)]	Generator[2)]		RIC engine[3) 4)]	Generator[2)]		RIC engine[3) 4)]	Generator[2)]	
				value 1	value 2		value 1	value 2		value 1	value 2
min⁻¹	kVA	kW	mm	mm	mm	mm/s	mm/s	mm/s	m/s²	m/s²	m/s²
≥ 2 000 but ≤ 3 600	≤ 15 (1-cylinder engine)	≤ 12 (1-cylinder engine)	—	1,1	1,3	—	70	80	—	44	50
	≤ 50	≤ 40	—	0,8	0,95	[illegible]	50	60	—	31	38
	> 50	> 40	—	0,64[4)]	0,8[4)]	[illegible]	40[4)]	50[4)]	—	25[4)]	31[4)]
≥ 1 300 but < 2 000	≤ 10	≤ 8	—	—	—	[illegible]					—
	> 10 but ≤ 50	> 8 but ≤ 40	—	0,64	—	[illegible]	40	—	—	25	—
	> 50 but ≤ 125	> 40 but ≤ 100	—	0,4	0,48	[illegible]	25	30		16	19
	> 125 but ≤ 250	> 100 but ≤ 200	0,72	0,4	0,48	[illegible]	25	30	28	16	19
> 720 but < 1 300	> 250	> 200	0,72	0,32	0,45	[illegible]	20	28	28	13	18
	> 250 but ≤ 1 250	> 200 but ≤ 1 000	0,72	0,32	0,39	[illegible]	20	24	20	13	15
	> 1 250	> 1 000		0,29	0,35	[illegible]	18	22		11	14
≤ 720	> 1 250	> 1 000	0,72	0,24 (0,16)[5)]	0,32 (0,24)[5)]	[illegible]	15 (10)[5)]	20 (15)[5)]	28	9,5 (6,3)[5)]	13 (9,5)[5)]

NOTE — The relationship between vibration velocity and vibration frequency is shown in figure C.

1) The values for x_{rms} and a_{rms} are determined from the following equations by using the values given in the table for v_{rms}.

$x_{rms} = 0,0159 \times v_{rms}$
$a_{rms} = 0,628 \times v_{rms}$

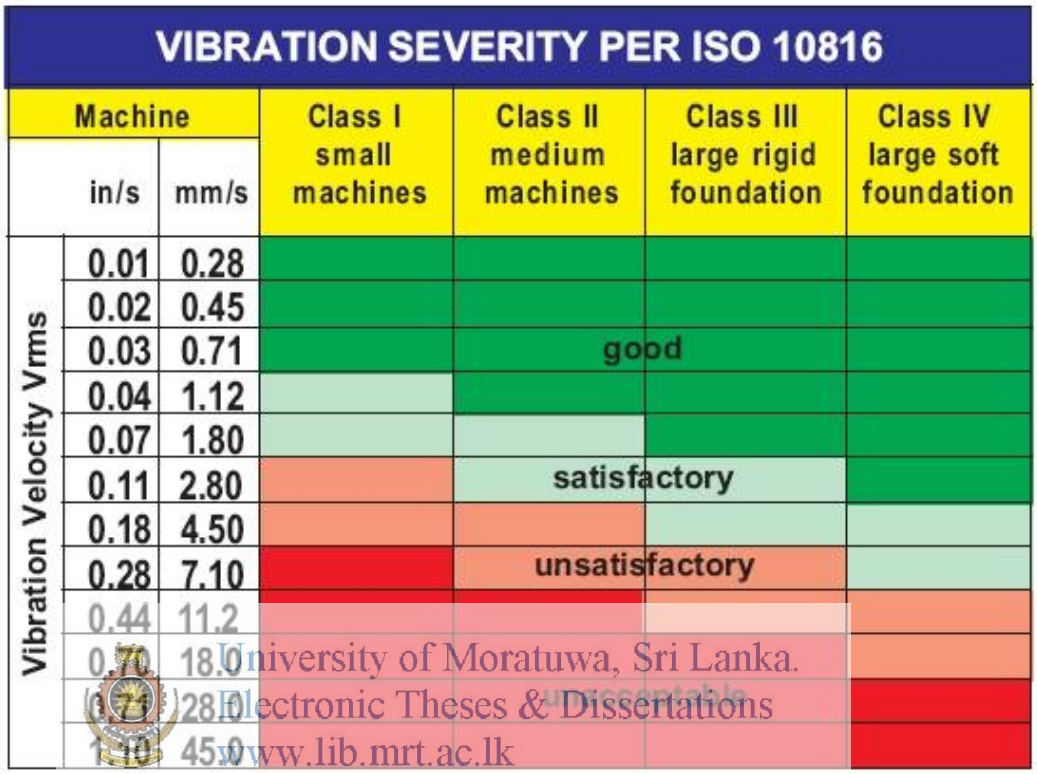
2) In the case of flange housing coupled generating sets the values measured at point 5 [see figure 1 a)] shall meet the values for generators.

3) The stated values for RIC engines are applicable for engines with power outputs of more than 100 kW. For smaller engines with power outputs below 100 kW, no typical values exist.

4) These values are subject to agreement between the manufacturer and customer.

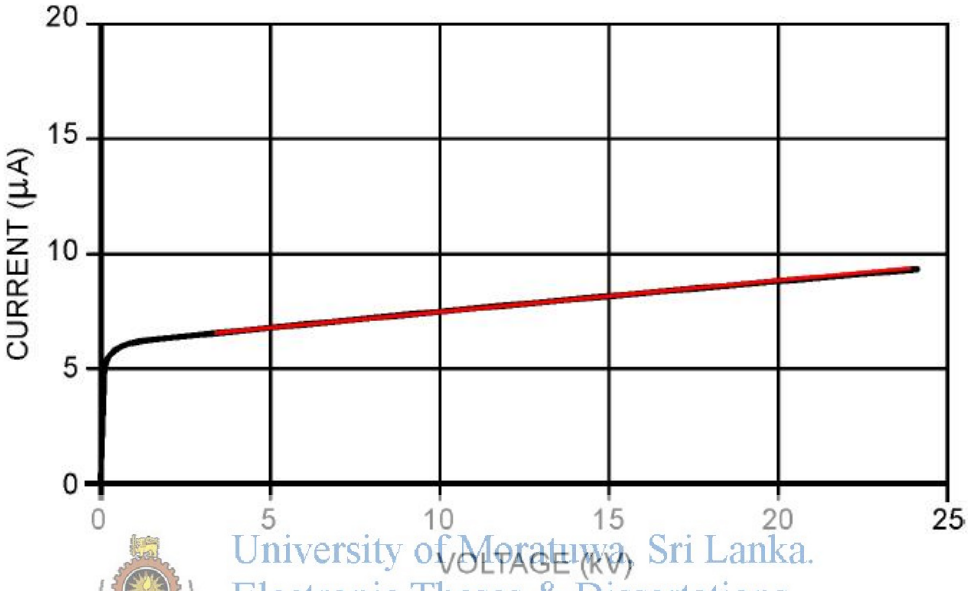
5) The values given in parentheses are applied to generators mounted on solid concrete foundations. In these cases the axial measurement for points 7 and 8 in figure 1 a) and b) shall be 50 % of the values given in parentheses.

Appendix B.2 – ISO 10816 guide lines



. APPENDIX - C

C.1 High quality epoxy-mica insulation when tested with DC ramp



Typical ramped voltage test result for a new epoxy-mica insulation. The relatively flat *I-V* response indicates that the dipole polarization current component is relatively small compared to the geometric capacitance charging. As evidenced by the smooth and linear trace, the leakage current is negligible and no signs of space charge polarization or partial discharges are observed.

Source- The physical phenomena associated with stator winding insulation condition as detected by the ramped direct high-voltage method By Lorelynn Mary Rux

C.2 PI index of thermal complex generator

Power Station	**Generator No**	**Year of manufactured**	**Insulation class**	**PI index**
Kelanithissa P.S.				
	GT 1	1981	F	2.9
	GT 2	1981	F	3.0
	GT 3	1981	Presently Not Available	
	GT 4	1982	F	3.1
	GT 5	1982	F	3.2
	GT 6	1982	Presently Not Available	
	GT 7	1997	F	3.1
Sapugaskanda P. S.				
Stage 1	G1	1983	F	2.3
	G2	1983	F	2.4
	G3	1983	F	2.3
	G4	1983	F	2.1
Stage 2	G5	1997	F	3.1
	G6	1997	F	3.2
	G7	1997	F	3.1
	G8	1997	F	3.2
Stage 3	G9	1998	F	3.3
	G10	1998	F	3.4
	G11	1998	F	3.2
	G12	1998	F	3.2
Kelanithissa Combined Cycle P.S.				
	GT	2000	F	3.6
	ST	2001	F	3.7