

Form SOG: Schedule of Guarantees

[The Bidder shall copy in the table below, the identification of each Performance/Specific Guarantee required in the Technical Specifications stated by the Employer.]

Employer's Requirements-Technical Specifications including, but not limited to, the following:

Code	Required Performance / Specific Guarantee		Value of Performance / Specific of Guarantee of the Proposed Plant and Equipment
	Description	Requirement	
A.	Basic Train Formation		
1	Train Configuration	8-car trainset; Maximum train set weight is equal to or less than 270 tons.	
2	Rolling Stock Gauge	Car body and equipment shall be within the Rolling Stock Gauge shown in Drawing. No. NSCR-ROL-DD-0004.	
B.	Vehicle Physical Characteristics		
		The following physical characteristics indicate fundamental vehicle dimensions that shall be given careful consideration.	
3	Body length	19,500 mm	
4	Overall length	20,000 mm	
5	Train length	160,000 mm	
6	Overall Width	2,950 mm	
7	Overall height from top of rail	3,655 mm	
8	Floor height	1,130 ~1,150 mm	
9	Pantograph lock down height	Max. 4,300mm	
10	Pantograph height working range	4,550~ 5,415 mm	
11	Wheel diameter	780~860 mm	
12	Wheel base	2,100 mm	
13	Distance between Bogie center	13,800 mm	
14	Passenger Doors	4 per side, double sliding pocket door	
15	Passenger Door width	1,300 mm	
16	Passenger Door height	1,850 mm	
C.	Compliance with Track Data		
17	Track gauge	Standard: 1,435 mm	
18	Horizontal Curve Radius Minimum Radius on the Main Line Minimum Radius for turnouts (mainline) Minimum Radius in the Depot	300 m 160m 100 m	
19	Gradient	Max 3.5%	
20	Vertical Curve radius	3,000 m	
D.	Train Performance		
21	Performance Values		
a	Maximum operation speed	120 km/h	
b	Acceleration	3.3 km/h/s (0-30 km/h)	

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c	Jerk Limit	Maximum 1.1 m/s ³	
d	Service brake	4.2 km/h/s	
e	Emergency brake	4.7 km/h/s	
22	Brake reaction time limits		
a	Full service brake application:	Max 1.5 seconds	
b	Emergency brake application:	Max 1.5 seconds	
c	Full service brake release:	Max 2.0 seconds	
d	Emergency brake release	Max 3.0 seconds	
23	Maximum loading condition:	20 ton/car	
E.	Noise, Vibration and Aerodynamics		
24	Noise requirements		
a	Interior noise level (Train at Stationary)	Shall endeavor not to exceed 69 dB(A)Lmax measured at 1.6 m above floor level	
b	Exterior noise level (Train at Stationary)	Shall endeavor not to exceed 73 dB(A)Lmax measured at 7.5m from track center and 1.5 m above rail level	
c	Interior noise level (Train at 0 to 60 km/h)	Shall endeavor not to exceed 74 dB(A)Lmax measured at 1.6 m above floor level	
d	Exterior noise level (Train at 0 to 60 km/h)	Shall endeavor not to exceed 83 dB(A)Lmax measured at 7.5m from track center and 1.5 m above rail level	
e	Door operation noise level	Shall endeavor not to exceed 72 dB(A) Lmax during sliding operation and 78 dB(A)Lmax during locking/unlocking	
25	Vibration Requirements		
a	For frequency less than 1.4 Hz	2.5 mm peak-to peak	
b	For Frequency from 1.4 to 20 Hz	0.01 g peak acceleration	
c	For Frequency above 20 Hz	0.75 mm/second peak velocity	
F.	Car Body, Bogie, Vehicle Interior and Subsystems		
26	Design Life		
a	Body / bogie / coupler	Over 30 years	
b	Power conversion element, filter capacity:	Over 25 years	
c	General electrical parts	Over 12 years	
d	Special parts	Over 8 years	
27	Vehicle Body		
28	Car body material		
29	Bogie		
30	Wheel flange wear rate; Bearing life; Axle fatigue life under 16 tons axle load		
31	Coupler and Draft Gear		
32	Vehicle Interior		

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33	Flooring		
34	Windows and Glazing		
35	Driver's Cab		
36	Lighting		
37	Door and Door Control		
38	Ventilation and Air-Conditioning		
39	Braking System		
40	Pneumatic Equipment		
41	Propulsion System		
42	Primary Power System		
43	Auxiliary Electrical System		
44	Train Management System		
45	Communication System		
46	Signaling System		
47	CCTV System		
G.	System Assurance		
48	Trial operations	1,500 km of Fault Free Running, prior to TOC	
49	In-service Operations	10,000 km or two (2) months of continuous in-service operational Fault Free Running	
50	The train fleet (13 train sets) as a whole shall achieve:		
a	MDBF	In service operational faults, MDBF no less than 50,000 km causing a delay greater than 5 minutes	
b	Operational Mean Time To Restore(OMTTR)	OMTTRcapital components; the trainsets shall be restored to operational order in anOMTTR of 15 minutes	
c	Corrective Mean Time To Repair (CMTTR)	CMTTR capital components shall not be greater than 4 hours	

Bidder's Signature: _____