General Bid Bulletin No. 13
17 June 2021

IFB No. 21-031-4

THE MALOLOS-CLARK RAILWAY PROJECT AND THE NORTH SOUTH RAILWAY PROJECT-SOUTH LINE (COMMUTER) PACKAGE CP NS-03: ROLLING STOCK-LIMITED EXPRESS TRAINSETS

This General Bid Bulletin is issued to amend/clarify certain provisions in the Bidding Documents for the abovementioned project. Please refer to the attached Annexes of this General Bid Bulletin duly approved by the end-user and co-implementer for details:

1. **Annex "A"** –Answers to Queries from Prospective Bidders including clarifications to the Bidding Documents;

2. **Annex "B"**– Revisions to the Bidding Documents; and

3. **Annex "B – 1"** – Revised pages/amendments and final form as revised/amended.

All other portions of the Bidding Documents affected by these revisions, amendments and/or clarifications shall be made to conform to the same.

Revisions/amendments/clarifications made herein shall be considered an integral part of the Bidding Documents for this project.

For your information and guidance.

For the Bids and Awards Committee IV:

SIGNATURE REDACTED

JOSEPH CONRAD D. DUEÑAS
Chairperson

Annex A

PACKAGE CP NS-03: ROLLING STOCK - LIMITED EXPRESS TRAINSETS
General Bid Bulletin No. 13
Annex A

Item No.	Volume Section No. Page No. Clause No. / Title Reference Text	Clarification Request	Proposed Revised Text (if any)	Response
1.	Part 1 – Bidding Procedures Section II. Bid Data Sheet BDS4 ITB16.1	The contract spare parts, special tools, etc. shall be supplied for a period of four (4) years from the date of completion of the Works, as a part of a Lump Sum offer, and as specified in the Employer's Requirements. The spare includes the Operation and Maintenance spare after the DNP. Reference must also be made to the Employer's Requirements Technical Specifications Sections regarding the provision of spare parts and special tools, required during and after the Defects Notification Period. 1) Looking at following provisions, the Bidder understands the period to be considered for spare parts supply shall be 2 years. Please confirm if the Bidder's understanding is correct. ERT 24.2.1; The Contractor shall provide a list of capital	The contract spare parts, special tools, etc. shall be supplied ~~for a period of four (4) years from the date of completion of the Works, as a part of a Lump Sum offer, and~~ as specified in the Employer's Requirements. The spare includes the Operation and Maintenance spare during the DNP. Reference must also be made to the Employer's Requirements Technical Specifications Sections regarding the provision of spare parts and special tools, required during the	The Bidder's Understanding is correct. The Contractor does not have to replenish any of the spares and consumables which is not used during DNP. Bidder shall refer to the Employer's Requirements Technical Requirements ERT clause 24.3.2 and 24.3.3 for details. In case any of these spares and consumables are used during the DNP, they shall be replenished

		spares and consumables (spares and consumables) and supply for the Defects Notification Period (DNP). ERT 24.2.6; "The Contractor shall provide a list for material and spares use for 2 years based on the anticipated train mileage and previous contracts experience." 2) In common, special tools is not consumed in such short term. Please confirm ERT 24.8 shall prevail to this provision under ITB.	Defects Notification Period.	immediately at no extra cost to the Employer immediately after the DNP, the Contractor shall handover to the Employer additional spares and consumables required, if any, to complete the total of these items, as per the list. Final list of the spares and consumables shall be submitted for review. If any additional spares and consumables including parts replacement, which has not been listed, become necessary during the DNP, the same shall be added to the list and shall be provided by the Contractor, along with one additional set for any further requirement at no additional cost. The cost for the same shall be deemed to
	GBB02 1 Item No. 2	The Bidder's request is rejected. 1) The spares shall be supplied from the issuance of the Taking Over Certificates of each trainset and the spares shall be replenished before the end of the DNP. 2) Bidder's understanding is not correct. Reference to the ERT 24.8, final list of special tools will be determined during implementation stage. Reference to ERT 24.8.3, any additional special tools and diagnostic test equipment are identified during the development of the (O&M) Manuals, those items shall be added to the list proposed during the Bid and shall be provided by the Contractor. The cost for the additional special tools and diagnostic test equipment shall be	N/A	

		deemed to have been included in the Price Schedules. The Bidder would like to ask further clarification what is the base of “4 years” requirement mentioned in ITB16.1. The Bidder faces difficulty to understand this requirement as there is no provisions of Employer’s Requirement mentions about such 4 years requirement. The Bidder understands that the Employer’s requirement is to provide sufficient spares for DNP period, and to refill the spares at the end of DNP which was used for planned maintenance work (but not due to failure of operation and/or maintenance). Please confirm if the Bidder’s understanding is correct.		have been included in the Price Schedules.
	GBB07 13 Item No. 13	Reference to the Particular Conditions (PC) Part A – Contract Data sub-clause 1.1.3.7, Defects Notification Period (DNP) is Two (2) years per Section / Subsection, and reference to the ERT 24.3, in case of any of the spares and consumables are used during the DNP, they shall be replenished immediately at no extra cost to the Employer. Thus, based on the assumption that the spares are exhausted during the DNP. Immediately after the DNP, the Contractor shall handover to the Employer additional spares and	N/A	

		consumables required, if any, to complete the total of these items, as per the list. If any additional spares and consumables including parts replacement, which has not listed in the list, which become necessary during the DNP, the same shall be added to the list and shall be provided by the Contractor, along with one additional set for any further requirement at no additional cost. The cost for the same shall be deemed to have been included in the Schedule of Prices Since the Bidder assumes minimum requirement of Spares and Consumables provided in ERT 24.2.4 are already more than the actual requirement in two years, the Bidder would like to confirm, at the end of DNP the Contractor does not have to replenish any of the spares and consumables which is not used during DNP.		
2.	Part 2 – Employer's Requirements Section V1. Employer's Requirements General Requirements ERG71 11.5 Consumable Spares	11.5.1 The Contractor shall provide all spare parts for all of its supplied equipment necessary during the Defects Notification Period, the price of which shall have been included in the Schedule of Prices. 24.3.2 In case any of these spares and consumables are used during the DNP, they shall be replenished immediately at no extra cost to the Employer immediately after the DNP, the Contractor shall handover to the Employer additional spares and consumables required, if any, to complete the total of these items, as per the list	N/A	Reference to the section VII General Conditions – 11.2; If and to the extent that such work is attributable to any other cause, the Contractor shall be notified promptly by (or on behalf of) the Employer, and Sub-

	Part 2 – Employer's Requirements Section V1. Employer's Requirements Technical Requirements ERT148 24.3 Spares Parts and Consumables Required During the Defects Notification Period	Please confirm these replenishments are required for the spares and consumable used during DNP in accordance with the Contractor's proposed maintenance work. And it is not the Contractor's obligation if any spare and/or consumables to be used due to the Employer's failure in operation. Otherwise, the Bidder is afraid this requirement may make unlimited responsibilities to the Contractor.		Clause 13.3 [Variation Procedure] shall apply.
	GBB02 35 Item No. 35	Bidder 's understanding is not correct. The replenishments for spares and consumables used during DNP is in accordance to the given notice of no objection on the final lists submitted during the final design stage – sub clause 24.2.5 The Bidder would like to reconfirm it is not the Contractor's obligation to replenish any spare and/or consumables which was used due to failure in operation and/or maintenance.	N/A	
	GBB07 17 Item 20	Bidder understanding is still not correct.	N/A	

		24.3.2 In case any of these spares and consumables are used during the DNP, they shall be replenished immediately at no extra cost to the Employer immediately after the DNP…. It is the Contractor's obligation to replenish the spares and consumables used during the DNP, regardless the reason of spares/consumables issued out advise etc. The withdrawal logged information will be presented in the monthly rolling stock performance report. Please further refer to the Employer response to item 8 of this Annex A. The Bidder can guarantee the number of spares and consumable to be required during DNP and replenished actual usage as long as it relates to usual maintenance activities regardless the Contractor's assumption is correct or not. However, the Bidder cannot accept any responsibility for the replenishment of used spares and consumable which does not caused by the Contractor such as negligence or unsatisfaction of operation and/or maintenance. The Bidder would request the Employer's confirmation for proper estimation of cost.		
3.	Part 2 – Employer's Requirements	14.6.2 The Contractor shall be responsible for the reception of employees, plus hotel and travel arrangements and costs for each trainee in regions other than Manila.	N/A	Bidder understanding is correct on the definition of 'Manila' which is includes the places

	Section V1. Employer's Requirements General Requirements ERG77 14.6 Training Location	The Bidder would ask the Employer's consideration to shoulder costs for such travel arrangement as long as the training be conducted in Philippines.		alongside with MCRP, NSCR and NSRP-S.
	GBB02 37 Item No.37	Bidder's request is rejected. The Bidder would like to request a reconsideration that as long as training will be conducted in the Metro Manila or the region where the North Depot located, the Contractor shall not be obliged to shoulder such expenses.	N/A	
	GBB07 19 Item No. 24	The correct reference is at pg. 37 item 37 of GBB-02. Bidder request is rejected. Bidder shall identify the proposed training location in the submission according to the tender requirements. The Bidder would like to reconfirm if the definition of "Manila" in ERT 14.6.2 includes the places alongside with MCRP, NSCR and NSRP-S, thus depots to be constructed for MCRP. Please confirm. (Note this is in line with the clarification for NS02 bidding – ref GBB6 Annex A, item 17)	N/A	
4.	Part 2 – Employer's Requirements	It shall be possible to connect with other commuter train of North-South Commuter Railway (NSCR), North-South Railway Project-South, MMSP Line (NSRP-South) without any adapter.	N/A	Please refer to Annex B – Attachment 2 to for couplers information.

	Section V1. Employer's Requirements Technical Requirement ERT 43 – 44 4.1.1, 4.1.2 & 4.1.14 Automatic coupler - Coupler head	The previous requirement is in conflict with: The coupler shall be able to couple with other types of rail vehicle with, if necessary, an adaptor. The coupler shall follow the coupler type for Commuter Trainset (CP NS-02) for interoperability capability. Please clarify which type of coupler head is required (e.g. AAR, Shibata, or Scharfenberg)? The Bidder would ask to accept a Scharfenberg coupler and the use of a modular adaptor in order to be able to cover different head types.		
	GBB02 46 Item 54	There is no conflict between clause 4.1.1 & 4.1.2. 4.1.2 is requirement of coupling with OTHERS rail vehicles mentioned in 4.1.1. The type of coupler shall be identified during the project execution in accordance with the interface requirement set forth in this tender. The bidder assume to be free to propose the coupler head and that the connection with other trains will be done using a coupler adapter. Please confirm.	N/A	
	GBB07 24 Item 30	Bidder assumption is not correct. The coupler shall be identical with NSCR commuter (CP03 & CP NS-02) design. Coupler for others rail vehicle will be	N/A	

<table>
<tr><td></td><td></td><td>supplied by CP NS-02 Contractor. Please refer to GBB No. 6 dated 5th May 2021.

The Bidder would like the Employer to accept the connection to the commuter car coupler head using a coupler adapter, as allowed by requirement 4.1.2

The use of an adaptor is a very common method used in many countries. Moreover, only NS-03 package requires an EN compliant coupler.

Furthermore, without seeing the design of coupler proposed by commuter car contractors, it is quite difficult to propose same type coupler. The coupler has a direct influence on the crash energy management system (CMS) an other aspects of the vehicle concept.

This is an essential information that need to be received during the tender phase.</td><td></td><td></td></tr>
<tr><td>5.</td><td>Part 1 – Bidding Procedures
Section III. Evaluation and Qualification Criteria
EQC12
3.2
Table 2.2</td><td><table><tr><th>Position</th><th>Total Work Experience (years)</th><th>Experience in Similar Works (years)</th><th>Experience as Manager (years)</th></tr></table>
The Bidder understands;
1) “Experience in Similar Works” intends any works relates to railway business field.
2) “Experience as Manager” intends any type of manager (not exactly same as each required manager position)</td><td>N/A</td><td>Description below is an example:

e.g. for the Project Manager position, he or she must have at least total working experience of 20 years; must have at least 10 years’ experience in</td></tr>
</table>

		Please confirm if the Bidder's understanding is correct.		rolling stock procurement project; and must have at least 5 years' experience as a project manager in rolling stock procurement project. For evaluation purpose, the bidder is advised to propose the personnel for the key positions that exactly matches the position title in section 2.2-Key Personnel; section 3.2 in Step 2: Determination of Responsiveness and Detailed Evaluation of Technical Bids – Vol 1 Part 1 Bidding Procedures.
	GBB08 1/47 Item No. 1	1) The bidder's understanding is not correct. The similar works in this context is referring to the Rolling Stock. The bidder's understanding is not correct. The "Experience as Manager" here is referring to the experience same as each respective required position shown in the 1st column of the table 2.2 "Position". The Bidder noted the Employer's clarification. However for item 2), since job title and descriptions are uniquely defined in each project, the Bidder understands experienced job titles do not have to be exactly matched with the titles required in this project as long as job description is similar to each respective required position.	N/A	
6.	GBB03 1 Annex B	ERG-107 Table B.2 Deleted Table B.2: Split Responsibility in Special Tools for Rolling Stock and Depot Equipment The Bidder does not understand purpose of this deletion. Information under Table B.2: Split Responsibility in Special Tools for Rolling Stock and Depot Equipment is mandatory information for the Bidder's pricing.	N/A	CP NS-03 Contactor has the obligation under the interface requirement in this tender for the depot equipment delivery under CP NS-01 contract.

	GBB08 6/47 Item 7	The Bidder shall adhere to the instruction given in Part 1 – Bidding Procedures Section IV – Bidding Forms – Appendix 6.8. Bidder - Bidder shall provide the preliminary list of special tools and shall be finalized during design phase. The deleted Table B.2 did not represent a mandatory requirement. There is no split responsibility on special tools for rolling stocks with the depot equipment. This is due to that the special purpose of the tools are for the rolling stock operation and maintenance and it's an engineered tool that a manufacturer may provide to a transit operator or an entity to service a transit vehicle after delivery. Deletion is to avoid bidder confusion and ensuring that the bidder will develop the preliminary list of special tools based on the bidder general and specific experience delivering a rolling stock manufacturing and supply projects. The Bidder assumes it is not NS03 Contractor's responsibility to supply heavy maintenance tools such as Turn table for bogie, lifting jack for carbody which originally stated as NS01 responsibility in the deleted table B.2. However, with deletion the table and the Employer's statement in this clarification, the Contract implies those heavy maintenance tools are also under	N/A	Employer does not see that the deletion of Table B.2 affects the bidder minimum provision for estimation. Bidder shall propose the special tools based on the bidder general and specific experience delivering a rolling stock manufacturing and supply projects. If there were a heavy maintenance tools which is considered special by bidder which bidder would like to propose, the bidder shall provide the information of full particulars including available sources of the heavy maintenance tool in accordance with ITB 16.1(b), using Form SPA-1 provided in the Bidding Forms.

		responsibility of the NS03 Contractor, which the Bidder cannot commit at all. Again, the Bidder understands Table B.2 is minimum provision for the Bidder's estimation, please reconsider to revive, or advise if the Bidder's concern the above is not correct.		
7.	Volume II/III - Part 2 Section VI ERT Chapter 1.3 Clause 1.3.2.5 150/355 (ERT-5) System Requirements - Configuration Control	Each name plate shall contain the following information: 1) Manufacturer's name; 2) Component description; 3) Manufacturer's Part number; 4) Serial number; and 5) Modification 'strike box' with a minimum of 10 positions. The Bidder would like to ask if the modification "strike box" must be implemented in each component or if the Bidder can focus it on the main components only.	N/A	Clause 1.3.2.6 was added. Please see Annex B.
	GBB08 10/47 Item 12	Please refer to clause 1.3.2.2 and 1.3.2.4. The Contractor shall identify the components to be installed with nameplate. "The Bidder request to modify the requirement. Each name plate shall contain the following information: 1) Manufacturer's name; 2) Component description; 3) Manufacturer's Part number;	N/A	

		4) Serial number; and 5) Modification 'strike box' with a minimum of 10 positions for main components."		
8.	Volume II/III - Part 2 Section VI ERT Chapter 5.19 Clause 5.19.2.1 200/355 (ERT-55 Cab Controls of Driver's Cab - Master Controller	The master controller shall control accelerating and braking in several steps adjustable, linear manner, as follows: Table 5.19.2.1 The master controller controls acceleration and braking in stepless adjustable, linear manner. The Bidder understands it is commonly adopted all over the world and provides easier control. Therefore, the Bidder propose to modify the requirement.	Please modify the entire table as following: ~~The master controller shall control accelerating and braking in several steps adjustable, linear manner, as follows:~~ The master controller shall control accelerating and braking in stepless adjustable, linear manner, as follows: 1. Coasting / neutral position: The centre position is notched. Traction is not applied. 2.Traction: Pull lever forwards 0..100% of the path proportionally sets desired tractive effort. 3. Braking: Push lever backward, 0..100% of the path proportionally sets the braking effort. 4. Emergency brake: Notched to prevent accidental triggering by the driver.	Clause 5.19.2.1 was updated. Please refer to Annex B.

	GBB08 15/47 Item 22	Bidder request is rejected. The Bidder ask to accept the alternative solution with a stepless master controller. Such master controller functionality is state of the art and proven in many thousand EMU trainsets all over Europe. Please modify and extend the requirement:	The master controller shall control accelerating and braking in ~~several steps~~ adjustable, linear manner, as follows: Table 5.19.2.1 or The master controller shall control accelerating and braking in stepless adjustable, linear manner, as follows: 1. Coasting / neutral position: The centre position is notched. Traction is not applied. 2.Traction: Pull lever forwards 0..100% of the path proportionally sets desired tractive effort. 3. Braking: Push lever backward, 0..100% of the path proportionally sets the braking effort. 4. Emergency brake: Notched to prevent accidental triggering by the driver.	
9.	Volume II/III - Part 2 Section VI ERT	The minimum declared life shall be 50,000 hours. The lighting shall be powered by 220V AC supply.	The minimum declared life shall be 50,000 hours. The lighting shall	The requirement was updated in GBB 11 dated 9 June 2021.

	Chapter 6.3 Clause 6.3.3 203/355 (ERT-58) Passenger Saloon Lights	All passenger saloon lights are powered by the 110V DC Battery system. The Bidder ask to allow this solution.	be powered by 110V DC or 220V AC supply.	
	GBB08 17/47 Item 25	Bidder request is rejected. The battery shall power the emergency lighting only. "As requested, LED lighting is required for the internal illumination. The LED works with DC power supply. Therefore, the Bidder request the possibility to use the DC power supply as reliable and long proven technology in the rail industry. The Bidder solution avoid the use of additional equipment (converters) which would possibly reduce the availability of the lighting system. Please change the requirement:	The minimum declared life shall be 50,000 hours. The lighting shall be powered by 110V DC or 220V AC supply."	
10.	Volume II/III - Part 2 Section VI ERT Chapter 14.1 Clause 14.1.1 234/355 (ERT-89 Auxiliary Electrical Systems - General	The limited express train shall be provided with auxiliary power supply equipment (APSE). The AC output of the APSE shall be sinusoidal under all conditions of load. The types of loads connected to the auxiliary electrical system shall include, not but limited to: 1) Emergency Lighting; 2) All Exterior Lights; 3) Communication Systems, AP system and CCTV system; 4) Propulsion, TMS, Brake Controls, and Air Compressor system;	The limited express train shall be provided with auxiliary power supply equipment (APSE). The AC output of the APSE shall be sinusoidal under all conditions of load. The types of emergency loads connected to the battery loads ~~auxiliary electrical system~~ shall	14.1.1 was updated. Please refer to Annex B. The APSE loads budgeting and apportionment shall be designed by the Contractor to meet the performance requirement of this tender.

		5) Door Controls; 6) On Board Signalling equipment; 7) Cab console indicators; 8) Horn; 9) Wiper control/system; 10) Active Ventilation System of VAC. The listed components (except air condition compressor and horn) are connected to the LVPS (low voltage power supply = battery). The battery capacity of the railway-units is limited. Therefore, an emergency-regime is necessary to power the most important systems for as long as possible. The Bidder proposes to remove the air compressor system from the list. The units are equipped with sufficient air tanks to provide pressurized air in an emergency situation. Furthermore, the horn should only be on the list when powered electrically. The Bidder supposes, that the propulsion system itself does not have to work, only the controls of the propulsion system. Is the Bidder assumption correct?	include, not but limited to: 1) Emergency Lighting; 2) All Exterior Lights; 3) Communication Systems, AP system and CCTV system; 4) Controls of Propulsion, TMS and Brake ~~Controls, and Air Compressor system~~; 5) Door Controls; 6) On Board Signalling equipment; 7) Cab console indicators; 8) Horn (only when powered electrically); 9) Wiper control/system; 10) Active Ventilation System of VAC.	
	GBB08 21/47 Item 31	Bidder request is rejected. 14.1.1 is not only limited to emergency load connected to LVPS/battery. Bidder assumption is not correct. Possibly, the HV box fan blower would be powered by APSE.	N/A	

		"Please confirm that the control voltage for the mentioned equipment is on battery load. Main components, such as compressors, will be at AC loads."		
11.	Volume II/III - Part 2 Section VI ERT Chapter 14.1 Clauses 14.1.2-14.1.8 234/355 (ERT-89 Auxiliary Electrical systems - General	All electrical equipment on the trains, other than the Power Conversion Equipment and the supply to the Auxiliary Power Supply Equipment (APSE), shall operate using the following nominal voltages, respectively: 1) 440 VAC, 3-phase, 60 Hz, 2) 220 VAC, 1-phase, 60 Hz, 3) 100 VDC 4) 12/24V DC The AC output shall be regulated within ±3% for all variations in input voltage and output load. The DC output shall be regulated within ±1% for all variations in input voltage and controlled not to damage the battery that has been floating charge. The Bidder would like to clarify the voltage levees as well as tolerances for a proper selection of the electrical equipment. The EN50533 and IEC 60571 shall be followed.	All electrical equipment on the trains, other than the Power Conversion Equipment and the supply to the Auxiliary Power Supply Equipment (APSE), shall operate using the following nominal voltages in respect of the EN50533 and IEC 60751 requirements, respectively: 1) 440 VAC, 3-phase, 60 Hz, 2) 220 VAC, 1-phase, 60 Hz, 3) ~~100~~ 110 VDC 4) 12/24V DC The DC output shall be regulated according to IEC regulations ~~within ±1%~~ for all variations in input voltage and controlled not to damage	Please see Annex B.

			the battery that has been floating charge	
	GBB08 22/47 Item 32	Bidder request is rejected. The bidder may suggest any reference standard for APSE voltages during the design phase. The Bidder require to change the tolerances according to the railway state of the art standards. Please change the requirements.	The AC output shall be regulated according to JIS or IEC regulations ~~within ±3%~~ for all variations in input voltage and output load. The DC output shall be regulated according to JIS or IEC regulations ~~within ±1%~~ for all variations in input voltage and controlled not to damage the battery that has been floating charge.	
12.	Volume II/III - Part 2 Section VI ERT Chapter 16.3 Clause 16.3.2 246/355 (ERT-101) Public Address (PA) System	For speech intelligibility purposes, the design shall achieve an STI (Speech Transmission Index) in excess of 0.6 under the worst-case ambient noise conditions. According Bidder's experience, a STI of 0.6 at maximum speed is feasible whereas a STI of 0.6 in a tunnel at maximum speed with a group of students performing loud conversation is not possible. The Bidder proposes to consider the open track scenario and to change from STI to STIPA.	For speech intelligibility purposes, the design shall achieve an ~~STI~~ STIPA (Speech Transmission Index for Public Address system) in excess of 0.6 ~~under the worst-case~~ at standstill and with exterior (no tunnel and running HVAC) ambient noise conditions.	The Limited Express Train route does not involve running in tunnel at maximum speed. The below ground route (underground boxed structure) section is only at CIA with approximate length of 2.4 km.

	GBB08 24/47 Item 36	Bidder request is rejected. Please refer to GBB 6 dated 5th May 2021. The Bidder ask to add STIPA as measurement method. STIPA (Speech Transmission Index for Public Address system) is the more appropriate measurement method for the PA system.	For speech intelligibility purposes, the design shall achieve an STI or STIPA (Speech Transmission Index or Speech Transmission Index for Public Address system) in excess of 0.6 under the worst-case ambient noise conditions.	The employer required that the speech intelligibility purposes, the design shall achieve an STI (**Speech Transmission Index)** in excess of 0.6 under the worst-case ambient noise conditions regardless method used which shall be proposed by the contractor by considering the limitation of those methods i.e. STI, RASTI, STIPA, or STITEL.
13.	Volume II/III - Part 2 Section VI ERT Chapter 16.3 Clause 16.3.10 246/355 (ERT-101) Public Address (PA) System	The message library shall be dimensioned with a minimum storage capacity of 1TByte. The Bidder strongly do not recommend the use of 1 Tbyte for libraries: 1 Tbyte shockproof SSDs are quite expensive and have a reduced lifespan compared to smaller models. Therefore, the Bidder propose the use of 128 - 256 GB models: for the foreseen application this solution is more reliable and, state of the art.	The message library shall be dimensioned with a minimum storage capacity of at least 128 Gbyte ~~1TByte~~.	Bidder request is rejected. Employer do not see why must the Employer have to define shockproof SSD. Shockproof SSD is not within the ERT.

	GBB08 25/47 Item 37	Bidder request is rejected. Please refer to GBB 6 dated 5th May 2021. Please define the meaning of a shockproof SSD in order to evaluate a proper hardware		
14.	Volume II/III - Part 2 Section VI ERT Chapter 21.4 Clause 21.4.2.2 279/355 (ERT-134) Electrical components - Wire Insulation	Unless otherwise specified, wire insulation shall be one of the following types, unless specifically reviewed and commented by the Engineer: ... 4) All wire insulation, except carbody wiring, shall be rated at 600 V minimum; unless otherwise specified or agreed to by the Engineer. ... Bus and coax cable Voltage category 300/300V is commonly used in other countries. Therefore, please accept the Bidder to propose bus and coax cable Voltage category 300/300V subject to design review during implementation.	N/A	Please see Annex B.
	GBB08 26/47 Item 40	Please comply with the clause 21.4.2.2. Any deviation shall subject to the given notice of no objection by the Engineer during the project implementation. The Bidder require to use state of the art and preassembled bus and coax cables for the systems which are ready available on the market. The Bidder ask to change the requirement	4) All wire insulation, except carbody wiring, shall be rated at 300/300V or 600 V minimum; unless otherwise specified or agreed to by the Engineer.	

15.	Volume II/III - Part 2 Section VI ERT Chapter 21.4 Clause 21.4.9 280/355 (ERT-135) Electrical Components - Voltage Segregation	Wires shall be segregated into separate bundles/harnesses and connectors according to the voltage ratings in the following classes: 1) Line voltage DC wiring, 2) Low voltage AC wiring (Under 600V), 3) Battery voltage wiring (Under 125V), 4) ETCS wiring, and 5) Radio, Intercom, P/A wiring. The Bidder will propose an EN / IEC compliant trainset. To avoid conflicts with the IEC, the Bidder asks the Employer's confirmation that the requirements of the IEC 62995:2018 Railway applications - Rolling stock - Rules for installation of cabling is applicable alternatively.	N/A	Please see Annex B.
	GBB08 26/47 Item 41	The separation of cables using standard reference i.e. IEC 62995:2018 Railway applications – Rolling stock - Rules for installation of cabling is applicable or etc., shall address the bidder's compliance against section 21.4.9. The required wires voltage ratings are in conflict with IEC standards. Therefore, the Bidder require to modify the requirement:	Wires shall be segregated according to JIS or IEC standards. ~~into separate bundles/harnesses and connectors according to the voltage ratings in the following classes:~~ ~~1) Line voltage DC wiring,~~ ~~2) Low voltage AC wiring (Under 600V),~~ ~~3) Battery voltage wiring (Under 125V),~~ ~~4) ETCS wiring, and~~	

			~~5) Radio, Intercom, P/A wiring.~~	
16.	Volume II/III - Part 2 Section VI ERT Chapter 1.21 Clause 1.21.2 74/355 (ERT-29) System Requirements - Rolling Stock Gauge	The rolling stock gauge defined in the Appendix C shall be referred as the Kinematic Envelope of the train. The Bidder has analysed the technical requirements and has remarked that the rolling stock gauge represented on the left side of the technical drawing (Appendix C / ERT-170) is in conflict with the different requirements present in the Volume II (clause 1.6.2.1 / ERT-7 for example). Therefore, based on the analysis the Bidder must assume that the represented rolling stock gauge is the Static envelope of the train and not the Kinematic envelope.	The rolling stock gauge defined in the Appendix C shall be referred as the ~~Kinematic~~ Static Envelope of the train.	Bidder proposal is rejected. Please refer to Annex B. (1.6.2.1) Rolling stock Gauge will remain as the reference of kinematic envelope.
	GBB08 38/47 Item 61	Bidder understanding is not correct. Bidder request is rejected. The Appendix C shall be referred as the Kinematic Envelope of the train. In order to propose most maximum width of train and space inside, the Bidder would like the Employer to reconsider following approach to this requirement; ● To propose static rolling gauge complying with “Rolling Gauge” specified in Appendix C of ERT. ● To demonstrate dynamic rolling gauge to proof not to violate against “Construction Gauge” specified in Appendix C of ERT with consideration of platform.		

17.	GBB 9 IFB-2 BDS-10 7 ITB 24.1	Bid must be delivered to the address above on or before 10:00 AM on 14 June 2021 and… For Bid submission purpose only, and acting on behalf of the Employer, … The deadline for Bid submission is: Date: 14 June 2021 Time: 10:00 AM We would like to request for extension of the bid submission deadline until 15 September, 2021 from 14 June 2021 again. As we requested, we will be required to engage into various tasks for preparing competitive bid given complexity of requirement in the bidding documents, revisions and amendments made by GBBs under limitation due to current COVID-19 pandemic.	Bid must be delivered to the address above on or before 10:00 AM on 15 September 2021 and…	Please refer to General Bid Bulletin (GBB) No. 12 dated June 10, 2021, published at the websites as stipulated in BDS ITB 7.1.
18.	Part 1 - Bidding Procedures Section II. Bid Data Sheet BDS-4, 5 and 6 ITB18.7	ITB 18.7 1. The Government of the Republic of the Philippines shall, by itself or through its executing agency, assume responsibility for: (i) all duties and related fiscal charges imposed in the Republic of the Philippines on the Japanese companies operating as suppliers and contractors with respect to the import and re-export of their own materials and equipment needed for the implementation of the Project; and (ii) all fiscal levies and taxes imposed in the Republic of the Philippines on the Japanese companies operating as suppliers and contractors with respect	-NA-	The bidder's understanding is correct that the tax assumption by the executing agency is only applicable to Japanese contractors or nationals (as detail indicated in ITB 18.7, RMC No. 42-99, and RMC No. 8-2017). Please refer to the RMC No. 8-2017 for details.

	Part 3 – Conditions of Contract and Contract Forms Section Ⅷ – Particular Conditions Part B -Specific Provisions PC-18 14.1 The Contract Price	to the payment carried out for and the income accruing from the supply of products and/or services required for the implementation of the Project; and (iii) all fiscal levies and taxes imposed in the Republic of the Philippines on the Japanese employees engaged in the implementation of the Project with respect to their personal income derived from the Japanese companies operating as suppliers and contractors for the implementation of the Project. 14.1 Add the following paragraphs after the existing second paragraph; “Notwithstanding the provision of subparagraph (b); (1) The Government of the Republic of the Philippines shall, by itself or through its executing agency, assume: i. all duties and related fiscal charges imposed in the Republic of the Philippines on the Japanese/International companies operating as suppliers and contractors with respect to the import and re-export of their own materials and equipment needed for the implementation of the Project; and ii. all fiscal, levies and taxes imposed in the Republic of the Philippines on the Japanese/International companies operating as suppliers and contractors with respect to the payment carried out for and the income accruing from the supply of products and/or		However, please note that in accordance with the Part 3 Section VII General Conditions, last paragraph of article 14.1: “Notwithstanding the provisions of sub-paragraph (b), the Contractor’s Equipment, including essential spare parts therefor, imported by the Contractor for the sole purpose of executing the Contract shall be exempt from the payment of import duties and taxes upon importation.”. Please refer to the Annex B for the amendment.

		services required for the implementation of the Project; and There is discrepancy on interpretation of tax assumption by the Government of the Republic of the Philippines and executing agency between ITB 18.7 of BDS and 14.1 The Contract Price of Particular Conditions. We would like to clarify whether or not the Government of the Republic of the Philippines shall assume responsibility for all fiscal levies, taxes and duties imposed in the Republic of the Philippines only on the Japanese companies operating as suppliers and contractors with respect to cases of (i), (ii) and (iii) as stated in ITB 18.7. According to 14.1 of Particular Conditions, it is stated that the Government of the Republic of the Philippines shall also assume responsibility for all fiscal levies, taxes and duties imposed in the Republic of the Philippines on International companies not only Japanese companies. We understand International companies excluding Japanese companies are not subject to tax assumption by the Government of the Republic of the Philippines and executing agency		
19.	Volume I of III, INVITATION FOR BIDS IFB -2	Bid must be delivered to the address above on or before 10:00 AM on 14 June 2021 and ...	Bid must be delivered to the address above on or before.	Please refer to General Bid Bulletin (GBB) No. 12 dated June 10, 2021, published at the

	7 SECTION 11 BID DATA SHEET BDS- 10 ITB 27.1 General Bid Bulletin No.9 Annex A IFB-2 7	In accordance with General Bid Bulletin No.9 dated 19 May 202 1, the Bidder noted that the due date of the submittal of the bid proposals has been extended from 28 May 2021 to 14 June 2021 The opening of the... Date: 14 June 2021 Time: 10:00AM However, as per the Bidder's request through the previous clarification, the extended due date is s till not sufficient for the Bidder to review the Bidding Documents and conduct series of meetings and discussions with its potential suppliers. Additionally, responding to the Employer's reply for the clarification s provided via GBB No. 1 through 10, the Bidder needs further reviews and discussions with its potential suppliers to offer the best proposal to the Employer. Besides, the change of Key Dates has considerable impact on the Bidder’s. prospective project schedule and so, we need to carefully review these changes and evaluate our schedule and Price Proposal in cooperation with potential suppliers. As such, to assure sufficient time for proposal preparation is available, we respectfully request more extension of three (3) months for submittal of the bid proposals.	10:00 AM on 15 September ~~14 June~~ 2021 and . . . The opening of the... Date: 15 September ~~14 June~~ 2021 Tim e: 10:00 AM	websites as stipulated in BDS ITB 7.1.

Annex B

PACKAGE CP NS-03: ROLLING STOCK - LIMITED EXPRESS TRAINSETS
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Annex B

ITEM NO.	REFERENCE/CLAUSE/ SECTION	REVISIONS / AMENDMENTS
	Volume I Part 1 – Bidding Procedures	
1	Volume I. Invitation for Bids (IFB) Page No. IFB-2 Item 7	**Reference to the General Bid Bulletin No. 12, please refer to the amended pages in Attachment 1.**
2	Section II. Bid Data Sheet D. Submission and Opening of Bids ITB 24.1 Page No. BDS-10	**Reference to the General Bid Bulletin No. 12, please refer to the amended pages in Attachment 1.**
3	Section II. Bid Data Sheet D. Submission and Opening of Bids ITB 27.1 Page No. BDS-10	**Reference to the General Bid Bulletin No. 12, please refer to the amended pages in Attachment 1.**
4	Section II. Bid Data Sheet E. Evaluation and Comparison of Bids	**Replace the paragraphs with the following:** The currency that shall be used for Bid evaluation and comparison purposes to convert all Bid Prices expressed in various currencies into a single currency is: Philippine Peso.

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ITEM NO.	REFERENCE/CLAUSE/ SECTION	REVISIONS / AMENDMENTS
	ITB 37.1 Page No. BDS-10	The source of exchange rate shall be: Bangko Sentral ng Pilipinas (BSP, the Central Bank of the Philippines). The date for the exchange rate shall be: 29 June 2021. In the event of non-availability of exchange rate in the BSP website due to non-working days, the Bidder shall apply the exchange rate of the following working day.
5	Section IV Bidding Forms Appendix 6.3 Item 2.1.9, 2.1.10, 2.1.11 Page BF-18	**Replace the paragraphs with the following:** 2.1.9 Performance showing acceleration at 1350V (catenary voltage), deceleration at 1650V (catenary voltage) and maximum speed on level and straight section with tare loading, W2 loading and 7 tons per car loading at wheel diameter of 820 mm; 2.1.10 Simulation of energy consumption, main parts temperature rising based on operating curve at tare loading, W2 loading and 7 tons per car loading in one round trip; 2.1.11 Simulation of 1- or 2-units being cutout performance, coupled performance with another failed train-set at tare loading, W2 loading and 7 tons per car loading;
6	Section IV Bidding Forms Appendix 6.8 Page BF-25	**Replace the paragraphs with the following:** The Bidder shall furnish a preliminary plan for the supply source of spare parts, special tools, and consumables, etc., in accordance with the Employer's Requirements. The Bidder shall also provide the information of full particulars including available sources of all spare parts, special tools, etc., listed under Employer's Requirement Technical Requirement (ERT) in accordance with ITB 16.1(b), using **Form SPA-1** provided in these Bidding Forms.

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General Bid Bulletin No. 13
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<table>
<tr><th>ITEM NO.</th><th>REFERENCE/CLAUSE/ SECTION</th><th>REVISIONS / AMENDMENTS</th></tr>
<tr><td colspan="3">Volume II Part 2 – Employer's Requirements</td></tr>
<tr><td>7</td><td>ERT-6
1.3.2.6</td><td><u>Added clause 1.3.2.6:</u>

The Contractor shall identify the rolling stock hardware main components/subcomponent to be installed with the name plate during the design phase and will be reviewed by the Engineer.</td></tr>
<tr><td>8</td><td>ERT-55
5.19.2.1</td><td><u>Updated clause 5.19.2.1:</u>

The master controller shall control accelerating and braking in several steps adjustable or stepless adjustable, linear manner. In case of a several steps adjustable, the master controller features will at minimum as follows:

<table>
<tr><th></th><th>Handle Position</th><th>Function</th></tr>
<tr><td>1.</td><td>Vertically upright</td><td>OFF position</td></tr>
<tr><td>2.</td><td>Forward from the vertical position until the handle reaches its end position with a spring return device.</td><td>Propulsion, with acceleration increasing acoording 4 steps with handle movement.</td></tr>
<tr><td>3.</td><td>Backwards from the vertical position until the handle engages a a spring loaded detent.</td><td>Normal Braking, with the effort increasing acoording to 7 steps with handle movement.</td></tr>
<tr><td>4.</td><td>Backwards from the spring loaded detent in 3, until the handle reaches its end position.</td><td>Emergency braking.</td></tr>
</table>
In case of a stepless adjustable linear manner, the master controller features will at minimum:</td></tr>
</table>

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ITEM NO.	REFERENCE/CLAUSE/ SECTION	REVISIONS / AMENDMENTS
		a. Coasting / neutral position: The center position is notched. Traction is not applied; b. Traction: Pull lever forwards 0...100% of the path proportionally sets desired tractive effort; c. Braking: Push lever backward, 0...100% of the path proportionally sets the braking effort; d. Emergency brake: Notched to prevent accidental triggering by the driver.
9	ERT-89 14.1.1	Updated clause 14.1.1: The limited express train shall be provided with auxiliary power supply equipment (APSE). The AC output of the APSE shall be sinusoidal under all conditions of AC load. The type of emergency loads shall include, not but limited to: 1 Emergency Lighting; 2) All Exterior Lights; 3) Communication Systems, AP system and CCTV system; 4) Propulsion controls, TMS, Brake Controls, and auxiliary compressor (if pneumatic raised pantograph); 5) Door Controls; 6) On Board Signaling equipment; 7) Cab console indicators; 8) Horn (If electrically powered);

ITEM NO.	REFERENCE/CLAUSE/ SECTION	REVISIONS / AMENDMENTS
		9) Wiper control/system; 10) Active Ventilation System of VAC.
10	ERT -89 14.1.2, 14.1.3, 14.1.4	Updated clause 14.1.2 (Now is 14.1.4): All electrical equipment on the trains, other than the Power Conversion Equipment and the supply to the Auxiliary Power Supply Equipment (APSE), shall operate using the following nominal voltages in respect of the EN50533 and IEC 60751 requirements, respectively: 1) 440 V_{AC}, 3-phase, 60 Hz, 2) 220 V_{AC}, 1-phase, 60 Hz, 3) 100/110 V_{DC} 4) 12/24V $_{DC}$ Updated clause 14.1.3 (Now is 14.1.5): The AC output shall be regulated according to JIS or IEC regulations for all variations in input voltage and output load. Updated clause 14.1.4 (Now is 14.1.6): The DC output shall be regulated according to JIS or IEC regulations for all variations in input voltage and controlled not to damage the battery that has been floating charge.
11	ERT-134 21.4.2.2	Updated clause 21.4.2.2: Unless otherwise specified, wire insulation shall be one of the following types, unless specifically reviewed and commented by the Engineer:

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ITEM NO.	REFERENCE/CLAUSE/ SECTION	REVISIONS / AMENDMENTS
		1) Ethylene Tetrafluoroethylene (ETFE) fluoropolymer having a continuous temperature rating of 150 °C, 2) Abrasion resistant, filled Tetrafluoroethylene (TFE) with a temperature rating of 260 °C 3) Cross-linked Polyolefin (XLPO), 4) All wire insulation, except carbody wiring, shall be rated at 300/300V or 600 V minimum; unless otherwise specified or agreed to by the Engineer. Carbody wire insulation shall be rated at 2000 V minimum. Here "carbody wiring" shall be understood as the 1500 Volts DC traction wiring from Overhead catenary up to Variable Voltage Variable Frequency (VVVF) termination point and auxiliary power supply unit; and 5) Wires 6 mm2 and smaller shall have the appropriate insulation material as defined above. Wires larger than 6 mm2 shall be insulated only with Cross-linked Polyolefin (XLPO).
12	ERT-135 21.4.8	Updated clause 21.4.8: Wires shall be segregated according to JIS or IEC standards.
13	ERT-7 1.6.2.1	Updated clause 1.6.2.1: The following physical characteristics indicate fundamental vehicle dimensions that should be given careful attention. 1. Carbody Length (excluding coupler, overhang of leading car) 19,500 mm 2. Overall length (excluding overhang of leading car)? 20,000 mm 3. Train length (8 cars consist, excluding overhang of both leading cars) 160,000 mm

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ITEM NO.	REFERENCE/CLAUSE/ SECTION	REVISIONS / AMENDMENTS
		4. Door arrangement shall comply with Sub-Clause 8.1 of this ERT 5. Floor height — 1,130～1,150 mm 6. Pantograph lock down height — Max. 4,150 mm 7. Pantograph height working range — 4,400 – 5,415 mm 8. Wheel Diameter — 780～860 mm 9. Wheelbase — 2,100 - 2700 mm 10. Distance between Bogie center — 13,800 mm 11. Passenger Doors — Bi-parting or single leaf plug-in sliding Doors 12. Doorway entrance width — more than 900 mm (This is narrow, 1300 is usual which allows 2 streams of passengers to enter/exit) 13. Gangway door width — more than 800 mm 14. Doorway height — 1,850 mm 15. Windows — Double glazed, tempered safety glass suggests shown as laminated glass 16. Maximum axle load under W2 condition — 16,000 kg 17. Wheel back-to-back — 1359 – 1362 mm
Volume III Part 3 – Conditions of Contract and Contract Forms		
14	Section VIII – Particular Conditions Part B – Specific Provision	**Replace the item 14.1 shown in the Part B – Specific Provision with the following:**

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ITEM NO.	REFERENCE/CLAUSE/ SECTION	REVISIONS / AMENDMENTS
	Item 14.1 Contract Price	**Add the following paragraphs after the existing second paragraph;** "Notwithstanding the provision of subparagraph (b); (1) The Government of the Republic of the Philippines shall, by itself or through its executing agency, assume: i. all duties and related fiscal charges imposed in the Republic of the Philippines on the Japanese companies operating as suppliers and contractors with respect to the import and re-export of their own materials and equipment needed for the implementation of the Project; and ii. all fiscal, levies and taxes imposed in the Republic of the Philippines on the Japanese companies operating as suppliers and contractors with respect to the payment carried out for and the income accruing from the supply of products and/or services required for the implementation of the Project; and (2) The government of the Republic of the Philippines shall assume the value added tax to the Japanese Contractor in accordance with the Law of the Country. (3) In connection with such tax assumption, the Government of the Republic of the Philippines or its executing agency shall be responsible for the liquidation or settlement of such fiscal levies, duties, taxes and other similar charges.

Annex B – Attachment 1

Account Name: **Procurement Service – DBM**
Account No: **001442-1012-10**
Swift Code: **TLBPPHMMXX**

Important Notes:

i. Due to 72-hours standard wire transfer clearing process for online transfers, bidders are strictly advised to ensure transfer of the payment not later than 25 May 2021.

ii. Bidders who choose to transfer payments online shall ensure that the amount transferred shall be sufficient to cover the transfer fees of correspondent banks upon conversion of the original currency to Philippines Pesos.

iii. Bidder shall send proof of payment to the official BAC email on the same day of transfer.

iv. Please refer to Annex A-1 for the list of Depository Bank.

The Bidding Documents (without the General Conditions of Contract) may also be downloaded by the Bidders for free of charge from the website of PS, DOTr and PNR (indicated in the item 5 above), but Bidders must pay the said non-refundable fee for the Bidding Documents before the submission of their Bids.

7. Bids must be delivered to the address above on or before 10:00 AM on 29 July 2021~~28 May 2021~~ and must be accompanied by a Bid Security of Japanese Yen Four Hundred Forty Million Nine Hundred Eighty Thousand (JPY 440,980,000).

8. The Technical Bids will be opened in the presence of Bidders' representatives who choose to attend at the address given in item 5 above, immediately after the deadline for the submission of bids.

Joseph Conrad D Dueñas
Chairperson
Bids and Awards Committee IV

Account Name: **Procurement Service – DBM**
Account No: **001442-1012-10**
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<table>
<tr><td>ITB 22.2</td><td>The written confirmation of authorization to sign on behalf of the Bidder shall, corresponding to whether the Bidder is a Corporation, Partnership, Joint Venture (JV) or Sole Proprietorship, consist of the applicable documents, as follows:

<table>
<tr><th></th><th>TYPE OF ENTITY</th><th>DOCUMENT</th></tr>
<tr><td>1</td><td>Corporation</td><td>Board Resolution with Board Secretary Certificate</td></tr>
<tr><td>2</td><td>Partnership</td><td>Articles of Partnership</td></tr>
<tr><td>3</td><td>Sole Proprietorship</td><td>Special Power of Attorney (SPA)</td></tr>
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For a Japanese Company bidding as a Corporation, a SPA may be substituted for a Board Resolution with Board Secretary Certificate.

However, in the case of a JV, evidence shall be provided to demonstrate that the person(s) signing the SPA is authorized to sign for and on behalf of each member of the JV.</td></tr>
<tr><td colspan="2">D. Submission and Opening of Bids</td></tr>
<tr><td>ITB 24.1</td><td>For <u>Bid submission purposes</u> only, and acting on behalf of the Employer, the Procuring Agent’s address is:
Attention: Joseph Conrad D Dueñas
The Chairperson
Bids and Awards Committee IV

Address: Procurement Service
RR Road, Cristobal Street,
Paco, Manila

The deadline for Bid submission is:
Date: 29 July 2021~~28 May 2021~~
Time: 10:00 AM</td></tr>
<tr><td>ITB 27.1</td><td>The opening of the Technical Bids shall take place immediately after the deadline for submission of Bids in the presence of Bidders’ representatives who choose to attend at:

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E. Evaluation and Comparison of Bids	
ITB 37.1	The currency that shall be used for Bid evaluation and comparison purposes to convert all Bid Prices expressed in various currencies into a single currency is: Philippine Peso. The source of exchange rate shall be: Bangko Sentral ng Pilipinas (BSP, the Central Bank of the Philippines). The date for the exchange rate shall be: 29 June 2021~~28 April 2021~~. In the event of non-availability of exchange rate in the BSP website due to non-working days, the Bidder shall apply the exchange rate of the following working day.
ITB 38.2(c)	Replace the wording of ITB 38.2(c) with the following: "price adjustment due to any discount offered in accordance with ITB 18.6 and ITB 18.4."

E. Evaluation and Comparison of Bids	
ITB 37.1	The currency that shall be used for Bid evaluation and comparison purposes to convert all Bid Prices expressed in various currencies into a single currency is: Philippine Peso. The source of exchange rate shall be: Bangko Sentral ng Pilipinas (BSP, the Central Bank of the Philippines). The date for the exchange rate shall be: 29 June 2021. In the event of non-availability of exchange rate in the BSP website due to non-working days, the Bidder shall apply the exchange rate of the following working day.
ITB 38.2(c)	Replace the wording of ITB 38.2(c) with the following: "price adjustment due to any discount offered in accordance with ITB 18.6 and ITB 18.4."

2.1.9 Performance showing acceleration at 1350V (catenary voltage), deceleration at 1650V (catenary voltage) and maximum speed on level and straight section with tare loading, W2 loading and 7 tons~~W3 loading and 20 tons~~ per car loading at wheel diameter of 820 mm;

2.1.10 Simulation of energy consumption, main parts temperature rising based on operating curve at tare loading, W2 loading and 7 tons~~W3 loading and 20 tons~~ per car loading in one round trip;

2.1.11 Simulation of 1 or 2 units being cutout performance, coupled performance with another failed train-set at tare loading, W2 loading and 7 tons~~W3 loading and 20 tons~~ per car loading;

2.1.12 Approximate capacity calculation of battery, auxiliary power supply and air conditioning;

2.1.13 Compressor and air capacity calculation; and

2.1.14 Plan how the Bidder will perform the inspection, testing and commissioning.

2. 2 Provision of the following data and/or documents for Training:

2.2.1 Plan, organization and methodology for training of railway maintenance personnel; and

2.2.2 Plan, organization and methodology for Rolling Stock operation training of train drivers.

2.3 Provision of the following data and/or documents for supplying spare parts and consumables:

2.3.1 Plan how the Bidder will perform its obligation for defects notification; and

2.3.2 Plan to supply spare parts and consumables considered necessary for the maintenance work for 4 years initial operation including Semi-Overhaul.

2.4 Provision of the following data and/or documents for design life and required general overhaul (Renewal) plan based on design life:

2.4.1 Design life of each major part of the Rolling Stock; and

2.4.2 Required general overhaul (Renewal) plan based on the above design life.

2.1.9 Performance showing acceleration at 1350V (catenary voltage), deceleration at 1650V (catenary voltage) and maximum speed on level and straight section with tare loading, W2 loading and 7 tons per car loading at wheel diameter of 820 mm;

2.1.10 Simulation of energy consumption, main parts temperature rising based on operating curve at tare loading, W2 loading and 7 tons per car loading in one round trip;

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APPENDIX 6.8: SUPPLY SOURCE OF CAPITAL SPARE PARTS, CONSUMABLES AND SPECIAL TOOLS, JIGS AND TEST EQUIPMENT

The Bidder shall furnish a preliminary plan for the supply source of spare parts, special tools, and consumables, etc., in accordance with the Employer's Requirements.

The Bidder shall also provide the information of full particulars including available sources of all spare parts, special tools, etc., listed under ~~TS~~ Employer's Requirement Technical Requirement (ERT) ~~Clause 24.2~~ in accordance with ITB 16.1(b), using **Form SPA-1** provided in these Bidding Forms.

APPENDIX 6.8: SUPPLY SOURCE OF CAPITAL SPARE PARTS, CONSUMABLES AND SPECIAL TOOLS, JIGS AND TEST EQUIPMENT

The Bidder shall furnish a preliminary plan for the supply source of spare parts, special tools, and consumables, etc., in accordance with the Employer's Requirements.

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5) Modification 'strike box' with a minimum of 10 positions.

~~5)~~1.3.2.6 The Contractor shall identify the rolling stock hardware main components/subcomponent to be installed with the name plate during the design phase and will be reviewed by the Engineer.

1.3.3 Software Configuration

1.3.3.1 Configuration of software shall comply with the requirements of EN 50128 or any equivalent standard approved by the Engineer.

1.4 Special Responsibility of the Contractor

1.4.1.1 No examination, review and given statement of No Objection by the Engineer of the design, drawings, and documents submitted by the Contractor, with or without amendment, or any given statement of No Objection or consent given by the Engineer for any equipment or part of the Works, shall absolve the Contractor from any of his obligations under the contract or any liability arising out of the designs, drawings and documents or equipment or part of Works.

1.5 Mockup

1.5.1.1 In order to evaluate the effectiveness of the vehicle interior and its layout, the Contractor shall develop the interior design using a full-scale half- vehicle (with driver's cab) mockup. The drivers cab mockup shall be fully equipped to show completely built condition. The entire design of the vehicle interior including the drivers cab shall be reviewed by the Engineer/Employer.

1.5.1.2 The exterior of the mockup shall accurately represent that of the vehicle, and shall be painted to simulate actual materials or equivalent used. The mock-up shall be strong enough to accommodate persons inside without the damage or deformation. It shall be constructed on a substantial platform, to facilitate transportation and to prevent damage (cracking) and distortion of the hardware.

1.5.1.3 The Mockup shall be displayed to public at the location determined by the Employer. The Contractor shall bear all of the associated cost of the mock-up from Manufacture's Factory to the location of display in Metro Manila, Philippines.

1.5.1.4 The Contractor shall prepare the provision of at least twelve (12) display sites which shall be determined by the Employer over a period of 18 months of mockup display. The Contractor shall bear all of the associated cost of the Mockup logistics and others i.e., security, authority approval etc. including the demobilization of the mockup upon completion of the mockup display period.

1.6 Basic Train Formation

1.6.1 General Vehicle Configuration

1.6.1.1 ~~The limited express train is consisting of 6 motor mounted cars and 2 trailer (not motor mounted) cars with operator cab. However, the Contractor can propose alternative to the motor configuration during the design stage~~. The limited express train formation shall consist of eight (8) car sets comprises of motor mounted cars and trailer cars (not motor mounted) with operator cab. The design flexibility shall be provided for the limited express train formation of 10 car sets per consist for future expansion.

5) Modification 'strike box' with a minimum of 10 positions.

1.3.2.6 The Contractor shall identify the rolling stock hardware main components/subcomponent to be installed with the name plate during the design phase and will be reviewed by the Engineer.

1.3.3 Software Configuration

1.3.3.1 Configuration of software shall comply with the requirements of EN 50128 or any equivalent standard approved by the Engineer.

1.4 Special Responsibility of the Contractor

1.4.1.1 No examination, review and given statement of No Objection by the Engineer of the design, drawings, and documents submitted by the Contractor, with or without amendment, or any given statement of No Objection or consent given by the Engineer for any equipment or part of the Works, shall absolve the Contractor from any of his obligations under the contract or any liability arising out of the designs, drawings and documents or equipment or part of Works.

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1.6 Basic Train Formation

1.6.1 General Vehicle Configuration

1.6.1.1 . The limited express train formation shall consist of eight (8) car sets comprises of motor mounted cars and trailer cars (not motor mounted) with operator cab. The design flexibility shall be provided for the limited express train formation of 10 car sets per consist for future expansion.

1.6.1.2 Typical vehicle configuration consisting of 6 motor mounted cars and 2 trailer (not motor mounted) cars with operator cab is shown in Appendix A. The bidder shall propose the

11) Vigilance Alarm Buzzer,

12) Loud Speakers,

13) On board ATP Buzzer,

14) Fault Buzzers,

15) Miscellaneous Switches. (Horn, headlight (high/low beam), and

16) Gauges/voltmeter - such as speedometer, line voltage, Brake Cylinder pressure, main reservoir pressure, etc.

~~17) Monitors for PSD operation~~

~~18)~~17) Speedometer

5.19.2 Master Controller

5.19.2.1 The master controller shall control accelerating and braking in several steps adjustable or stepless adjustable, linear manner. In case of a several steps adjustable, the master controller features will at minimum as follows:~~, as follows:~~

	Handle Position	Function
1.	Vertically upright	OFF position
2.	Forward from the vertical position until the handle reaches its end position with a spring return device.	Propulsion, with acceleration increasing acoording 4 steps with handle movement.
3.	Backwards from the vertical position until the handle engages a a spring loaded detent.	Normal Braking, with the effort increasing acoording to 7 steps with handle movement.
4.	Backwards from the spring loaded detent in 3, until the handle reaches its end position.	Emergency braking.

In case of a stepless adjustable linear manner, the master controller features will at minimum:

a. Coasting / neutral position: The centre position is notched. Traction is not applied;
b. Traction: Pull lever forwards 0...100% of the path proportionally sets desired tractive effort;
c. Braking: Push lever backward, 0...100% of the path proportionally sets the braking effort;
d. Emergency brake: Notched to prevent accidental triggering by the driver.

5.19.2.2 The Master Controller shall be ergonomically designed to minimize unnecessary physical strain and fatigue to the driver.

5.19.2.3 The Master Controller shall have a control system for keeping the constant speed in case of powering.

5.19.2.4 The Master Controller shall be locked/unlocked by the Driver's key and Reversing Switch.

5.19.2.5 When the driver's key is in the ON position and Reversing Switch is in the forward or reverse position, the Master Controller shall be unlocked.

17) Speedometer

5.19.2 Master Controller

5.19.2.1 The master controller shall control accelerating and braking in several steps adjustable or stepless adjustable, linear manner. In case of a several steps adjustable, the master controller features will at minimum as follows:

	Handle Position	Function
1.	Vertically upright	OFF position
2.	Forward from the vertical position until the handle reaches its end position with a spring return device.	Propulsion, with acceleration increasing acoording 4 steps with handle movement.
3.	Backwards from the vertical position until the handle engages a a spring loaded detent.	Normal Braking, with the effort increasing acoording to 7 steps with handle movement.
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a. Coasting / neutral position: The centre position is notched. Traction is not applied;
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5.19.2.4 The Master Controller shall be locked/unlocked by the Driver's key and Reversing Switch.

5.19.2.5 When the driver's key is in the ON position and Reversing Switch is in the forward or reverse position, the Master Controller shall be unlocked.

5.19.2.6 The driver's key shall itself be captive when The Master Controller is not in the predetermined Emergency position.

5.19.2.7 The driver's key shall itself be captive when The Reversing Switch is not in the predetermined OFF(Neutral) position.

5.19.2.8 Only one cab of 2 cabs on a trainset shall be able to be activated at any time.

5.19.3 Reversing Switch

5.19.3.1 The Reversing Switch has three (3) positions, as follows.

13.2.1 Appropriate rate of fuses, switches and line breakers shall be incorporated into this line.

13.2.2 The circuit breakers shall be openable and closeable by the demand from TMS or the Propulsion system. The condition of open and close of the circuit breakers will be decided considering the condition of stop or running, all pantograph raising and the places in the running, etc.

~~13.2.3 (Not Used)~~

14 Auxiliary Electrical Systems

14.1 General

14.1.1 The limited express train shall be provided with auxiliary power supply equipment (APSE). ~~Two (2) cars in the 8-cars train-set shall have independent auxiliary power feeds at each voltage.~~ The AC output of the APSE shall be sinusoidal under all conditions of AC load. The type of ~~E~~emergency loads shall include, not but limited to:

1) Emergency Lighting;
2) All Exterior Lights;
3) Communication Systems, AP system and CCTV system;
4) Propulsion controls, TMS, Brake Controls, and ~~Air Compressor system~~ auxiliary compressor (if pneumatic raised pantograph);
5) Door Controls;
6) On Board Signaling equipment;
7) Cab console indicators;
8) Horn (If electrically powered);
9) Wiper control/system;
10) Active Ventilation System of VAC.

14.1.2 The typical arrangement of APSE is as per Appendix A. The bidder shall propose the APSE equipment arrangement in the bid submission. The arrangement of APSE shall consider the system requirements (Clause 1 of ERT) of this tender and the EMI to the signaling equipment.

~~10)~~14.1.3 The architecture and equipment arrangement of APSE shall be finalised during design stage. Any time and cost implication to the changes of APSE architecture and equipment arrangement from the bid submission to the given notice of no objection at final design, shall be borne by the Contractor and no contract variation shall be provided by the Employer.

~~14.1.2~~14.1.4 All electrical equipment on the trains, other than the Power Conversion Equipment and the supply to the Auxiliary Power Supply Equipment (APSE), shall operate using the following nominal voltages in respect of the EN50533 and IEC 60751 requirements, respectively:

1) 440 V_{AC}, 3-phase, 60 Hz,
2) 220 V_{AC}, 1-phase, 60 Hz,
3) 100/110 V_{DC}
4) 12/24V $_{DC}$

~~14.1.3~~14.1.5 The AC output shall be regulated ~~within ±3% for~~ according to JIS or IEC regulations for all variations in input voltage and output load.

~~14.1.4~~14.1.6 The DC output shall be regulated ~~within ±1%~~ according to JIS or IEC regulations for all variations in input voltage and controlled not to damage the battery that has been floating charge.

~~14.1.5~~14.1.7 Sufficient capacitor shall be equipped when the pantograph leaves from overhead catenary instantaneously, the power supply of APSE shall not stop. This guarantee time shall be reviewed by the Engineer.

~~14.1.6~~14.1.8 The Contractor shall submit the required capacity calculation considering 10 cars train-sets in the future extension and reviewed by the Engineer.

~~14.1.7~~14.1.9 The design of the auxiliary electrical system shall have sufficient capacity to provide backup power for normal operation of the emergency loads even in the event of lost overhead power. The design of the auxiliary electrical system and its capacity, including the backup power, shall be reviewed by the Engineer.

~~14.1.8~~14.1.10 This system shall have fuse and HSCB.

14.2 Auxiliary Power Supply Equipment

14.2.1 ~~Two (2) cars in the 8-cars train-set shall be equipped with~~The Auxiliary Power Supply Equipment (APSE) shall capable of supplying all loads continuously. The failure of an APSE shall be enunciated in the Driver's cab and shall be recorded in the TMS and APSE. At least one dead battery start feature ~~device~~ shall be incorporate in one train-set, which shall be located in the Driver's cab.

14.2.2 The APSE shall consist of but not limited to ~~an~~ auxiliary power inverter (Si-IGBT or Hybrid-SiC Technology, Self-cooling/force ventilated), to supply all AC power, and a Low Voltage Power Supply (LVPS) to provide low voltage DC power,~~.~~ ~~And APS shall have~~ HSCB and Fuse to protect from over current.

14.2.3 When designing the auxiliary power inverter, particular care shall be taken to account for the simultaneous starting of large auxiliary loads, such that rapid cycling is avoided (particularly the VAC compressor). The inverter shall use a control scheme that contains extensive self-diagnostic logic, and receptacles shall be placed in the vehicle interior and exterior to allow the connections to any necessary test equipment.

14.2.4 The chassis of APSE shall be with the use of aluminum alloys or other suitable materials which suitable for use on railways vehicles which are subsequently subjected to vibration and shock owing to the nature of railway operating environment.~~.~~

14.2.5 The auxiliary power inverter output transformer shall be galvanically isolated, and the secondary windings shall incorporate a ground fault protection system. Upon detection of a ground fault, a fault message shall be transmitted to the TMS.

14.2.6 The LVPS shall provide the power to all system controls, including the Power Conversion Equipment, friction brakes (computer, brake control units, dump valves, etc.), VAC equipment, lighting, communication equipment, doors, radio, ATP, etc. The LVPS shall be solid-state and shall contain appropriate transient suppression and protective circuitry. The LVPS shall also incorporate appropriate fault and operation indicating lights and test switches. The failure of an LVPS shall be recorded in the TMS and APSE. Logged fault into the TMS and APSE shall be stored and remain until certain number of faults. APSE shall have ordinary-speed and high-speed trace function. In high-speed trace function, logged fault related to the switching of element and behavior of instantaneous current and voltage etc. shall be required to be available for fault diagnostic analysis.

considering the condition of stop or running, all pantograph raising and the places in the running, etc.

14 Auxiliary Electrical Systems

14.1 General

14.1.1 The limited express train shall be provided with auxiliary power supply equipment (APSE). The AC output of the APSE shall be sinusoidal under all conditions of AC load. The type of emergency loads shall include, not but limited to:

1) Emergency Lighting;
2) All Exterior Lights;
3) Communication Systems, AP system and CCTV system;
4) Propulsion controls, TMS, Brake Controls, and auxiliary compressor (if pneumatic raised pantograph);
5) Door Controls;
6) On Board Signaling equipment;
7) Cab console indicators;
8) Horn (If electrically powered);
9) Wiper control/system;
10) Active Ventilation System of VAC.

14.1.2 The typical arrangement of APSE is as per Appendix A. The bidder shall propose the APSE equipment arrangement in the bid submission. The arrangement of APSE shall consider the system requirements (Clause 1 of ERT) of this tender and the EMI to the signaling equipment.

14.1.3 The architecture and equipment arrangement of APSE shall be finalised during design stage. Any time and cost implication to the changes of APSE architecture and equipment arrangement from the bid submission to the given notice of no objection at final design, shall be borne by the Contractor and no contract variation shall be provided by the Employer.

14.1.4 All electrical equipment on the trains, other than the Power Conversion Equipment and the supply to the Auxiliary Power Supply Equipment (APSE), shall operate using the following nominal voltages in respect of the EN50533 and IEC 60751 requirements, respectively:

1) 440 V_{AC}, 3-phase, 60 Hz,
2) 220 V_{AC}, 1-phase, 60 Hz,
3) 100/110 V_{DC}
4) 12/24V $_{DC}$

14.1.5 The AC output shall be regulated according to JIS or IEC regulations for all variations in input voltage and output load.

14.1.6 The DC output shall be regulated according to JIS or IEC regulations for all variations in input voltage and controlled not to damage the battery that has been floating charge.

14.1.7 Sufficient capacitor shall be equipped when the pantograph leaves from overhead

21.2.7 All wire ties used shall be of the weather-resistant (black) variety.

21.2.8 Locking washers or other devices to prevent loosening of fasteners shall be used.

21.2.9 For equipment suspended from the underframe, the load of the equipment on each bolt shall not the clamp load of the bolt. Set screws shall not be used. Where practical, load on the bolts shall be no greater that that exerted when the bolt is tightened to its recommended torque. When practical loads shall be on structural cross beams etc. Huck bolts can be used according to their strength specification.

21.3 Parts

21.3.1 Components, plates, shields, or other parts, which may be removed for repair or maintained, shall be interchangeable with others identical item.

21.3.2 Non-maintained components shall be designed for a useful life of 30 years. If, during the warranty period, it is demonstrated that the extrapolated life of any component is less than 30 years, the component must be redesigned and replaced on every vehicle.

21.3.3 All parts shall be free from sharp edge and burrs that might injure persons or damage clothing.

21.4 Electrical Components

21.4.1 Terminals

21.4.1.1 Solderless terminals shall be submitted for the review of the Engineer and given the Statement of No Objection on equivalent and shall have sufficient current carrying capacity, de-rated to the anticipated maximum operating temperature.

21.4.1.2 The use of quick connect ("FASTON") terminals shall not be allowed, except subject to review by the Engineer. When allowed, quick connect terminals must be of brass or phosphor bronze.

21.4.1.3 Only ring tongue terminals shall be used, except as specifically reviewed and commented by the Engineer.

21.4.2 Wire Insulation

21.4.2.1 Cables shall conform to EN50264 or other equivalent standards.

21.4.2.2 Unless otherwise specified, wire insulation shall be one of the following types, unless specifically reviewed and commented by the Engineer:

1) Ethylene Tetrafluoroethylene (ETFE) fluoropolymer having a continuous temperature rating of 150 °C,

2) Abrasion resistant, filled Tetrafluoroethylene (TFE) with a temperature rating of 260 °C

3) Cross-linked Polyolefin (XLPO),

4) All wire insulation, except carbody wiring, shall be rated at 300/300V or 600 V minimum; unless otherwise specified or agreed to by the Engineer. Carbody wire insulation shall be rated at 2000 V minimum. Here "carbody wiring" shall be understood as the 1500 Volts DC traction wiring from Overhead catenary up to

Variable Voltage Variable Frequency (VVVF) termination point and auxiliary power supply unit; and

5) Wires 6 mm^2 and smaller shall have the appropriate insulation material as defined above. Wires larger than 6 mm^2 shall be insulated only with Cross-linked Polyolefin (XLPO).

21.4.3 Wire Current Rating (Ampere Capacity)

21.4.3.1 The selection of wire sizes and insulation shall be based on the current carrying capacity, voltage drop, mechanical strength, expected maximum operating temperature and flexibility requirements in accordance with applicable Rail Industry approved standards.

21.4.3.2 Maximum wire current rating shall conform to applicable Rail Industry approved standards. Where conductors are routed in a raceway or cable, the current rating shall be suitably de-rated.

21.4.4 Wire Stranding

21.4.4.1 Wires stranding and conductor construction shall be appropriate for the application, taking into account wire size, flexing requirements, etc., and shall comply with appropriate Rail Industry approved standards.

21.4.5 Wiring Prohibition

21.4.5.1 Pinch screw terminals and solid conductors are specifically forbidden.

21.4.6 Creepage and Clearance

21.4.6.1 Electrical creepage and clearance shall be adequate for the voltage levels and environment.

21.4.7 Insulation Resistance

21.4.7.1 The insulation resistance of all wiring shall be designed and tested in accordance with Industry approved Insulation Resistance Test and High Potential Test procedure.

21.4.8 Voltage Segregation

~~21.4.9~~ Wires shall be segregated according to JIS or IEC standards. ~~Wires shall be segregated into separate bundles/harnesses and connectors according to the voltage ratings in the following classes.:~~

~~1) Line voltage DC wiring,~~

~~1) Low voltage AC wiring (Under 600V),~~

~~2) Battery voltage wiring (Under 125V),~~

~~3) ETCS wiring, and~~

~~4) Radio, Intercom, P/A wiring.~~

21.2.7 All wire ties used shall be of the weather-resistant (black) variety.

21.2.8 Locking washers or other devices to prevent loosening of fasteners shall be used.

21.2.9 For equipment suspended from the underframe, the load of the equipment on each bolt shall not the clamp load of the bolt. Set screws shall not be used. Where practical, load on the bolts shall be no greater that that exerted when the bolt is tightened to its recommended torque. When practical loads shall be on structural cross beams etc. Huck bolts can be used according to their strength specification.

21.3 Parts

21.3.1 Components, plates, shields, or other parts, which may be removed for repair or maintained, shall be interchangeable with others identical item.

21.3.2 Non-maintained components shall be designed for a useful life of 30 years. If, during the warranty period, it is demonstrated that the extrapolated life of any component is less than 30 years, the component must be redesigned and replaced on every vehicle.

21.3.3 All parts shall be free from sharp edge and burrs that might injure persons or damage clothing.

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21.4.1 Terminals

21.4.1.1 Solderless terminals shall be submitted for the review of the Engineer and given the Statement of No Objection on equivalent and shall have sufficient current carrying capacity, de-rated to the anticipated maximum operating temperature.

21.4.1.2 The use of quick connect ("FASTON") terminals shall not be allowed, except subject to review by the Engineer. When allowed, quick connect terminals must be of brass or phosphor bronze.

21.4.1.3 Only ring tongue terminals shall be used, except as specifically reviewed and commented by the Engineer.

21.4.2 Wire Insulation

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21.4.2.2 Unless otherwise specified, wire insulation shall be one of the following types, unless specifically reviewed and commented by the Engineer:

1) Ethylene Tetrafluoroethylene (ETFE) fluoropolymer having a continuous temperature rating of 150 °C,
2) Abrasion resistant, filled Tetrafluoroethylene (TFE) with a temperature rating of 260 °C
3) Cross-linked Polyolefin (XLPO),
4) All wire insulation, except carbody wiring, shall be rated at 300/300V or 600 V minimum; unless otherwise specified or agreed to by the Engineer. Carbody wire insulation shall be rated at 2000 V minimum. Here "carbody wiring" shall be understood as the 1500 Volts DC traction wiring from Overhead catenary up to

Variable Voltage Variable Frequency (VVVF) termination point and auxiliary power supply unit; and

5) Wires 6 mm^2 and smaller shall have the appropriate insulation material as defined above. Wires larger than 6 mm^2 shall be insulated only with Cross-linked Polyolefin (XLPO).

21.4.3 Wire Current Rating (Ampere Capacity)

21.4.3.1 The selection of wire sizes and insulation shall be based on the current carrying capacity, voltage drop, mechanical strength, expected maximum operating temperature and flexibility requirements in accordance with applicable Rail Industry approved standards.

21.4.3.2 Maximum wire current rating shall conform to applicable Rail Industry approved standards. Where conductors are routed in a raceway or cable, the current rating shall be suitably de-rated.

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21.4.4.1 Wires stranding and conductor construction shall be appropriate for the application, taking into account wire size, flexing requirements, etc., and shall comply with appropriate Rail Industry approved standards.

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21.4.5.1 Pinch screw terminals and solid conductors are specifically forbidden.

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21.4.6.1 Electrical creepage and clearance shall be adequate for the voltage levels and environment.

21.4.7 Insulation Resistance

21.4.7.1 The insulation resistance of all wiring shall be designed and tested in accordance with Industry approved Insulation Resistance Test and High Potential Test procedure.

21.4.8 Voltage Segregation

Wires shall be segregated according to JIS or IEC standards.

21.5 **Electronic Equipment**

21.5.1 As a minimum, all electronic equipment shall comply with JIS E 5006: Electronic Equipment used on Rail Vehicles (or other equivalent standards), for design, manufacture and testing and shall use components purchased against an internationally recognized quality.

21.5.2 Electronic components shall only be purchases from suppliers with a minimum ISO 9001/2 certification or other equivalent standards.

should be given careful attention.

1.	Carbody Length (excluding coupler, overhang of leading car)	19,500 mm
2.	Overall length (excluding overhang of leading car)?	20,000 mm
3.	Train length (~~In case of~~ 8 cars consist, excluding overhang of both leading cars)	160,000 mm
~~4.~~	~~Overall Width (excluding light on both sides of the vehicle)~~	~~2,950 mm~~
~~5.~~	~~Overall height from top of rail to roof (excluding air conditioning system on the roof)~~	~~3,655 mm~~
~~6.~~4.	Door arrangement shall comply with Sub-Clause 8.1 of this ERT	
~~7.~~5.	Floor height	1,130～1,150 mm
~~8.~~6.	Pantograph lock down height	Max. 4,150 mm
~~9.~~7.	Pantograph height working range	4,400 – 5,415 mm
~~10.~~8.	Wheel Diameter	780～860 mm
~~11.~~9.	Wheelbase	2,100 - 2700 mm
~~12.~~10.	Distance between Bogie center	13,800 mm
~~13.~~11.	Passenger Doors	Bi-parting or single leaf plug-in sliding Doors
~~14.~~12.	Doorway entrance width	more than 900 mm (This is narrow, 1300 is usual which allows 2 streams of passengers to enter/exit)
~~15.~~13.	Gangway door width	more than 800 mm
~~16.~~14.	Doorway height	1,850 mm
~~17.~~15.	Windows	Double glazed, tempered safety glass suggests shown as laminated glass
~~18.~~16.	Maximum axle load under W2 condition	16,000 kg
~~19.~~17.	Wheel back-to-back	1359 – 1362 mm

1.7 Track Standards

Main Line	: EN 60 E1	Standard Length 25m
Depot	: JIS 50N	Standard Length 25m

1.8 Route Data

1.8.1 Horizontal Curve Radius

1) For main line: More than 260 m for NSCR-N1, NSCR-N2 and NSCR-SC
2) For side track: More than 100m
3) For stations: More than 400 m
4) For turnouts: More than 160 m (Main Line) for NSCR-N1;
   More than 165m (Main Line) for NSCR-N2 and NSCR-SC
5) For depot: More than 100 m for NSCR-N1, NSCR-N2 and NSCR-SC

limited express eight (8) cars train formation comprises of motor mounted cars, trailer cars and cars with operator cab. The proposed formation and the equipment architecture shall meet the system requirements in this tender not limited to weights limits, train performance, noise and vibration etc. The proposed train formation and equipment architecture data/documents shall be provided in the bid submission.

1.6.1.3 The limited express train formation and equipment arrangement architecture shall be finalised during design stage. Any time and cost implication to the changes of train formation and equipment arrangement architecture from the bid submission to the given notice of no objection at final design, shall be borne by the Contractor and no contract variation shall be provided by the Employer.

1.6.1.4 Auxiliary Power Equipment, Battery and Battery charger location shall be arranged to avoid the EMI to the signaling equipment unless otherwise specified.

1.6.1.5 The mass (tare weight) of the 8-cars trainset shall be 315 tons or less.

1.6.1.6 Weight balance, lower center of gravity, etc., shall be taken into consideration. The weight distribution shall be as defined in IEC 61133 or any equivalent standard approved the Engineer.

1.6.1.7 Total gross axle load of leading car and middle car shall not exceed 16 Tonnes for loads as in section 8.5 of IEC61133

1.6.1.8 Provision for 10 car trainsets shall be provided for future upgrade. The evidence of data/document shall be provided in the bid submission.

1.6.1.9 Typical Power and Auxiliary Electric System Configuration is as follow:

1) Six (6) power conversion systems which can drive four (4) AC motors shall be equipped in suitable three (3) intermediate cars of trainsets. Two (2) auxiliary power supply systems with a primary inverter to serve the auxiliary loads shall be equipped in the proper place of trainsets. The simplified block diagram for reference is shown in Appendix A

1.6.1.10 The bidder shall propose the power and auxiliary electric system configuration and this proposal shall be submitted in the bid submission. The positions where these devices shall be reviewed by the Engineers. Both leading cars shall be trailer car (not motor mounted) considering EMC and the mounted space for on-board ETCS, Running and Stopping Assistant system and PSD controller.

1.6.1.11 Under emergency conditions, one train in W2 (Clause 1.1) loading must be capable of operating with another train in W2 loading coupled to it for hauling or pushing.

1.6.1.12 The major electrical equipment table shall be provided by bidder in the bid submission. The major electrical equipment table shall be finalized during design stage.

1.6.2 Vehicle Physical Characteristics

1.6.2.1 The following physical characteristics indicate fundamental vehicle dimensions that should be given careful attention.

1.	Carbody Length (excluding coupler, overhang of leading car)	19,500 mm
2.	Overall length (excluding overhang of leading car)?	20,000 mm
3.	Train length (8 cars consist, excluding overhang of both leading cars)	160,000 mm

4.	Door arrangement shall comply with Sub-Clause 8.1 of this ERT	
5.	Floor height	1,130～1,150 mm
6.	Pantograph lock down height	Max. 4,150 mm
7.	Pantograph height working range	4,400 – 5,415 mm
8.	Wheel Diameter	780～860 mm
9.	Wheelbase	2,100 - 2700 mm
10.	Distance between Bogie center	13,800 mm
11.	Passenger Doors	Bi-parting or single leaf plug-in sliding Doors
12.	Doorway entrance width	more than 900 mm (This is narrow, 1300 is usual which allows 2 streams of passengers to enter/exit)
13.	Gangway door width	more than 800 mm
14.	Doorway height	1,850 mm
15.	Windows	Double glazed, tempered safety glass suggests shown as laminated glass
16.	Maximum axle load under W2 condition	16,000 kg
17.	Wheel back-to-back	1359 – 1362 mm

1.7 Track Standards

Main Line	: EN 60 E1	Standard Length 25m
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2) For side track: More than 100m
3) For stations: More than 400 m
4) For turnouts: More than 160 m (Main Line) for NSCR-N1;
   More than 165m (Main Line) for NSCR-N2 and NSCR-SC
5) For depot: More than 100 m for NSCR-N1, NSCR-N2 and NSCR-SC

1.8.2 Transition Curve Length:

1.8.2.1 For NSCR-N1:

1) Maximum out of L1, L2, and L3
2) Where L1=800 C, L2=7.5 CV, L3=6.75 CdV
3) Length between transition curves: more than 20 m

1.8.2.2 For NSCR-N2 and NSCR-SC:

1) Maximum out of L1, L2 and L3
2) L1=1000 Ca (over 120 km/h section),

9.1 Contractor`s Obligations

Delete the subparagraph (c) and fourth paragraph, replace fourth paragraph with the following:

"During Tests On Completion, when the Works are operating under stable conditions, the Contractor shall give notice to the Engineer that the Works are ready for any other Tests on Completion, including Integrated Testing and Commissioning, performance tests to demonstrate whether the Works conform with criteria specified in the Employer's Requirements and Compliance Matrix. Refer to the Employer's Requirements for the Inspection, Testing and Commissioning related requirements."

14.1 The Contract Price

Add the following paragraphs after the existing second paragraph;

"Notwithstanding the provision of subparagraph (b);

(1) The Government of the Republic of the Philippines shall, by itself or through its executing agency, assume:

i. all duties and related fiscal charges imposed in the Republic of the Philippines on the Japanese~~/International~~ companies operating as suppliers and contractors with respect to the import and re-export of their own materials and equipment needed for the implementation of the Project; and

ii. all fiscal, levies and taxes imposed in the Republic of the Philippines on the Japanese~~/International~~ companies operating as suppliers and contractors with respect to the payment carried out for and the income accruing from the supply of products and/or services required for the implementation of the Project; and

(2) The government of the Republic of the Philippines shall assume the value added tax to the Japanese Contractor in accordance with the Law of the Country.

(3) In connection with such tax assumption, the Government of the Republic of the Philippines or its executing agency shall be responsible for the liquidation or settlement of such fiscal levies, duties, taxes and other similar charges.

14.7 Payment

Add the following Paragraphs after the existing second paragraph:

Payments to the Contractor in both Local Currency and Foreign Currency will be made under the Transfer Procedure, detailed explanation of which could be found on JICA's web site shown below:

https://www.jica.go.jp/english/our_work/types_of_assistance/oda_loans/oda_op_info/procedure/index.html

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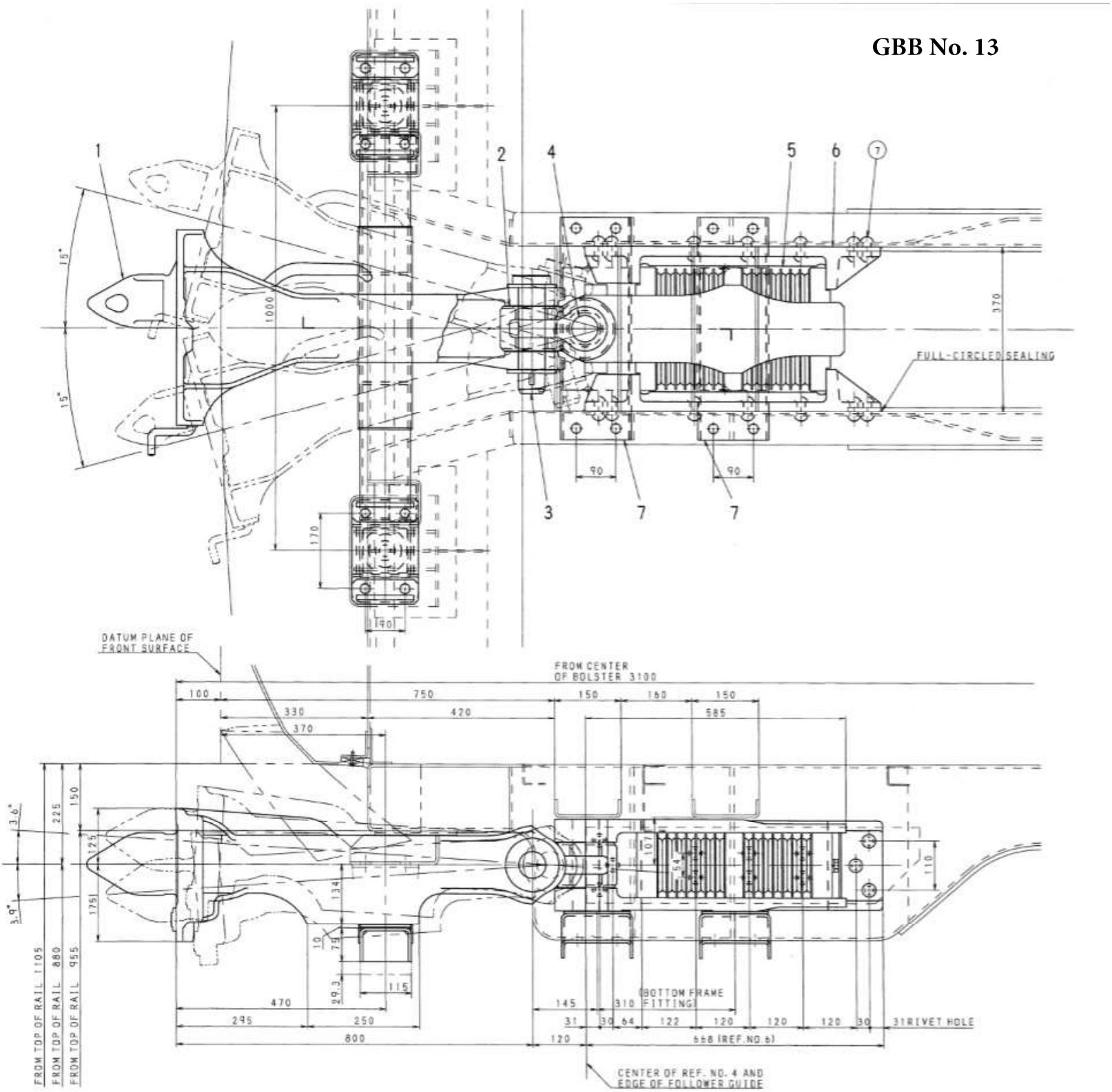
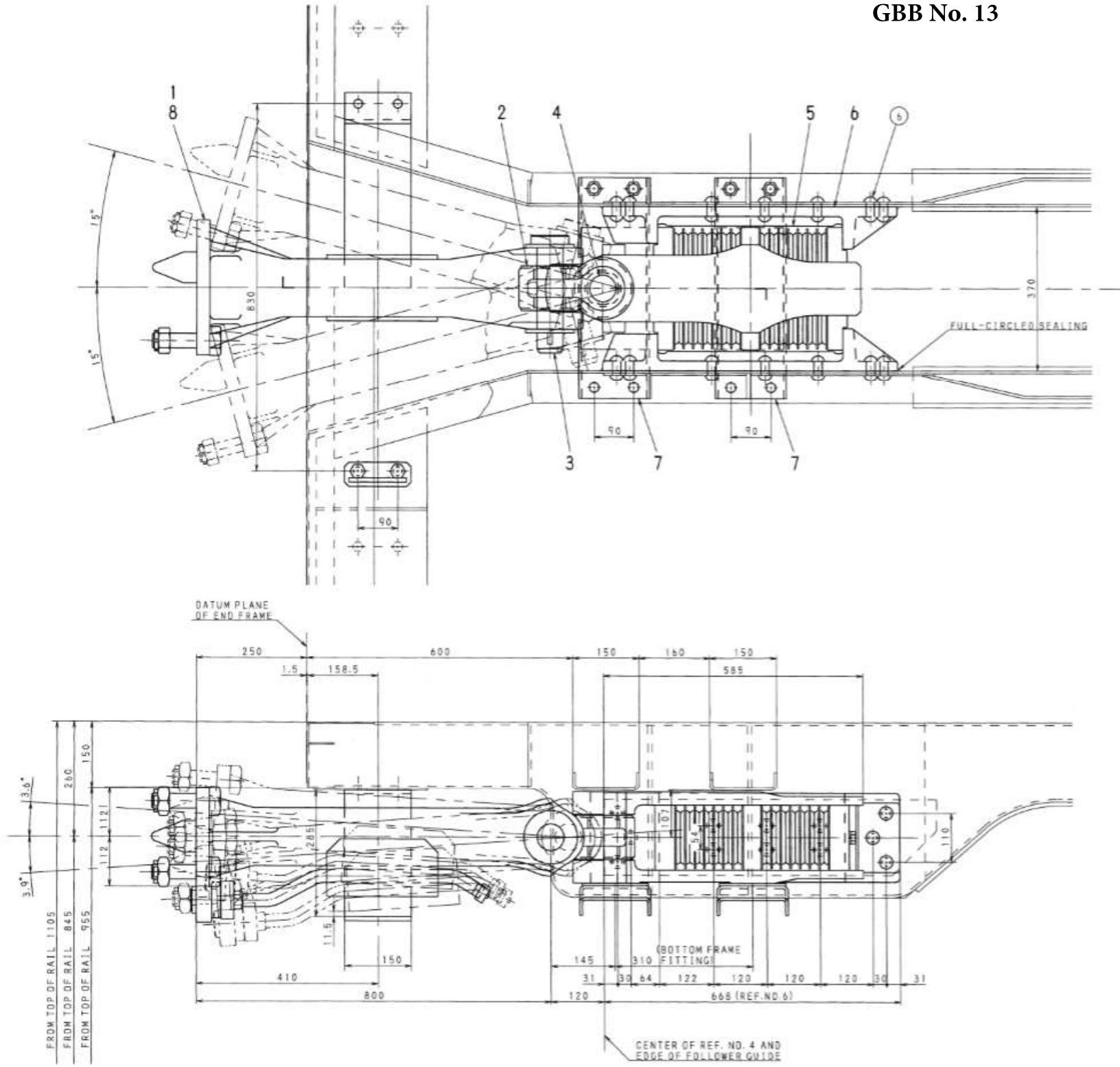
Annex B – Attachment 2

GBB No. 13


1
2
3
4
5
6
7
7
7
15°
15°
1000
170
190
90
90
370
FULL-CIRCLED SEALING
DATUM PLANE OF FRONT SURFACE
FROM CENTER OF BOLSTER 3100
100
750
150
160
150
330
420
585
370
3.6°
5.9°
225
150
125
175
134
10
75
29.3
115
470
295
250
800
101
54
110
145
310
BOTTOM FRAME FITTING
31
30
64
122
120
120
120
30
31 RIVET HOLE
120
668 (REF. NO. 6)
FROM TOP OF RAIL 1105
FROM TOP OF RAIL 880
FROM TOP OF RAIL 955
CENTER OF REF. NO. 4 AND EDGE OF FOLLOWER GUIDE

GBB No. 13


1
8
2
4
5
6
6
15°
15°
830
370
FULL-CIRCLED SEALING
90
90
90
3
7
7
DATUM PLANE
OF END FRAME
250
600
150
160
150
1.5
158.5
585
3.6°
3.9°
260
150
112
121
285
107
54
110
11.5
150
410
800
120
145
310
(BOTTOM FRAME
FITTING)
31
30
64
122
120
120
120
30
31
668 (REF.NO.6)
FROM TOP OF RAIL 1105
FROM TOP OF RAIL 845
FROM TOP OF RAIL 955
CENTER OF REF. NO. 4 AND
EDGE OF FOLLOWER GUIDE