



# जवाहरलाल नेहरू पोर्ट ट्रस्ट

## JAWAHARLAL NEHRU PORT TRUST

ISO 9001 : 2015  
ISO 14001 : 2015  
ISO 27001 : 2013  
OHSAS 45001 : 2018

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### ADDENDUM-III TO RFQ

Ref no: JNP/M(MCB)/2021/1031

Date: 19-10-2021

To,

All Prospective Applicants

**Sub : "Upgradation, Operation, Maintenance and Transfer of Jawaharlal Nehru Port Container Terminal (JNPCT) Through Public Private Partnership (PPP)" – Reply to the queries submitted by prospective Bidders/ Applicants and extension of time for submission of RFQ -Reg.**

Dear Sir,

With reference to various queries submitted by Pre-Application Applicants for RFQ in respect of JNPCT PPP project, the replies along with relevant supporting documents for all 200 queries is attached herewith for information and necessary action please. The same is also uploaded on JNPT website. Please note that as per clause 2.9.3 of RFQ, all clarifications and interpretations issued by the Authority shall be deemed to be part of the RFQ. Hence this replies shall be treated as part of RFQ.

Further please note that the revised schedule for submission of RFQ bids/application due date by the prospective applicants and opening of bids is as follows:

Sr.No	Description	Original Date	Revised date
1	Authority response to queries latest by	07/10/2021	19/10/2021
2	Purchase/downloading of RFQ document from JNPT website is permitted	Up to 11:00 hrs on 18-10-2021	Up to 11:00 hrs on 18-10-2021 (unchanged)
3	Application Due Date	Upto 12:00 hrs. IST 18/10/2021	Upto 12:00 hrs. IST 02/11/2021
4	Opening of the Application	18/10/2021 at 14:30 hrs. IST	02/11/2021 at 14:30 hrs. IST

Thanking you.

Yours faithfully

(Nagesh Akode)  
Manager (MCB)

Sr. No	Clause No. As per Querist	Query	Reply
1		Can the Authority confirm if the Tariff applicable at JNPCT will be regulated by any Laws or Provisions or it shall be as per Free Market? Specifically, will TAMP be applicable?	Please refer clause 1.2.9 of the RFQ. The provisions of MPA Act will be notified and will become applicable shortly. However, till such time, TAMP notification shall prevail. Further, as per the current practice, the Concessionaire to collect Toll and Mandatory Usage Charges (MUC) and remit the same to JNPT and DMIDC respectively.
2		Appendix V. "e-SHAJ" - Is it mandatory for each member of the Consortium to individually apply for the Security Clearance or only the Lead Member can apply on behalf of the Consortium?	It is mandatory for each member of the Consortium to individually apply for the Security Clearance. Bidders are requested to provide the relevant information as given in Appendix E . Each Consortium member will need to submit 12 hard copies of Appendix E.
3		Can the authority clarify, in a Consortium with a Lead Member and another member, if the Applicant does not utilise the eligibilities for Technical, Financial & O&M Eligibilities of other member of the Consortium who is not a Lead Member, is the percentage shareholding of 26 % is mandatory for the other member besides the lead member or the same can be lower or higher than 26 %?	Please refer clause 2.2.6 (New)
4		Can the authority clarify the basis of 1.8 million TEUS capacity calculation? The official website states the figure as 1.5 million TEUS? Can the authority provide the reason for the estimate?	The capacity is based on the guidelines issued by TAMP for fixing of upfront Tariff based on the number of cranes, number of moves per crane, etc. Please refer extract of Feasibility Report given in Appendix A .

Sr. No	Clause No. As per Querist	Query	Reply
			The capacity shown in the website is the existing capacity based on the type of equipment.
5		Can the authority provide its rationale for estimated project cost as mentioned in the RFQ document?	At present, the indicative total cost of the project is ~Rs. 863.31 crore, which inter alia includes, phase I cost of Rs. 583.13 crore and phase II cost of Rs. 280.17 crore. Detailed breakup will be provided at RFP Stage.
6		Refer to Page 89 - 90 - Traffic Assessment - Can the authority provide details on Y2025 decline from 0.75 Mil TEU to 0.39 Mil TEU. Is there any special reason for the decline?	JNPT's assessment is based on various assumptions like impact of Covid 19, construction activities at JNPCT and competing facilities. Bidders can ascertain their own traffic potential for the subject project.
7		Can the authority clarify, that in a Consortium with a Lead Member and another member, that all documents such Appendix(s) along with Annexures are required from only the Lead Member or from both the Lead Member and other member having 26 % equity?	Apart from Appendix(s) and Annexures specifically applicable to Members whose Technical and/or Financial ability have been considered for the purpose of evaluating the prequalification criteria, all documents need to be submitted by all members, subject to RFQ
8		Can the authority clarify in reference to O&M Experience how or in what format can the Applicant provide its experience?	Applicants are requested to provide the details of operation & Maintenance in their format and certify the same.
9		Can the authority clarify if the Pre-Integrity Pact is required to be provided during RFQ submission Stage or at the RFP Stage?	It will be required at RFP Stage.

Sr. No	Clause No. As per Querist	Query	Reply
10		Can the authority clarify, in a Consortium with a Lead Member and another member, that can the Lead Member and the other member provide the Separate Power of Attorney (Appendix - III - Lead Member) due to logistical challenges of the Applicant member countries?	Clause 2.2.5 (New ) may be referred. RFQ conditions shall prevail.
11		Can the authority clarify, in a Consortium with a Lead Member and another member, if the other member can authorise a representative of the Lead Member vide Board Resolution or Power of Attorney to sign the Power of Attorney (Appendix - III) and Joint Bidding Agreement as mentioned in the RFQ?	RFQ conditions shall prevail.
12		Can the authority clarify that if in a Consortium having a Lead Member and another member wherein the capabilities of only the Lead Member are utilised for Technical, Financial & O&M capabilities?	Please refer clause 2.2.2 (New )
13		Name & address of Banker (Page No. 49). Can the authority clarify what kind of banker(s) are being referred to here? Long/short-term loan banker or deposit account banker.	Relevant details of Bankers with whom Applicant conducts the banking business.
14		Can the authority clarify, in a Consortium with a Lead Member and another member do we require the details, such as Balance Sheet, Audited Results etc. from the other member whose capabilities are not being utilised?	Please refer 2.13.2 . (read along with 1.2.1 )

Sr. No	Clause No. As per Querist	Query	Reply
15		Can the authority clarify if the documents such Board Resolution, Power of Attorney, Audited Results, Net Worth Certificate, Balance Sheets etc. required to be submitted in original or photocopies are sufficient?	Please refer Clause 2.12.2
16		Can the authority clarify if there will be a scrutiny of document before submission of RFQ?	Please refer Appendix I to RFQ.
17		Can the authority clarify if the financial numbers / figures as requested are to be standalone or consolidated?	Standalone Financial Numbers
18		Can the authority clarify if 2 (two) soft copies of the application can be submitted on a Pen Drive instead of a Compact Disc (CD)?	Pen Drive will also be accepted
19		Can the authority provide the following: a. Quay furniture specs (bollards and fenders) b. Bollard capacity and spacing c. Fender energy absorption capacity and panel size (make and model)	Kindly refer Executive Summary of IIT Madras Report given in Appendix B
20		Can the authority provide General arrangement of quay, bridges and yard (preferably in aCad format)	Kindly refer Executive Summary of IIT Madras Report given in Appendix B
21		Can the authority provide the Existing STS and RTG specs: a. Classification (number of design cycles) b. Current cycle count c. General layout drawings	a) RMQCs,RTGCs and RMGCs are designed for near continuous operation with a crane life of 20 years .The designed duty cycle for these equipment is 40 cycles/ hr. b) Please refer Appendix C c) Please refer GA Drawings given in Appendix D.

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22		<p>Can the authority provide the following infrastructure details as mentioned below:</p> <p>a. Detailed terminal layout;</p> <p>b. Cross section of yard view;</p> <p>c. Light masts location;</p> <p>d. Substation location;</p>	<p>a &amp; b. Kindly refer Executive Summary of IIT Madras Report given in Appendix B .</p> <p>c. 36 High masts 30/40'</p> <p>d. E7 Substation at the Berth &amp; E6A substation at yard near CY-37.</p> <p>Intending bidder is requested to visit the site to have clear idea.</p>
23		<p>Can the authority provide the JNPCT Substation power? Also, is it possible to expand?</p>	<p>At present, JNPCT is feeding power supply to the existing JNP-CT from E6A substation and this substation is having sufficient capacity to run the present terminal.</p> <p>Any expansion requirement may be ascertained by the bidder.</p>
24		<p>Can the Authority provide details about gate operating system and terminal operating system?</p>	<p>Gate Operating System:</p> <p>The RFID based Gate Automation System (AGS) at JNP Container Terminal has been commissioned w.e.f 01.09.2018 by M/s. Suraj Informatics Pvt Ltd which comprising of Server, CCTV cameras, Hand Held Devices, Desk Tops, Boom barriers and related software etc.. The server is installed in data center. The AGS system has been integrated with Terminal Operating System (ie SPARCS N4).</p> <p>In order to reduce the congestion at the gates, IN Survey Point and Out survey points were installed where in capturing of images and data entry activities are being carried out. This has enabled to reduce gate transaction time as well as gate congestion.</p>

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			<p>There are 4 Lanes at In Survey Point and 2 Lanes at Out Survey point for trailers.</p> <p>Terminal operating System:  JNCT is using NAVIS N4 TOS which capture all the events recorded against the movement and operation of units(containers) in the terminal.  JNPCT is using Navis N4 3.8.1 version.</p> <p>Modules in Navis N4</p> <ol style="list-style-type: none"> <li>1. Gate</li> <li>2. Yard</li> <li>3. Vessel</li> <li>4. Rail3</li> <li>5. Business Intelligence Portal</li> <li>6. EDI</li> <li>7. XPS (Planning)</li> <li>8. Radio Server (RDT)</li> <li>9. Facility Planning and Control</li> <li>10. Advanced Vessel Options</li> <li>11. Advanced Yard Options</li> <li>12. Advanced Rail Options</li> <li>13. Navis Community Access Portal (CAP)</li> </ol>
25		Can the authority clarify the level of digitisation and level of automation of the equipment?	All Equipment are provided with CMMS in E room and FDU along with RDT in Operator cabin.

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26	1.1.1	<p>The Project has been divided in two phases. Please provide the basic details and timelines for phase 1 and Phase 2 envisaged under the Project.</p> <p>Please also clarify if the bidder will have the flexibility on phasing and designing of terminal.</p>	<p>Phase-1 - Upgradation of 400 m quay length and equipping the same with 3/2 new RMQCs of 30.48 m rail span and achieving the throughput of 1.02 MTEUs.</p> <p>Phase-2 - Upgradation of balance 280 m quay length and equipping it with 2/3 new RMQCs having 30.48 m rail span and increasing the throughput to 1.8 MTEUs.</p> <p>Phase 1 comprises of 1.2 Mn TEUs capacity, while phase 2 comprises of 1.8 Mn TEUs capacity. The development of phase 2 to commence on attaining the Annual Throughput of 1.02 MTEUs or within 7 years from the Date of Award of Concession, whichever is earlier.</p> <p>Phase 2 to be completed within a period of 18 months.</p> <p>Subject to provisions of the draft concession agreement to be provided during RFP stage, concessionaire will have the flexibility for phasing and terminal design.</p>



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27	Annexure A	<p>The RFQ provides for 12,200 TEU vessel size - (LOA 398 m, Draft - 15 m, Beam -56.4 m)</p> <p>Is there any plan to increase the vessel size and draft in future at this berth.</p>	<p>The Authority will maintain requisite drafts at navigation channel, berth pocket, turning circle. The depths maintained in the channel are varying from 14.4 m in JNPT Channel to 15.6 m below chart datum in outer Harbour channel and berth pockets is maintained to 16.2 m below Chart Datum. The channel is designed to handle vessels upto 15 m draft by using tidal window. Higher drafts of more than 15 m are permitted after prior approval of Marine Dept.</p> <p>There are no plans to deepen further the navigation channel and berth pockets as berths are stable upto 16.5 m dredged depth.</p>
28	Annexure A	<p>Since the Project is existing operating facility, we understand the selected bidder will undertake simultaneous operations and project works. Kindly Confirm.</p> <p>If Yes, please confirm the corresponding tariff which can be charged by the selected bidder and the revenue to be paid to Port Trust prior to commencement of operations of upgraded Project.</p>	<p>The selected bidder can undertake simultaneous operations and project works.</p> <p>For Tariff please Refer Clause 1.2.9</p>
29	Annexure A	<p>Kindly share the study conducted by IIT -M.</p> <p>Kindly confirm if the bidder will have flexibility to study the same and suggest any alternate if possible?</p>	<p>Executive Summary of IIT Madras Report is given in Appendix B . If alternative design is suggested by the bidder, the same shall be vetted for design proof check by any IIT/NIT.</p>

Sr. No	Clause No. As per Querist	Query	Reply
30	1.1.1	Please provide broad breakup of the costs. Kindly confirm whether the Project envisages only replacement of equipment, or it also involves some civil works?	Refer response to Query No.5. It involves civil work also.
31	1.2.9	As per Major ports Act 2021 Concessionaire should have full flexibility of fixing the tariff. Kindly confirm the applicability of same.	Refer response to Query No.1
32	2.2.1	An Applicant desired to have experience in providing services in seaport terminal (containers, dry bulk, liquid bulk or general cargo)/ CFS/ ICD/MLSP/ inland waterway terminal (containers, dry bulk, liquid bulk or general cargo) and have handled at least 45 million MT of cargo or 3 million Twenty Foot Equivalent Units ("TEUs") during the past 5 (five) financial years cumulatively. Kindly confirm if any supporting documents are required to be submitted along with RFQ Application to show desired experience for substantiating the same.	Yes, relevant supporting documents may be provided.
33	Appendix V	As per the RFQ Security Clearance is to be filled via "e-SHAJ" portal. It is submitted that there are some technical glitches and uploading the details in same has experienced difficulties in other bids of Major Ports. In other Major Ports it has been allowed to submit the details physically also.	It is mandatory for each member of the Consortium to individually apply for the Security Clearance. Bidders are requested to provide the relevant information as given in Appendix E. Each Consortium member will need to submit 12 hard copies of Appendix E.

Sr. No	Clause No. As per Querist	Query	Reply
		We request you to please share the format for submission and allow us to submit the Security Clearance through offline Mode along with RFQ Application.	
34	General	The RFQ does not clarify on any clearance required (if any) is under the Concessionaire scope or not. Kindly confirm if any environmental clearance required for this project as it is modernization of an existing project. If yes, what is the status of the same?	In case of upgradation and expansion, CRZ Clearance may be required. The Authority will obtain the same on request of concessionaire.
35	1.2.2	Request if the authority can provide a data room and depute officers to share more details pertaining to the project and operational assets including Manpower so that the prospective participants can complete the assessment process within the specified time frame.	The bidder qualifying the RFQ may collect the data available with the Port.
36	2.2.2 (e)  (Correct Reference 2.2.1 (e) )	An Applicant desired to have experience in providing services in seaport terminal (containers, dry bulk, liquid bulk or general cargo)/ CFS/ ICD/MLSP/ inland waterway terminal (containers, dry bulk, liquid bulk or general cargo) and have handled at least 45 million MT of cargo or 3 million Twenty Foot Equivalent Units (“TEUs”) during the past 5 (five) financial years cumulatively.	Refer Clause 2.2.1 (e)

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		Request to please confirm that no preferences shall be given for applicants meeting the desired experience.	
37	2.2.7 (Old)/ 2.2.9 (New)	To reconfirm where the applicant in standalone capacity can claim the Net Worth of its associates, where applicant controls more than 50% voting shares, to arrive at the final aggregate net worth of Rs. 215.8275 Crores.	Refer Clause 2.2.6 and 2.2.9 (New), which will prevail.
38	2.12.2	Please confirm if soft copies are allowed on USB portable drive.	Refer response to Query No.18
39	Appendix VII	Request to please clarify if the existing private terminal operators at JNPT can participate in this RFQ tender process.	Yes, the existing private terminal operators at JNPT can participate.
40	Appendix V	Refer Appendix V: There are technical difficulties to register on new e-Sahaj Portal which is non-functional and therefore the applicants are unable to submit application on the portal. Please confirm it would suffice if the applicant can submit the information in hard copy (12 copies) as is being allowed by other major ports in PPP project tenders. The format for hard copy submission to be shared by the authority.	Refer response to Query No.33

Sr. No	Clause No. As per Querist	Query	Reply
41	Annexure A	Request to please confirm if the rail handling yard inside the JN Port is DFCC compliant for double stack rail operations. Also understand from the information document, a dedicated yard for the DFCC cargo is available at JNPT. Please confirm how the rail operations and movement of containers will take place between existing yard and dedicated yard for the DFCC cargo.	DFCC Yard shall be operated by Common Rail Operator(CRO) or any other model. As per timelines given by DFCCIL, DFCC rail service is likely to be available by December 2022. However, the procedure of shifting the cargo and its modality will be decided after appointment of CRO or any such authority under an appropriate model decided by the Concessioneing Authority.
42	Annexure A	Request to please confirm the details of the Authority responsible for maintaining the railway line and related infrastructure including DFCC. And also responsible for scheduling/monitoring rake entry and exit movements.	Concessionaire will have to operate existing railway infrastructure, which is currently governed by ITRHO – Inter Terminal Rail Handling Operations Agreement. DFCC Infra will be handled by a Common Railway Operator (CRO) or any other mode, which will be appointed at a later stage as decided by the Concessioneing Authority.
43	Annexure A	Request to please provide further details on the equipment condition and their replacement schedule for RMQC, RTG and RMG. Also please confirm if the interested bidders are allowed to carry Third Party Inspection of all the equipment prior submission of bid. Kindly provide the list of other existing equipment over and above RMQC, RTG and RMG to be handed over to the operator.	As per Port norms, the replacement schedule for RMQCs, RTGCs & RMGCs is 20 years from the year of commissioning. If any of the authorised bidder is interested to carryout inspection of equipment, it is allowed subject to following conditions: 1) Submission of Authorisation letter from the Bidder. 2) Inspection will be allowed subject to availability of equipment without hampering the operations. However, the equipment will be handed over on "As Is Where Is Basis".

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44	Annexure A	Request to clarify on the use of existing JNP terminal building and equipment workshop facility by the selected bidder in order to commence commercial operations.	The buildings (shift office, site canteen, site maintenance office & spreader maintenance shed ) will be handed over to the successful bidder in accordance with RFP.
45	Annexure A	Request to please provide details on how the Authority intends to make provisions for the existing manpower with liberty for selected bidder to choose and recruit manpower of his choice. Also, please confirm if the successful bidder will be indemnified against any future claims from the existing manpower or related issue.	The JNPT is implementing special voluntary scheme for its employees. The said scheme will be open till 28 <sup>th</sup> Feb 2021. The concessioner shall be free to employ its personnel. However, the concessioner shall give first preference to the present JNPT employees who wish to seek employment with the former, subject to fulfilment of qualifications so prescribed. Similarly the concessioner shall give preference to the JNPT Project Affected Persons (PAPs) who possesses valid PAP certificate duly issued by the Deputy Collector (Land Acquisition), Uran and verified by Personnel and Industrial Relation section of JNPT in employment, subject to fulfillment of prescribed qualifications and experience, as the case may be.
46	Annexure A	Request to please give the details of the peak capacity and the number of ship movements that can be handled by JNPT on a daily basis, considering the channel is tidal and shared with Mumbai Port.	In JNPT during last year, the highest number of vessels handled in a day was 23. The average number of vessels handled in last one year is 9 per day.
47	1.2.9	Pl confirm that the concessionaire will be given full market-based tariff freedom once Major Port Authorities Act, 2021 comes into force.	Refer response to Query No.1

Sr. No	Clause No. As per Querist	Query	Reply
48	1.1.1	The RFQ mentions that capacity for Phase 1 is 1.2 MTEUs and Phase 2 is 1.8 MTEUs (including Phase 1) At what level of container throughput, construction of Phase 2 is required to commence	Refer response to Query No.26
49	1.1.1	Please advice the estimated time frame for the construction of all the facilities envisaged under Phase 1 and Phase 2?	Refer response to Query No.26
50	1.1.1	It is requested that a detailed break-up of the Indicative Project Cost may kindly be provided. Also confirm the base year for estimation of Indicative Project Cost	Refer response to Query No. 5. Base year for estimation of indicative project cost is 2020-21.
51	1.2.2	The RFQ documents states that the Authority is likely to provide a comparatively short time span for submission of the Bids for the Project. Considering the Covid-19 scenario and restriction on travel it may take longer than usual to undertake the necessary due diligence studies, surveys etc. Please advise how much time is proposed to be granted between the completion of the pre-qualification process and the submission of the Bids.	The facilities which are being offered to the prospective bidders are under operation. However, the qualified bidders are likely to get 45 to 60 days for evaluation and participation in the project.
52	1.2.8	The RFQ states that the concession is to be awarded based on the royalty offered in the form of Royalty per Month equal to per TEUs/MT of cargo handled in a month (the "Royalty"). Authority is requested to elaborate the term	Royalty will be the rate charged on per TEU basis. The meaning of Royalty will be as prescribed under Concession Agreement. The methodology for computation of Royalty will be as provided under Concession Agreement or as prescribed under the

Sr. No	Clause No. As per Querist	Query	Reply
		Royalty with the help of an example for better clarity.	applicable law or by competent authority under the applicable law.
53	1.3	The present application due date is 18 October 2021, and the last date for receiving response to queries from the Authority is 7 October 2021. We further understand that hard copy submission of the RFQ application is mandatory. We need to obtain statutory auditors certificates which takes time and is also dependent on certain information that we are expecting to receive by way of response to queries. Further considering the restriction on travel with Covid-19 we feel that the current time given for submission of application is in adequate, we request the authority to extend the bid due date by at least 6 weeks.	The RFQ submission date now stands Upto 12:00 hrs. IST on 02/11/2021
54	2.2.1(d)	The Authority may please advise the names of the legal, financial and technical advisors engaged by the Authority in relation to this project in order to avoid any conflict.	The consultants associated with this project is SBI Capital Markets (as Transaction Advisor) and other advisors are CRISIL Advisory Services, KPMG, IIT Madras, , Saraf & Partners (erstwhile Luthra & Luthra).



Sr. No	Clause No. As per Querist	Query	Reply
55	2.2.2 (Old)/ 2.2.3 (New)	<p>In the RFQ document, technical and financial eligibility criteria are specified in clause 2.2.1 (A) and 2.2.1 (B) respectively. Whereas clause 2.2.2 on “O&amp;M Experience” has been referred for technical and financial eligibility in the following clauses / Annex</p> <p>GLOSSARY 2.2.3 2.2.7 3.1.1 3.4.3 3.5.1</p> <p>ANNEX-II: Technical Capacity of the Applicant ANNEX-III: Financial Capacity of the Applicant ANNEX-IV: Details of Eligible Projects</p> <p>Authority is requested to provide correct reference clauses for technical and financial eligibility.</p>	Applicant may refer Addendum I to RFQ dated 14th September, 2021
56	2.2.2 (Old)/ 2.2.3 (New)	<p>Kindly confirm that in the case of an individual Applicant having the necessary O&amp;M experience (itself or through its Associates) it is not necessary to produce any evidence in support of the same? In case the Applicant has the O&amp;M experience will the documents provided for technical eligibility suffice?</p>	Refer response to Query No.8

Sr. No	Clause No. As per Querist	Query	Reply
57	2.2.9 (Old)/ 2.2.11 (New)	<p>The RFQ states that while Qualification is open to persons from any country, the following provisions shall apply: (a) Where, on the date of the Application, not less than 15%(fifteen per cent) of the aggregate issued, subscribed and paid up equity share capital in an Applicant or its Member is held by persons resident outside India or where an Applicant or its Member is controlled by persons resident outside India; or (b) if at any subsequent stage after the date of the Application, there is an acquisition of not less than 15%(fifteen per cent) of the aggregate issued, subscribed and paid up equity share capital or control, by persons resident outside India, in or of the Applicant or its Member; then the Qualification of such Applicant or in the event described in sub clause (b) above, the continued Qualification of the Applicant shall be subject to approval of the Authority from national security and public interest perspective. The decision of the Authority in this behalf shall be final and conclusive and binding on the Applicant. Please confirm that the above approval is the same as "Security Clearance" as mentioned in Clause 2.25 and Appendix V</p>	<p>The approval mentioned in 2.2.11 is in addition to Clause 2.25 and Appendix V .</p>
58	2.12.3	<p>The RFQ states that in case of printed and published documents, only the cover shall be initialled. Please confirm that the applicant does</p>	<p>Confirmed.</p>

Sr. No	Clause No. As per Querist	Query	Reply
		NOT need to initial all pages of the audited annual reports, Memorandum and Articles of association, RFQ copy etc. and just signing on the cover page will suffice.	
59	2.12.2	Please confirm if Applicant can provide soft copies of Application in 'Pen Drive" instead of "CD". If not, please confirm that both the 2 soft copies of the Application that are to be submitted together on CD can be contained on 1 CD and if the file size exceeds the capacity of 1 CD then it can be continued on the 2nd CD? Please also confirm that the soft copies to be submitted in a CD are to be in a scanned/ PDF format?	Refer response to Query No.18  Soft copies to be submitted in a CD/Pen Drive are to be in a PDF format.
60	2.13.5	The document says that Applications submitted by fax, telex, telegram or e-mail shall not be entertained and shall be rejected. In the Covid – 19 scenario it is difficult to travel and physically submit the proposals. We request the Authority to allow online submission of the RFQ documents	RFQ conditions shall prevail.
61	5.1	RFQ states that a maximum of three representatives of each Applicant shall be allowed to participate on production of authority letter from the Applicant for pre application conference. In Covid- 19 situation can we please have an on-line pre application conference instead of a physical one?	Online pre application conference along with physical presence was conducted.

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62	Appendix I, Annex II	Currency exchange rate - if the date 60 days prior to the application due date is a holiday then please confirm whether the next or previous working day should be considered? In the event the application due date is postponed please confirm that the conversion rate of USD 1 = INR 70 will remain unchanged.	In such an event, Exchange Rate can be considered of the previous working day. Conversion rate of USD 1 = INR 70 will remain unchanged.
63	Appendix I, Annex III	Please confirm that statutory auditor certificate is NOT required for Net Cash Accruals for last 5 years and the audited financial statement submitted for last 5 years will suffice. Please confirm Net Cash Accruals are to be calculated as PAT + Depreciation+ Amortization?	a) Auditor certificate is not necessary for net cash accrual. b) Please refer Annexure III to Appendix I
64	Appendix II	Notes to POA states that "The mode of execution of the Power of Attorney should be in accordance with the procedure, if any, laid down by the applicable law and the charter documents of the executant(s) and when it is so required, the same should be under common seal affixed in accordance with the required procedure. As per Companies (Amendment) Act, 2015 use of common seal is optional. All such documents which required affixing the common seal can be signed by two directors or one director and a company secretary of the company. Can you confirm if POA signed by two directors or one director and a company secretary will be valid and affixing the common seal is not mandatory.	RFQ conditions are clear and shall prevail.

Sr. No	Clause No. As per Querist	Query	Reply
65	Appendix V	APPENDIX V mentions that interested Bidders have to register themselves in “e-SAHAJ” portal. Acknowledgement from ‘e-SAHAJ’ is to be sealed and signed by the Authorized Signatory and the same shall be made part of RFQ Application in here as APPENDIX VI. In the RFQ, Appendix VI is Proforma of Pre-Integrity Pack, could you please clarify if acknowledgement from e-SAHAJ has to be marked as Appendix V or Appendix VI.	Acknowledgement from e-SAHAJ has to be marked as Appendix V. Refer response to Query No.2.
66	Annexure A	<ol style="list-style-type: none"> <li>1. What is the layout of the 54.74 Ha backup area, which will be handed over to the concessionaire?</li> <li>2. Authority may please share feasibility report for upgradation of JNPCT along with the details of cost estimates for both the phases.</li> <li>3. Authority may please share condition assessment survey of civil and equipment infrastructure at JNPCT that is proposed to be handed over to the concessionaire</li> <li>4. Authority may please share as-built drawings along with design criteria and mooring analysis for the infrastructure facilities proposed to be handed over to the concessionaire</li> <li>5. Please confirm that JNPT will provide the Bidders with at least the following studies — soil investigations and geotechnical studies.</li> <li>6. Please advise if the Environmental Clearance for this project has been received by the</li> </ol>	<ol style="list-style-type: none"> <li>1. Layout of the 54.74 Ha backup area, which will be handed over to the concessionaire is given Appendix F .</li> <li>2. Please refer Executive Summary of IIT Madras Report given in Appendix G . Also, please refer response to Query No.5.</li> <li>3. Equipment will be handled over to the concessionaire on "As Is Where Is" basis.</li> <li>4 and 5. Please refer Executive Summary of IIT Madras Report.</li> <li>6. Applicant may refer response to Query No.34 Any clearance with respect to EC will be obtained by Authority.</li> </ol>

Sr. No	Clause No. As per Querist	Query	Reply
		<p>Authority? It is requested that the Environmental Clearance should be in the scope of the Authority.</p>	
67	General	<p>What are the obligations of the concessionaire?</p> <p>1. How much will be the ensured draft by the Authority and who shall be responsible for maintenance of requisite drafts (navigation channel, berth pocket, turning circle)?</p> <p>2. Project Information mentions that wharf should be able to handle 12,200 TEU vessels and typically, LOA of such vessel is 330m. Further, RFQ mentions that wharf should be able to handle vessels with LOA of 398 m and typical capacity of vessels with such LOA ranges between 14,000 TEU-15,000 TEU along with draft requirement of ~16m. Of these two conditions, please clarify the necessary condition - LOA of 398m or 12,200 TEU capacity of vessels. In the event LOA of 398m is the necessary condition, Authority is requested to confirm that adequate</p>	<p>1. The Authority will maintain requisite drafts, navigation channel, berth pocket, turning circle. The depths maintained in the channel are varying from 14.4 m in JNPT Channel to 15.6 m below chart datum in outer Harbour channel and berth pockets is maintained to 16.2 m below Chart Datum. The channel is designed to handle vessels upto 15 m draft by using tidal window. Higher drafts of more than 15 m are permitted after prior approval of Marine Dept.</p> <p>2. There are no plans to deepen further the navigation channel and berth pockets as berths are stable upto 16.5 m dredged depth.</p> <p>3. Applicant may refer response to Query 45</p>

Sr. No	Clause No. As per Querist	Query	Reply
		<p>width and draft of 16m at navigation channel, turning circle &amp; berth pocket for 398m class vessels shall be ensured by the Authority.</p> <p>3. What are the obligations of the concessionaire towards the PAPs /existing employees of JNPCT?</p> <p>4. Please provide the list of assets that will be handed over to the concessionaire.</p> <p>5. Please confirm if the design requirements for the upgraded facilities will be done as per the latest standards and guidelines or it should be in line with the existing facilities at the berth?</p>	<p>4. The list of assets (building &amp; mechanical equipment) to be handed over will be given in the RFP stage. The tentative cost of the assets is around Rs.272.97 crores. Further, associated spares and automation equipment cost may also be required to be paid upfront. The cost is indicative. Exact cost will be provided at RFP stage.</p> <p>5. The concessionaire needs to adhere to the standard designs as per the concession agreement. The draft concession agreement shall be provided at the RFP stage.</p>
68	General	What are the tariff components, which will accrue to the concessionaire and what will be paid / pass through to the Authority?	Please refer Clause 1.2.8 and 1.2.9 of the RFQ.
69	General	Please provide details of electric supply and backup generators. Are the generators sufficient to carryout full terminal operations or whether such generators are only for safe powering down of equipment.	<p>Details of DG sets installed at E-6A sub-station are as follows:</p> <p>A) 3 Phase 415Volts, 1000KVA - 02 Nos.</p> <p>B) 3 Phase 415 Volts, 1500 KVA - 02 Nos.</p> <p>It is to clarify that above DG sets are installed to provide backup power for Reefer containers and yard lighting in the event of MSEDCL Power failure. These generator sets are not rated for handling full terminal operations neither there is any existing set up available at E6A/E7 sub-station for safe powering down of equipment.</p>

Sr. No	Clause No. As per Querist	Query	Reply
70		Regarding the list/examples of Eligible Projects in demonstrating technical capacity and experience, can Applicants use project examples from affiliated companies/shareholders/associated companies	Please refer Clause 2.2.9 (New)
71		Submission of revenue for four years i.e. from the start of the company.	Please refer Clause 2.2.2 (New)
72		Can the revenue collected from operating a terminal be counted as amount for technical qualification	Please refer Clause 3.2.1 and 3.2.3 of the RFQ
73		What will be time span from RFQ to RFP	Refer response to Query No.51
74		Does the eligible experience has to be for 5 years or the qualifying experience during the last 5 years	Please refer Clause 2.2.2 (New)
75	3.4.1	Clause 3.4.1 Audited Annual Reports of the Applicant for the last 5 (five) financial years. For company with three years experience, can it share 3 years Reports only.	Please refer Clause 2.2.2 (New)
76		Is it allowed for a single bidder to form consortium before or after the phase 2 bidding process	Please refer Clause 2.2.6 (New) and 2.3 of RFQ, to be read with Clause 2.2.1 and 2.2.4 of the RFP. Relevant provisions of RFP are reproduced below. 2.2.1 .Where the Bidder is a Consortium, change in composition of the Consortium may be permitted by the Authority during the Bid Stage, only where: a. the Lead Member continues to be the Lead Member of the Consortium;



Sr. No	Clause No. As per Querist	Query	Reply
			<p>b. the substitute is at least equal, in terms of Technical Capacity or Financial Capacity, to the Consortium Member who is sought to be substituted and the modified Consortium shall continue to meet the pre-qualification and short-listing criteria for Applicants; and</p> <p>c. the new Member(s) expressly adopt(s) the Application already made on behalf of the Consortium as if it were a party to it originally, and is not an Applicant Member/ Associate of any other Consortium bidding for this Project.</p> <p>2.2.4 The option of change in composition of the Consortium which is available under Clause 2.2.1 may be exercised by any Bidder who is either a Consortium or a single entity. In the case of a single entity Bidder adding a Consortium Member at the Bid Stage, the single entity Bidder shall be the Lead Member of the Consortium. Provided, however, that no member of such Consortium shall be a Bidder or the member of a Consortium which has been pre-qualified.</p>
77		Please share the TP of last five years by terminals with break up of volume mix (import/export/transshipment) / (laden/ empty)	Refer Appendix H enclosed herewith.

Sr. No	Clause No. As per Querist	Query	Reply
78		List of customers and services calling at JNPT terminals	<p>Around 158 which includes shipping line, NVOCC, Freight forwarders etc.,</p> <p>Services calling at JNPCT Total Three services are calling currently which are as follows</p> <ol style="list-style-type: none"> <li>1. Nhava Sheva Doha Express - Shipping Line Partners</li> <li>2. China India Subcontinent - Shipping Line Partners</li> <li>3. Asia India Subcontinent -- Shipping Line Partners</li> </ol>
79		Any long term contract and volume commitment with customer (s)	<p>Long term contract Fixed berthing Window agreement is entered between Port and Window Operator for a period of 12 months, which will be ending on 30th November 2021 and shall be renewed thereafter.</p> <p>Volume commitment with customer</p> <ol style="list-style-type: none"> <li>1. Nhava Sheva Doha Express</li> <li>2. China India Subcontinent</li> <li>3. Asia India Subcontinent</li> </ol>
80		Any dependency on commodity	<p>This terminal is handling containers since 1989 till today. There is growth in handling continuously. However, container handling is reduced due to aging/retiring manpower, lack of global presence like DP World, PSA, APMT etc.</p>
81		Tariff structure (marine/line/end user)	Refer response to Query No.1

Sr. No	Clause No. As per Querist	Query	Reply
82		Does the government control the tariff or operators have discretion to set/ change the tariff	Refer response to Query No.1
83		Any value added services and other revenue stream	As per the current norm, usually all the services are covered in TAMP notification, or any such authority prevailing from time to time.
84		Major selling point of JNPCT	Refer Annexure A of the RFQ
85	Appendix I to Appendix VII	Do all forms shall be notarised by Public Notary in India?	Applicant may refer Appendix II , Appendix III and Appendix IV for notarization.
86	Appendix IV	If a parent company has few subsidiaries who have financial and technical capacities, can we register the parent company only as a member? Or we shall register those subsidiaries too?	Please refer Clause 2.2.6 (New) and 2.2.9 (New)
87	Annex II	What is the meaning of "Payment made for development" in Column (7)? What is the difference with "Payment made/received for construction" in Column (5)? Please give example	Refer to Clauses 2.2.2(A) (New), 3.2 and 3.3 of the RFQ
88	1.1.1	Please provide an updated detailed breakdown of the <b>Indicative Project Cost</b> of the project (in Rs Cr), the year in which they were finalised and name of the contractor who provided these costs to the Authority.	Refer response to Query No.5. The cost estimate for the repair and upgradation works (civil works) has been prepared by IIT-M, Chennai based on CPWD rates for the year 2019 by applying appropriate escalation for the next three years. The cost of equipment (RMQCs) is based on the actual cost of procurement of similar equipment in other JNPCT terminals.

Sr. No	Clause No. As per Querist	Query	Reply
89	1.2.2, 2.22	It has been mentioned that the Authority is likely to provide a comparatively short time span for submission of bids. Please consider providing adequate time for various studies relating to the project such as technical studies, surveys, cost studies, financial analysis, etc which will have to be made before submitting financial bids. Please indicate <b>how much time</b> will be permitted for submission of bids after shortlisting.	RFQ conditions shall prevail. Refer response to Query No.51
90	1.2.5	Up-to what stage is a bidder entitled to withdraw from the bidding process without being penalised? Please confirm that upon a withdrawal the bidder be refunded the bid bond within 30 days. Should there be any percentage of the Bid Security to be retained for withdrawal at certain stages of the Bidding Process, please clarify.	As per clause 1.2.3 the Bid shall be valid for a period of not less than 120 days from Bid Due date. RFQ conditions shall prevail.
91	1.2.7	Please indicate the expected dates when the draft concession agreement and feasibility reports prepared by the Authority / its consultants will be furnished to the Bidders.	Draft concession agreement will be provided at RFP stage.
92	1.2.9	Noted that Concessionaire shall be entitled to levy and charge a user fee as determined by <b>Tariff Authority for Major Ports</b> or <b>Concessionaire</b> . Will charging users of Project any other categories of fee be subject to approval by the authorities?	Applicant may refer response to Query No.1. Charging of tariff will be as per provisions of draft concession agreement to be provided at RFP stage.

Sr. No	Clause No. As per Querist	Query	Reply
93	1.3	<p>The due date for submission of RFQ is scheduled 11 days after the Authority's response to queries. The deliberations during the pre-RFQ conference and subsequent clarifications to the queries raised during the pre-RFQ meeting may warrant additional time for preparing the Application. Besides, it is often noticed that the clarifications issued by the Authority may lead to further doubts and would therefore need more clarifications. Hence, we request that the due date for submission of Application be extended to at least 30 days from the receipt of clarifications from the Authority.</p>	Refer response to Query No.53
94	2.2 2.3.2	<p>If a member within a consortium meets the eligibility requirements in clause 2.2 then can the member continue the bid process without the other consortium members (should the other consortium members wish to exit)?</p> <p>The RFQ lays down the conditions for the change in the composition of consortium during the bid stage. It is requested that Authority may clarify the conditions to be fulfilled if the Applicant qualifies as a single Applicant and would like to form a consortium during the bid stage.</p>	Refer response to Query No.76

Sr. No	Clause No. As per Querist	Query	Reply
95	2.2.1(c)(iv)	<p>Since many legal firms have global network of offices and subsidiaries / affiliates and this being a global tender, it is not possible for an Applicant to be aware of the legal representative of all other Applicants, their affiliates and associates to avoid the possibility of a conflict of interest as envisaged under this clause. Many legal firms depending on their jurisdiction / domicile have strict very high confidentiality requirements and will not disclose names of their clients as well as details of representation / legal advice being provided.</p> <p>What happens when the legal representative of two or more Applicants are the same, but without the knowledge of such Applicant? We suggest to delete this clause.</p>	RFQ conditions shall prevail.
96	2.2.1(d)	Please provide the <b>names of legal, financial and technical advisers</b> to the Authority in relation to this Project.	Refer response to Query No.54
97	The note immediately after 2.2.1(e)	Please confirm the reference should have been to clause 2.2.1(e), and not clause 2.2.2(e).	Applicant may refer Addendum I to RFQ dated 14th September, 2021
98	2.2.1 to 2.2.10 (Old)/ 2.2.1 to 2.2.12 (New)	Please <b>define financial year</b> . Will the year January to December and April to March be considered in case the Applicant, its Associates, Consortium Members have different year endings?	Financial year end date to be the same.

Sr. No	Clause No. As per Querist	Query	Reply
99	2.2.3(i) (Old)/ 2.2.4(i) (New)	Please confirm the reference should have been to clause 2.2.1(A), and not clause 2.2.2(A).	Applicant may refer Addendum I to RFQ dated 14th September, 2021
100	2.2.3(ii) (Old)/ 2.2.4(ii) (New)	Please confirm the reference should have been to clause 2.2.3(ii), and not clause 2.2.4(ii).	Applicant may refer Addendum I to RFQ dated 14th September, 2021
101	2.2.5 (a)(Old)/ 2.2.6 (a) (New)	Please clarify what is meant by “but information sought in the Application may be restricted to 4 (four) members in the order of their equity contribution”. Does this mean that the Authority requires details of only 4 consortium members to be provided and details of other 2 consortium members need not be included?	In case of a Consortium, the combined technical capacity and net worth of those Members, who have and shall continue to have an equity share of at least 26% (twenty six per cent) each in the SPV, should satisfy the eligibility. However there are certain formalities which are required to be complied by all the members like execution of Power of Attorney, Joint Bidding Agreement, etc. All conditions as stipulated in the RFQ to be complied.
102	2.2.5(g)(iv) (Old)/ 2.2.6(g)(iv) (New)	For the period of 2 years from date of commercial operation of the Project, is it possible for one member of the Consortium to exit, with the other remaining members of the Consortium to take over equity and obligations of the exiting Consortium member?	RFQ conditions shall prevail.
103	2.2.5 (g)(vi)(Old)/ 2.2.6 (g)(vi)(new), Appendix I para 22 and Appendix IV	Is it possible to keep the liability of the consortium members as several and not joint?	RFQ conditions shall prevail.

Sr. No	Clause No. As per Querist	Query	Reply
	para 5		
104	2.3.1	If there are reasonable grounds such as insolvency, fraud or corrupt practices being proven in respect of a consortium member then can a change in the consortium be allowed at the Qualifying stage?	Please refer Clause 4
105	2.3.3	Within how many days will the Authority give its decision?	Authority will give its decision on completion of process.
106	2.3.5	Can the grounds be broadened to include proven insolvency, fraud and corruption? Also, the conflicts of interest should be proven.	Please refer Clause 4 RFQ conditions shall prevail.
107	2.6.1(c) and 2.6.2	These clauses should be deleted. If the Authority provides <b>incorrect information</b> in respect of matters set out in 2.5, it can impact the project cost estimations.	RFQ conditions shall prevail.
108	2.7.2	Should the Authority make a decision to disqualify/ reject the Highest Bidder, then please confirm that the <b>bid bond will be refunded</b> . We believe that if the Authority has any grounds to claim damages then the damages should be pursued separately wherein the Authority proves its damages. Encashing of the Bid Security would be an unjust penalty, given the bid bond amount.	RFQ conditions shall prevail.
109	2.7.2(b)	Please advise the time period typically allowed for supplemental information to be furnished to Authority.	Time period will be provided along with the request for supplemental information requirement.



Sr. No	Clause No. As per Querist	Query	Reply
110	2.7.3	In the event the Authority finds that the Applicant should be disqualified, or Applicant should be terminated, will the Applicant be given an opportunity to clarify and make a case for its position?	RFQ conditions shall prevail.
111	2.12.2	Can soft copies be provided in <b>USB flash drive</b> instead of Compact Disc (CD)? Please also confirm one CD / USB flash drive provided in each envelope (original and copy) is acceptable.	Refer response to Query No.18
112	2.13.3	Telephone number stated seems to be missing a number. Please confirm if it should be "022 27244191 / 27242377	Confirmed
113	3.2.1(i)	Can passenger berths and jetties be considered under Category 1 projects? Please elaborate what Cargo Handling System can be considered under Category 1 projects?	RFQ conditions shall prevail.
114	3.2.3(c)	Please define "Capital Cost".	Please refer Clause 3.2.3 and 2.2.2 (New)
115	Appendix I	<p>Para 1: Shall 23 August 2021 be the date of the RFQ document?</p> <p>Para 17: Request this line to be deleted "or in connection with the selection/ Bidding Process itself".</p> <p>Para 14: Is this paragraph applicable to a Single Applicant? Can it be deleted or modified it accordingly for a Single Applicant?</p> <p>Para 22: Please clarify if footnote \$ is missing.</p>	<p>Para 1: Yes, 23 August 2021 is the date of the RFQ document</p> <p>Para 17: RFQ conditions shall prevail</p> <p>Para 14: This Para will be applicable to the extent relevant.</p> <p>Para 22: Footnote \$ is "Omit if the Applicant is not a Consortium"</p>

Sr. No	Clause No. As per Querist	Query	Reply
116	Appendix I Annex I	Fax Number is required to be provided under para 3 and 4. In the event Fax Number is not available, can Fax Number be omitted?	In the event Fax Number is not available, it can be omitted.
117	Appendix I Annex I (Para 5(b), 5(c))	Please confirm that references to Clause 2.2.6 were intended to refer to Clause 2.2.5 instead.	Please refer Addendum I to RFQ dated 14th September, 2021
118	Appendix I, Annex II, Footnote @	Please confirm that reference to Clause 2.2.9 were intended to refer to Clause 2.2.7 instead. Please confirm that reference to Clause 2.2.12 were intended to refer to Clause 2.2.10 instead	Please refer Addendum I to RFQ dated 14th September, 2021
119	Appendix I, Annex II, Footnote #	Please confirm that reference to Clause 2.2.9 were intended to refer to Clause 2.2.7 instead.	Please refer Addendum I to RFQ dated 14th September, 2021
120	Appendix I, Annex II, Footnote \$\$	In the event that representative exchange rates are not available at IMF website, please provide alternative sources to obtain these exchange rates. For example, IMF does not publish exchange rates for Vietnamese Dong and Argentine Peso, but are readily available on Bloomberg. Please specify whether we can use <b>Reserve Bank of India/ Bloomberg declared rates</b> on a specific date for currencies (other than US Dollars) for conversion to US Dollars and then to Indian Rupees.	In the event that representative exchange rates are not available at IMF website, Reserve Bank of India/ Bloomberg declared rates of the previous working day can be considered, if the date of conversion falls on a non-working day  RFQ conditions shall prevail.

Sr. No	Clause No. As per Querist	Query	Reply
		<p>As the <b>conversion date</b> is 60 days prior to the Application Due Date, please clarify <b>whether the next or previous working day</b> should be considered if the date of conversion falls on a non-working day.</p> <p>Also, in the event of <b>change in the Application Due Date</b>, the date for conversion of any other currency for the certificates will change.</p> <p>Therefore, we request the Authority to <b>fix a conversion date</b> instead of existing provision which is 60 days prior to the Application Due Date, so that the <b>currency conversion rate does not alter with every extension of the Application Due Date.</b></p>	
121	Appendix-I Annex III	The <b>definition of Net Cash Accruals</b> provided in the RFQ is Profit after tax + depreciation. Please clarify whether the definition of depreciation includes depreciation, amortization and impairment (all non-cash items).	Please refer Annuexure III to Appendix I
122	Appendix I, Annex III, Footnote €	Please confirm that reference to Clause 2.2.9 were intended to refer to Clause 2.2.7 instead.	Please refer Addendum I to RFQ dated 14th September, 2021
123	Appendix I, Annex III, Para 4	Please confirm that reference to Clause 2.2.12 were intended to refer to Clause 2.2.10 instead.	Please refer Addendum I to RFQ dated 14th September, 2021
124	Appendix I, Annex III, Para 5	Please confirm that references to Clause 2.2.6(g) were intended to refer to Clause 2.2.5(g) instead.	Please refer Addendum I to RFQ dated 14th September, 2021

Sr. No	Clause No. As per Querist	Query	Reply
125	Appendix I, Annex III, Para 7	Please confirm that references to Clause 2.2.4(ii) were intended to refer to Clause 2.2.3(ii) instead.	Please refer Addendum I to RFQ dated 14th September, 2021
126	Appendix I, Annex IV, Para 6	Please confirm that reference to Clause 2.2.12 were intended to refer to Clause 2.2.10 instead.	Please refer Addendum I to RFQ dated 14th September, 2021
127	Appendix I, Annex IV, Para 15 (Certificate regarding Associates)	<p>The certificate to be provided for taking the Eligible Experience of an Associate can be signed by a Company Secretary. Please clarify would one consolidated certificate as a chart depicting the relationship between Applicant and Associates would be deemed sufficient, rather than having individual certificates for each Associate.</p> <p>Also, confirm that Company Secretary would mean Applicant's Company Secretary.</p> <p>Please confirm that reference to Clause 2.2.9 were intended to refer to Clause 2.2.7 instead.</p>	RFQ conditions shall prevail.
128	Appendix I, Annex V	Is the <b>Statement of Legal Capacity</b> required for a <b>Single Applicant</b> ? If yes, please provide a version for Single Applicant.	This is not required for a single applicant.
129	Appendix II	Please confirm whether an Applicant can have <b>more than one Attorney to sign the Application</b> provided it ensures that only one signs the Application. Further, can these Attorney(s) be replaced with someone else at the time of bid stage?	It is preferable that one attorney signs the application.

Sr. No	Clause No. As per Querist	Query	Reply
130	Appendix II	It is mentioned in the notes that for a Power of Attorney (“POA”) executed and issued overseas, the document will have to be legalised by Indian Embassy and notarised in the jurisdiction where the POA is being issued. However, it is challenging and time consuming to get the document legalised and notarised with the current Covid-19 situation and restriction globally. Can the legalised POA be <b>replaced with an extract of the board resolution</b> certified by a director instead? Can the requirement for the POA to be legalised and notarised be waived?	RFQ conditions shall prevail.
131	Appendix V	The last sentence of appendix V “The same shall be made part of RFQ Application in here as APPENDIX VI.” Please clarify if it should be Appendix V instead of Appendix VI.	Refer response to Query No.65
132	Appendix VI	Clause 2.2.11 does not exist and clause 2.13.2 does not require a Proforma of Pre-Integrity Pact to be provided. Please confirm if the <b>Proforma of Pre-Integrity Pact</b> is not required to be executed and submitted for the submission of the RFQ application.	Refer response to Query No.9
133	Appendix VI (Para 8.1)	Please clarify the <b>list of Independent Monitors</b> appointed for the Pact. Such list is not set out in the Pact.	Relevant details of the same shall be shared with the qualified bidders at RFP stage

Sr. No	Clause No. As per Querist	Query	Reply
134	Appendix VI (Para 12.1)	Please clarify which document does “contract” in this paragraph refer to: “...complete execution of the <b>contract</b> to the satisfaction of both...” “... shall expire after six months from the date of the signing of the <b>contract</b> .”	The contract refers to the Concession Agreement and all other documents required to be executed in relation to the Concession Agreement to be executed between the successful bidder and the concession authority.
135	Annexure A	Must all the equipment be new or suitable pre-owned equipment may be purchased or leased?	As per the project requirement, apart from the purchase of existing equipment of JNPT, all the minimum equipment required to be procured should be new. Any additional equipment required may be at the discretion of the concessionaire. Details of financing of equipment will be provided at RFP stage.
136	Annexure A	Page 90 - <b>Technical Feasibility (Study) for Upgradation of Container Berth</b> Please provide in full the above study completed by IIT-Madras in 2018, and all relevant references.	Executive Summary of IIT Madras Report is given in Appendix B .
137	Annexure A	Provide further clarity on Authority’s expectation of Phase 1 and Phase 2 of the project, namely what aspects of the terminal development and equipment provision, including timeline, are expected of the Bidders.	Refer response to Query No.26
138	Annexure A	Please provide a higher resolution version of the Figure shown on Page 92 of the RFQ document. The existing figure is illegible.	Please refer Appendix F.

Sr. No	Clause No. As per Querist	Query	Reply
139	Annexure A	The 6 Nos of RMQC have a maximum lift capacity of 50 Tons. The industry norm for twin lift capacity is 65 Ton. Do the RMQCs face any constraints when handling twin lift moves?	Twin Lifts as % of total 20' - 72.68% Twin Lifts as % of total containers handled - 47% Major Constraints: Max. total weight of 2x20' containers that can be lifted - 50 MT Allowable difference between weights of 2x20'containers - 16 MT Other Constraints: (a) 20 mtrs rail span, (b) capable of handling not more than 17 containers across.
140	Annexure A	What is the <b>design lifecycle for the RMQCs</b> ? For example, 2 million or 4 million cycles. Please also provide the number of container moves handled by each crane so far.	Equipment are designed for near continuous operation with a crane life of 20 years with 2 x 10 <sup>6</sup> life cycles (minimum). <i>The details of moves handled by each of the Cranes are given in Appendix C .</i>
141	Annexure A	<b>RMQC-1</b> and <b>RMQC-9</b> have been operating for 19 years. Have they undergone any <b>refurbishment</b> works for the mechanical and electrical systems? Have the crane structures been <b>inspected</b> and <b>assessed</b> annually by a qualified third party inspection company?	Port has carried out Structural inspection of RMQC-1, 2, 3 and 4 in the year 2021. RMQC-5 and 9 are under major repairs. It is to state that all the cranes are annually inspected by the Competent person approved by the DG FASLI and load testing of the cranes is being carried out every five years and the same is certified by the competent person approved by DG FASLI. List of major maintenance activities carried out on all the cranes is given in Appendix I .
142	Annexure A	What is the <b>quantity of RMQC spare spreaders</b> ?	This will be provided in RFP stage.

Sr. No	Clause No. As per Querist	Query	Reply								
143	Annexure A	<p><b>RMQC-6, RMQC-7 and RMQC-8</b> are missing from the list. Were they involved in the high wind incident last year? If so, what was the outcome of the investigation? Are there any modifications required for the rest of the fleet to prevent such an incident from recurring?</p>	<p>RMQC 6,7 and 8 are in the process of insurance claim and/or replacement stage. The final status would be communicated during the RFP stage.</p>								
144	Annexure A	<p>The fleets of <b>RTGC1-12</b> and <b>RMGC4-5</b> have been in operation for 17 years and 14 years respectively. Have they undergone any <b>refurbishment</b> works for the mechanical and electrical systems? Have the crane structures been <b>inspected</b> and <b>assessed</b> annually by a qualified third party inspection company?</p>	<p>Structural inspection of RMGC-4, 5&amp;6 were carried out in the year 2018. As indicated above, (at Sr. No. 141) load test and annual inspection is carried out. List of major maintenance activities carried out on all the cranes is given in Appendix I .</p>								
145	Annexure A	<p>Are the <b>SANY electric RTGCs</b> running on cable reel or bus bar system?</p>	<p>SANY electric RTGCs are operating on cable reel</p>								
146	Annexure A	<p>Please provide more information (models, quantity, design lifecycle, container moves handled, on the mobile equipment fleet – prime movers, reach stackers, empty container handlers, forklifts, etc.</p>	<p><b>JNPT does not have own prime movers, reach stackers, empty container handlers, etc.</b> Reach Stackers are deployed on hire basis. The total handling of the reach stackers(in TEUs) is as detailed below:</p> <table border="0"> <tr> <td>2019-20</td> <td>205670</td> </tr> <tr> <td>2020-21</td> <td>238839</td> </tr> <tr> <td>2021-22</td> <td>92054 (up to July 2021)</td> </tr> </table> <p>Similarly Tractor Trailers are also engaged on hire basis. The total handling of the TTs (in TEUs), is as detailed below:</p> <table border="0"> <tr> <td>2019-20</td> <td>830239</td> </tr> </table>	2019-20	205670	2020-21	238839	2021-22	92054 (up to July 2021)	2019-20	830239
2019-20	205670										
2020-21	238839										
2021-22	92054 (up to July 2021)										
2019-20	830239										



Sr. No	Clause No. As per Querist	Query	Reply
			2020-21 663290 2021-22 190192 (up to July 2021)
147	Annexure A	Please provide the <b>equipment replacement plans</b> and <b>maintenance capex outlook</b> .	RMQCs, RTGCs and RMGCs are designed for near continuous operation with a crane life of 20 years
148	General	Please provide <b>detailed layout(s)</b> of the overall terminal and associated facilities under the said concession, with the concession boundary clearly shown. Also kindly provide list of buildings/ facilities (with layout showing locations) that will be taken over by the successful bidder. Please provide the number of ground slot in JNPCT: a. Laden stacking b. Empty stacking c. Reefer ground slot & reefer plugs d. DG stacking	JNPCT will provide relevant details/extracts at the RFP stage.
149	General	Please provide information on the <b>dwel days</b> (Y2019/Y2020/Y2021): a. Laden Import b. Laden Export c. Empty Import d. Empty Export e. Reefer	a. The dwell time of laden containers (import) in Days: 2019-20 1.43 2020-21 2.22 2021-22 1.70 b. The dwell time of laden containers (Export) in Days: 2019-20 3.42 2020-21 3.77 2021-22 3.52 c. The dwell time of Empty containers (import) in Days

Sr. No	Clause No. As per Querist	Query	Reply
			2019-20 1.68 2020-21 2.90 2021-22 1.84 d. Dwell Time of Empty Exports 2019-20 3.53 2020-21 4.35 2021-22 3.56 e. Reefer containers are included in Laden containers (a & b)
150	General	Please share the <b>current customers' proforma</b>	Bidders to do their own assessment.
151	General	Present practice in India major ports is for the <b>royalty</b> to be quoted as a percentage of revenue (Revenue Share), please confirm whether this would be applicable for the present project.	Refer Clause 1.2.8
152	General	As JNPT is building <b>common rail yard</b> which is Dedicated Freight Corridor ("DFC") compliant, please confirm: -Successful bidder will have the <b>right of use</b> at common rail yard - <b>Term of use</b> of the common rail yard -Any <b>equipment</b> for handling at the common rail yard needs to be procured / provided by the successful bidder	Refer response to Query No.41

Sr. No	Clause No. As per Querist	Query	Reply
153	1.1	<p>We refer that RFQ refers the final terminal capacity of 1.8 Mn TEU per annum with a quay length of 680 m. We can consider safe and smooth operation of 8 Nos. of RMQC on quay length of 680 m. Considering the volume 2 Lakh TEUs per crane per year, we suggest that the quay-side capacity possible at this terminal should be 1.6 Mn TEUs per annum. The latest commissioned 4" CT (by PSA) at JNPT has quay length of 1000 m and 12 Nos. of RMQCs. This implies the ratio of 8 Nos. of RMQCs per 680 m. It is to note that 4" CT is equipped with latest technology and considered to be the most efficient terminal at JNPT. Hence, in line with PSA terminal, JNPCT should be upgraded with 8 Nos. of RMQCs to be mandated in the Concession Agreement. Concessionaire should be provided with flexibility to add 1 more crane taking smoothness, safety and efficiency of the operations into account.</p>	<p>The adjacent container terminal is currently doing more than 1.8 MTEUs capacity with 10 quay cranes. As such the necessary approvals for ~1.8 MTEUs is available with JNPCT. RFQ conditions shall prevail. Please also refer response to Query No.4</p>

Sr. No	Clause No. As per Querist	Query	Reply
154	1.1	<p>We refer that RFQ mentions the project phasing comprising initial phase of capacity of 1.2 Mn TEU per annum and final phase of capacity of 1.8 Mn TEU per annum. We suggest that capacity phasing i.e. deployment of equipment can take place in tandem with demand for handling containers at the terminal. We suggest that initiation of final phase (or ordering of the cranes for final phase) should trigger on achievement of volume equivalent to 75% of Terminal Capacity for Phase I i.e. 0.9 Mn TEU in any full year of operation. Creation of idle capacity will not be advisable for any of the party / stakeholder for the Project, be it Concessionaire, Authority or any user of the terminal also. Further, the Project will also require some time to gain back the volumes lost to the other terminals at JNPT and also the competition being posed by 4". CT which would have large capacity available after commissioning of its Phase II. Hence, in view of above, without looking at available traffic and competition, Concessionaire should not be obliged to initiate the capacity addition to achieve Final Phase Terminal Capacity.</p>	<p>Refer Response to Query No.26. RFQ conditions shall prevail.</p>

Sr. No	Clause No. As per Querist	Query	Reply
155	1.1	<p>We understand that equipment for initial phase will be provided by Authority. However, the additional equipment for final phase commissioning will be carried out by Concessionaire. In this regard, we would like to suggest that Concessionaire should be provided with flexibility to determine the numbers, type and make of the equipment as per the best available technical specs and most optimal configuration to achieve the terminal capacity. We agree to that the number of RMQCs can be mandated in the Concession Agreement for Phase I and Final Phase. However, the equipment in the backup yard (i.e. RTGC and RMGC), we suggest that it should be left to the Concessionaire to configure the equipment plan to achieve the specified Terminal Capacity and to adhere to prescribed Performance Standards. As per usual practice and Model Concession Agreement, the Concessionaire could be mandated to create the specified Terminal Capacity and to adhere the envisaged Performance Standards.</p>	<p>Refer Response to Query No.26.</p> <p>RFQ conditions shall prevail.</p>
156	General	<p>RFQ / Project Information does not clarify who will be responsible for undertaking the capital and maintenance dredging as well as bearing the cost of the same. We suggest that Authority</p>	<p>Please refer response to Query No.67</p>

Sr. No	Clause No. As per Querist	Query	Reply
		should take up the Capital and Maintenance dredging as their responsibility.	
157	General	We request the Authority to clarify whether the Environment Clearance for the Project (existing as well as the upgradation) is in place or it is yet to be obtained. If the same is yet to be obtained, we request the Authority to take up this responsibility and ensure that the EC is in place for the project before the award of concession to the Concessionaire.	Please refer response to Query No.34
158	General	We request to provide the break up of the Project Cost referred in the RFQ for each of the phase of the Project Development. We understand the existing berth infrastructure and equipment will be handed over to the Concessionaire. We request Authority to clarify: 1. Whether the Concessionaire will have to pay any value of the existing asset to be transferred by Authority? 2. If so, what is the value of existing assets and the basis of the determining such value? 3. Whether prospective bidders will be allowed to undertake any kind of the due diligence of the assets at RFQ or RFP stage?	Please refer query number 5  1. Yes.  2. Based on the valuation report, an upfront payment of around Rs. 272.97 crores will be required to be paid by the concessionaire for existing assets as indicated in Annex-A of RFQ. Further, associated spares and automation equipment cost may also be required to be paid upfront. This is indicative cost at this stage and final cost will be given at the RFP stage.  3. Please refer Query No. 43
159	General	We request Authority to clarify whether the tariffs for the Project will be fixed by TAMP or it will be fixed by JNPT itself in view of new Major	Refer response to Query No.1

Sr. No	Clause No. As per Querist	Query	Reply
		Port Authority Bill getting enacted recently. Also, please clarify whether the Concessionaire will have freedom to set and revise tariffs for the Project.	
160	General	JNPCT being a JNPT owned facility, it will have its manpower working on this terminal. We would like to understand whether JNPT will be mandating the concessionaire to employ the existing manpower which is currently working with JNPCT. If yes, we would like to know the number persons and the cost of the same to be borne by the Concessionaire. Kindly also advise whether this would be a permanent employment or will remain for a short period of time.	Refer response to Query No.45
161	2.3.2	We refer that clause 2.3.2 which prescribes the change in the composition of consortium during the RFP stage. However, it does not refer whether the addition of consortium member to a shortlisted single entity Applicant. We hold the view/ understanding that by addition of consortium member to single entity Applicant should be allowed by virtue of the current provision which allows to add / remove the members to a consortium applicant. Please confirm our understanding is correct.	Refer response to Query No.76

Sr. No	Clause No. As per Querist	Query	Reply
162	5	We understand that Pre-Application Conference has been proposed to be held physically at the office of JNPT and the RFQ does not refer any arrangement to join the meeting virtually via Video Conference. We suggest that both the mode of joining the meeting should be provided in view of precautions being taken/ travel protocol required to be taken as per various state government guidelines regarding Covid-19.	Refer response to Query No.61
163	Appendix VI	We refer at General section of Appendix VI that the Pre-contract Integrity Pact should be signed by Chief Executive Officer of Bidder. At the same time, there is a requirement of providing Power of Attorney in favour of person signing the Application also. In our case, as an Applicant, our Chief Executive Officer himself is authorising the person to sign the Application. Also, the aforesaid pre-integrity pact would be the part of Application which can be signed by the person authorized vide Power of Attorney. Hence, we request to accept the signature of person authorized through Power of Attorney, for Pre-contract Integrity Pact also.	RFQ conditions shall prevail. IP is required to be submitted at RFP Stage and PoA can sign at Document stage.
164	Appendix V	We refer that Proforma for Information for Security Clearance is not provided. Please confirm whether the forms of required information will be provided by e-sahaj portal.	Refer response to Query No.33



Sr. No	Clause No. As per Querist	Query	Reply
165	Appendix V	<p>At the last sentence of this Appendix, it is mentioned that  <i>Bidders then need to fill up the form, upload documents as instructed and download the self-generated Acknowledgement from 'e-SAHAJ; to be sealed and signed by the Authorized Signatory The same shall be made part of RFQ Application in here as APPENDIX VI.</i></p> <p>However, Appendix VI provided is the proforma of pre-contract integrity pact. Hence, we request to clarify the correct Appendix for acknowledgement to be generated from e-SAHAJ for submission as part of Application.</p>	Refer response to Query No.65
166	Appendix V	<p>Referred portal of e-SAHAJ has been suggested by other Major Ports also as part of the various RFQs issued by them. However, we have encountered a number of times, the issues with the functionality of this portal. As per the guidelines, we agree to upload the information for security clearance on the said portal.</p> <p>However, for the purpose of submitting the information in a time bound manner, we suggest that the physical copy of the information for security clearance should be allowed to be submitted as part of the Application.</p>	Refer response to Query No.33

Sr. No	Clause No. As per Querist	Query	Reply
167	General	<p>We request the Authority to provide following information with respect to Environment Clearance for the proposed project as this is an existing terminal.</p> <p><b>A. Various Permission obtained regarding Environment Clearance for Existing Terminal</b></p> <ol style="list-style-type: none"> <li>1. Copy of Environment 8- CRZ Clearance for JNPCT including amendments</li> <li>2. Copy of CRZ Recommendation</li> <li>3. Copy of pt CTE</li> <li>4. Copy of latest CTO</li> <li>5. EIA Report including CRZ Status Report/Map</li> </ol> <p><b>B. Various Environmental Compliances regarding Existing Terminal</b></p> <ol style="list-style-type: none"> <li>1. Copy of latest half yearly EC 8- CRZ compliance Report</li> <li>2. Compliance report of latest CTO</li> </ol> <p><b>C. Litigation related information</b></p> <ol style="list-style-type: none"> <li>1. Any Ongoing Court Case or Litigation pending</li> <li>2. Details of Past cases (if any)</li> </ol>	<p>During project stage Environmental Clearance was given by MOS which is prior to EIA notification 2006. Copy of EC dated 16/09/1988 is given in Appendix J.</p> <p>Applicant may refer response to Query No.34.</p> <p>JNPCT matters (Litigation related information) as available on record of legal section is attached herewith at Appendix O.</p>
168	Capacity (Page 9 of the RFQ)	<p>The designed capacity of Terminal would be 1.2 MTPA in Phase 1 and 1.8 MTPA after implementation of Phase- 2 (including Phase - 1). Please provide the backup calculation of Capacity.</p>	<p>Please refer reply to Query No.4</p>

Sr. No	Clause No. As per Querist	Query	Reply
169	Indicative Project Cost (Page 9 of the RFQ)	<p>Please provide the detailed break up of tentative project costs considered for Phase -1 and Phase -2. Please provide following reports:</p> <p>a) Detailed Project Report along with layout drawing of stackyard area.</p> <p>b) JNPT has carried study through IIT, Madras to assess the existing container berth and measures to enable handling of larger container vessel at JNPCT. Please provide the study report.</p> <p>c) Please share all as built design, design criteria, design drawing, condition assessment, repair report, soil investigation report and all engineering documents for the existing facilities and services which will be handed over to successful bidder.</p>	<p>Please refer reply to Query No.5</p> <p>a) Please refer Query No.66 (for feasibility report) and Query No.138 (for stack yard)</p> <p>b and c ) Kind refer Executive Summary of IIT Madras Report given in Appendix B.</p> <p>The other details requested shall be provided at the RFP stage.</p>
170	Permits and Clearances	<p>Please provide copies of all approvals already obtained for this project. If any permission and approvals required to be obtained by Concessionaire, please provide the details.</p>	<p>Copy of EC received during project stage is given in Appendix J. However, CRZ clearance is required for modernisation / upgradation work.</p>
171	Royalty (Clause 1.2.8, Page 11 of the RFQ)	<p>Clause 1.2.8 states that the bids will be invited for the Project on the basis of royalty offered in the form of (Royalty per month) equal to Per TEUs/ MT of the cargo handled in a month. Please clarify followings:</p> <p>a) Bidding will be conducted basis of Royalty/ TEU basis.</p>	<p>Refer response to Query No.52.</p>

Sr. No	Clause No. As per Querist	Query	Reply
		b) In case of coastal cargo, 40 ft. Container (FEU), transshipment container, please clarify methodology for applicability of Royalty.	
172	Tariff (Clause 1.2.9, Page 11 of the RFQ)	Please clarify applicability of Tariff i.e. would be governed under TAMP regime or MPT, 2021 act.	Refer response to Query No.1
173	Consultants (Clause 2.2.1 (d), Page 14 of the RFQ)	Please provide the details of legal, financial and technical advisor of the Authority.	Refer response to Query No.54
174	Proforma of Pre-Integrity Pact (Page 74 of the RFQ)	As per Appendix- VI: Proforma of Pre-Integrity Pact, the referred clauses are 2.2.11 & 2.13.2. However, the Clause 2.2.11 is not available in the RFQ and 2.13.2 is not relevant for the said clause. Please provide the clause/ clarify.	Applicant may refer Addendum I to RFQ dated 14th September, 2021 and response to Query No.9
175	Draft of the RFQ (Page 88 of the RFQ)	As per the said clause, Draft of the JNPCT terminal is -15 mtrs whereas the draft of the BMCT terminal is - 16.5 mtrs and at disadvantage position. To make it competitive, it is required to make the Terminal with same draft. Accordingly, it is requested to provide draft equivalent to competitive terminals i.e. - 16.5 mtrs.	Refer response to Query 27 RFQ conditions shall prevail.

Sr. No	Clause No. As per Querist	Query	Reply
176	Quay Length (Page 88 of the RFQ)	<p>Generally, the dimension of Neo Pana max vessel is as below: LOA: 366 mtrs, Beam: 49 Mtrs, Draft required: 15.50 mtrs. Please clarify following:</p> <p>a) To berth 2 vessels at a time, minimum quay length required is approx. 760 mtrs. Accordingly, it is requested to provide minimum quay length of 760 mtrs. Instead of proposed quay length of 680 mtrs.</p> <p>b) Whether there is any Air draft restriction?</p> <p>c) Navigation channel, turning circle and berth pocket are suitable for handling such Neo Panamax type of vessel i.e. minimum depth requirement is - 17.2 mtrs below CD.</p> <p>d) To handle such vessel, the minimum draft should be - 15.5 mtrs instead of - 15 mtrs. Accordingly, it is requested to the Concessioneing Authority to provide minimum Capital dredging.</p>	<p>Please Refer Annexure A to the RFQ. The Berth Dimensions have already been indicated. The length of the berth cannot be increased as all the terminals are in sequence. However, backside of the berth width can be increased.</p> <p>a) The total berth length is 680 mtrs and two vessels can be berthed with 25 mtrs. clearance.</p> <p>b) At present the Air draft is 39 mtr. for existing 6 RMQCs</p> <p>c) Max draft available is 15 m by using tidal window.Higher drafts of more than 15 m are permitted after prior approval of Marine Dept.</p> <p>d) Refer response to Query 27. RFQ conditions shall prevail.</p>
177	Maintenance Dredging	<p>The Request for Qualification is silent about Maintenance dredging. Please clarify the same. Maintenance dredging of the Project should be carried out by Concessioneing Authority.</p>	<p>Refer reply to Query No.67</p>
178	Railway Connectivity	<p>Please provide the railway network plan to integrate this facility with Dedicated Freight Corridor. What are the obligation Concessioneing Authority would undertake to complete the DFC railway infrastructure within Port on or prior to COD.</p>	<p>Refer response to Query Nos. 41 and 42.</p>

Sr. No	Clause No. As per Querist	Query	Reply
179	Road Connectivity	Please provide road connectivity plan and scope for development and maintenance of road connectivity for this Terminal by Concessionaire, if any	Please Refer Annexure A to the RFQ.
180	JNPT Master Plan	Please provide master plan of JNPT and the upcoming projects for handling similar cargo. Hence, it is requested to provide master plan for minimum 20 years.	Master Plan prepared in 2016 is enclosed in Appendix K. The Port is in process of updating Master Plan of JN Port.
181	Development of Phase 2 of the Project	As per RFQ, 2nd phase of the to be developed by Concessionaire. What is the timelines or achievement of minimum traffic by this Terminal to kick off the Phase -2 of the Project	Refer response to Query No.26.
182	Exclusivity	Please provide the exclusivity details to be given for this Project	The project would be governed by the provisions of draft concession agreement to be provided during RFP stage.
183	Traffic Study and Feasibility Report.	Please provide the traffic study and feasibility study as conducted by Port Trust for this Project considering the existing operations and PPP projects (existing and upcoming). Please provide following historic data related to traffic of this Terminal & JNPT (overall): a) Container Volume handled by this Terminal viz a viz overall volume of JNPT. b) Bifurcation of container volume of this Terminal viz a viz JNPT in followings: i) Import and Export containers ii) Foreign and Coastal Container	The traffic data related to JNPCT and JN Port - a) Container Volume handled by JNPCT vis-a-vis overall volume of JNPT is enclosed in Appendix L b) Bifurcation of container volume of JNPCT viz a viz JNPT is given in Appendix M

Sr. No	Clause No. As per Querist	Query	Reply
		iii) Laden and Empty Container iv) Container Volume break up into 20ft, 40ft, transshipment containers and ODC. v) Evacuation by Road and Rail mode	
184	Feasibility in Planning and Development of Terminals	BOT Developer will have full flexibility in planning, designing, selection of equipment, number of equipment, extension of berth etc to develop terminal infrastructure facility in all respect to meet the Designed capacity of the Terminal, please clarify and confirm.	Refer response to Query No.26.
185	Stackyard	Please provide the stackyard design, area, railway connectivity, road connectivity access and Turnaround time considered for cargo to achieve 1.8 MTPA capacities.	Refer response to Query No.138
186	Railway Related Charges	Please provide the Railway related statutory charges i.e. haulage, terminal, DFC charges, Inter- terminal railway charges etc, if any.	1. Railway does not levy any haulage charge on Port Terminals. 2. The existing terminal rail handling charge for JNPCT is Rs.844/- per TEU. 3. The ITRHO charges levied on Shipping lines for all rail bound Exim containers is Rs.400/- per TEU, as fixed in 2007. 4. Please refer Query No. 41 and 42
187	Electricity and Water Requirement	Please provide the details of take-off point for Electricity and water to be provided by JNPT for this Project.	Take off point for Electricity shall be 33 KV VCB feeder panel (which will be under the control of Concessioning Authority) placed at Sub-station E6A inside Port area.

Sr. No	Clause No. As per Querist	Query	Reply
			Take off point for water supply is available inside port premises.
188	Mechanical Equipments (Page 91 of the RFQ)	<p>Please share Historical Data of all Cranes i.e. RMQC, RTGC and RMGC containing Specification, Maintenance history Log, Spares consumed and major Repairs carried out. Further, please provide followings:</p> <p>a) Details of all the Assets which are going to be handed over to the successful Bidder</p> <p>b) Details of the Accident occurred of 3 RMQCs during Cyclone.</p> <p>c) Vessel wise RMQC deployment and average Output i.e. TEUs/ hour.</p> <p>d) Average Power consumption details of each RMQC, RTGC, ERTG on hourly and per TEU basis for last 3 years.</p> <p>e) Average Fuel consumption of each RTGC on hourly and per TEU basis for last 3 years</p>	<p>(a) List of assets will be given in RFP stage.</p> <p>(b) RMQCs #6, 7 &amp; 8 have been completely damaged, hence disposed off.</p> <p>(c) Details attached in Appendix N.</p> <p>(d) Average power consumption for RMQCs is 4.06kwhr/ TEU, for E-RTGCs is 3.1 kwhr /move.</p> <p>(e) Average fuel consumption of RTGCs is 1.68 ltrs/move and 16.54 ltrs /hour</p>
189		<p>May we kindly ask you to consider the possibility to use historical conversion rates for currencies which have strongly evolved against USD over the past 5 years, please? (As an example, one USD as published by the International Monetary Fund was equivalent to 5.4 Brazilian Reis in August 2021 but 3.3 in December 2016 and 2017.) The possibility to consider historical FX rates would allow to present relevant projects</p>	<p>Please refer Annexure II of Appendix I of the RFQ. RFQ conditions shall prevail</p>



Sr. No	Clause No. As per Querist	Query	Reply
		that would then qualify to be Eligible Projects as defined in the RFQ.	
190	2.2.4(ii), ANNEX-III	With respect to the calculation of Net Worth, as defined in Clause 2.2.4(ii), how should the following Equity accounts on the Balance Sheet be considered in the calculation: a) Cost of Shares Held by Subsidiaries/Treasury Shares, b) Excess of Consideration Over the Carrying Value of Noncontrolling Interest Acquired, c) Perpetual Capital Securities, and d) Equity Attributable to Non-controlling interest?	Please refer Instruction 3 to Annexure 3 of Appendix 1
191	APPENDIX I	With regard to the "Certificate from the Statutory Auditor regarding PPP Projects" template in "Annex-IV: Details of Eligible Projects", our Statutory Auditors have informed us that they will need to add additional disclaimers, caveats and/or explanations in order to issue said certificate in its current form/template. As such, can the Statutory Auditors deviate slightly from the proposed wordings and/or make necessary additions?	Please refer Annexure IV of Appendix I of the RFQ. RFQ conditions shall prevail
192	General	Can an extension to the Application Due Date be considered? This is in order to provide sufficient time to rectify/amend the Application accordingly based on the responses to queries to be shared.	Refer response to Query No.53

Sr. No	Clause No. As per Querist	Query	Reply
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193		<p>What is specified crane classification for STS/RTG/RMG, for example, U8, Q2, A8,etc, defined in crane technical specification?</p> <p>What is specified classification for crane mechanical components of STS/RTG/RMG?, pls fill below table for above questions</p> <table border="1"> <thead> <tr> <th></th> <th></th> <th>classification for example</th> <th>JNPCT</th> </tr> </thead> <tbody> <tr> <td rowspan="5">STS</td> <td>crane classification</td> <td>U9-Q2-A8</td> <td>?</td> </tr> <tr> <td>Main Hoist</td> <td>T8-L2-M8</td> <td>?</td> </tr> <tr> <td>Trolley travel</td> <td></td> <td>?</td> </tr> <tr> <td>Boom hoist</td> <td></td> <td>?</td> </tr> <tr> <td>Gantry travel</td> <td></td> <td>?</td> </tr> <tr> <td rowspan="4">RTG</td> <td>crane classification</td> <td>U7-Q2-A7</td> <td>?</td> </tr> <tr> <td>Main Hoist</td> <td>T7-L2-M7</td> <td>?</td> </tr> <tr> <td>Trolley travel</td> <td></td> <td>?</td> </tr> <tr> <td>Gantry travel</td> <td></td> <td>?</td> </tr> <tr> <td rowspan="4">RMG</td> <td>RMG</td> <td>U7-Q2-A7</td> <td></td> </tr> <tr> <td>Main Hoist</td> <td>T7-L2-M7</td> <td>?</td> </tr> <tr> <td>Trolley travel</td> <td></td> <td>?</td> </tr> <tr> <td>Gantry travel</td> <td></td> <td>?</td> </tr> </tbody> </table>			classification for example	JNPCT	STS	crane classification	U9-Q2-A8	?	Main Hoist	T8-L2-M8	?	Trolley travel		?	Boom hoist		?	Gantry travel		?	RTG	crane classification	U7-Q2-A7	?	Main Hoist	T7-L2-M7	?	Trolley travel		?	Gantry travel		?	RMG	RMG	U7-Q2-A7		Main Hoist	T7-L2-M7	?	Trolley travel		?	Gantry travel		?	<table border="1"> <thead> <tr> <th></th> <th></th> <th>classification for example</th> <th>Classification mentioned in the tender</th> </tr> </thead> <tbody> <tr> <td rowspan="5">STS</td> <td>crane classification</td> <td>U9-Q2-A8</td> <td>U8-Q2-A8</td> </tr> <tr> <td>Main Hoist</td> <td>T8-L2-M8</td> <td>T8-L3-M8</td> </tr> <tr> <td>Trolley travel</td> <td></td> <td>T8-L3-M8</td> </tr> <tr> <td>Boom hoist</td> <td></td> <td>TT5-L3-M6</td> </tr> <tr> <td>Gantry travel</td> <td></td> <td>T6-L2-M6</td> </tr> <tr> <td rowspan="4">RTG</td> <td>crane classification</td> <td>U7-Q2-A7</td> <td>U7-Q2-A7</td> </tr> <tr> <td>Main Hoist</td> <td>T7-L2-M7</td> <td>T7-L3-M8</td> </tr> <tr> <td>Trolley travel</td> <td></td> <td>T7-L3-M8</td> </tr> <tr> <td>Gantry travel</td> <td></td> <td>T6-L2-M6</td> </tr> <tr> <td rowspan="4">RMG</td> <td>RMG</td> <td>U7-Q2-A7</td> <td>U7-Q2-A7</td> </tr> <tr> <td>Main Hoist</td> <td>T7-L2-M7</td> <td>T7-L3-M8</td> </tr> <tr> <td>Trolley travel</td> <td></td> <td>T7-L3-M8</td> </tr> <tr> <td>Gantry travel</td> <td></td> <td>T7-L2-M6</td> </tr> </tbody> </table>			classification for example	Classification mentioned in the tender	STS	crane classification	U9-Q2-A8	U8-Q2-A8	Main Hoist	T8-L2-M8	T8-L3-M8	Trolley travel		T8-L3-M8	Boom hoist		TT5-L3-M6	Gantry travel		T6-L2-M6	RTG	crane classification	U7-Q2-A7	U7-Q2-A7	Main Hoist	T7-L2-M7	T7-L3-M8	Trolley travel		T7-L3-M8	Gantry travel		T6-L2-M6	RMG	RMG	U7-Q2-A7	U7-Q2-A7	Main Hoist	T7-L2-M7	T7-L3-M8	Trolley travel		T7-L3-M8	Gantry travel		T7-L2-M6
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194		What are the allowable capacity, such as wheel load, etc of STS/RTG/RMG?	The wheel loads of all the equipment are below 40MT.																																																																																												
195		Have JNPCT done the replacement for the main mechanical components, such as gearboxes, brakes, engines, etc. during these years? Any records?	Please refer response to Query 141																																																																																												
196		Have JNPCT upgrade the electric drive system?	No																																																																																												

Sr. No	Clause No. As per Querist	Query	Reply
197		What is the annual moves handled by the RMGs/crane?	Average annual moves by the individual RMGCs during the last three years is 27,531.
198		STS crane , the annual moves handled per year/crane?	Average annual moves by the individual RMGCs during the last three years is 1,04,321.
199		RTG cranes , the annual moves handled per year/crane?	Average annual moves by the individual diesel engine powered RTGCs during the last three years is 38,696 and for E-RTGCs, it is 22,933.
200	Associate certificate (Pg 56 of RFQ)	<p>Currently the certificate states that <b>more than 50% equity of "Associate" is held by directly or indirectly by "Applicant"</b>.</p> <p>We believe that the same should be reverse and the certificate should say that <b>more than 50% equity of the "Applicant" is held by "Associate"</b>.</p> <p>In our case, the <b>Applicant</b> is "Hindustan Ports Private Limited (HPPL)" and <b>Associate</b> is "DPW Limited" as it holds 100% equity in HPPL (Associate means, in relation to the Applicant, a person <b>who controls</b>, is controlled by, or is under the common control with such Applicant)</p> <p>Could you please confirm if the format of the Associate will be suitably modified as mentioned below.</p> <p><b>Certificate from Statutory Auditor/ Company Secretary regarding Associate</b></p> <p>Based on the authenticated record of the Company, this is to certify that more than 50% (fifty per cent) of the subscribed and paid up voting equity of ..... (name of the</p>	The changes suggested are acceptable.

Sr. No	Clause No. As per Querist	Query	Reply
		<p>Associate Applicant/ Consortium Member/ Associate) is held, directly or indirectly, by..... (name of Applicant/ Consortium Member Applicant/ Consortium Member/ Associate ). By virtue of the aforesaid shareholding, the latter exercises control over the former, who is an Associate in terms of Clause 2.2.9 of the RFQ.</p>	

**List of Appendix and the corresponding files are given below for your ready reference.**

<b>Appendix</b>	<b>File</b>
<a href="#"><u>Appendix A</u></a>	Annex to query sr no. 4_Terminal Capacity
<a href="#"><u>Appendix B</u></a>	IIT M Report
<a href="#"><u>Appendix C</u></a>	Annex to query sr no. 140_Moves handled
<a href="#"><u>Appendix D</u></a>	Annex to query sr no. 21_GAD drawing of RMQCs
<a href="#"><u>Appendix E</u></a>	Information Required for Security Clearance format
<a href="#"><u>Appendix F</u></a>	Area 54.74 Detailed Google Drawing
<a href="#"><u>Appendix G</u></a>	Feasibility Report extract
<a href="#"><u>Appendix H</u></a>	TP handling in last five years
<a href="#"><u>Appendix I</u></a>	Major maint activities on CHEs
<a href="#"><u>Appendix J</u></a>	Environmental clearance copy dated 16th Sept 1988 and JNPCT SWB Consent to Operate
<a href="#"><u>Appendix K</u></a>	KEYMAP 19.09.2016
<a href="#"><u>Appendix L</u></a>	Reply to query sr. no. 183_a
<a href="#"><u>Appendix M</u></a>	Reply to query sr. no. 183_b
<a href="#"><u>Appendix N</u></a>	Annex to query sr no. 188_Annual Productivity Parameters
<a href="#"><u>Appendix O</u></a>	Annex to query sr no 167_Litigations relating to JNPCT



- Length of the berth: 680 m (530 m berth + 150 m Wharf)
- Width of the berth: 40.5 m
- Approach trestle

### 5.3 Design Vessel

The design ship is the largest ship that is likely to be handled at the berth. The size of the vessel influences the approach channel, berthing facility and mechanical handling equipment.

JNPCT has planned to deepen the berth to accommodate vessel of 12,200 TEU (398m of LOA, 15 m draft and 56.4 of beam) capacity.

### 5.4 Terminal Capacity

TAMP guidelines to determine the optimum quay capacity is being used to calculate phase wise terminal Capacity. Terminal capacity for each phase is calculated based on requirements of equipment (calculated based on traffic). As per the requirement, maximum terminal capacity of JNPCT for Phase 1 will be 1.2 million TEUs<sup>16</sup> and for phase 2 will be 1.8 million TEUs (terminal capacity for Phase 1 & 2). Following table represents parameters used to calculate maximum terminal capacity.

**Table 18: Phase wise maximum terminal capacity**

Phases		Phase 1	Phase 2
Berth Length	M	680	
A = Number of gantry cranes deployed for work in a year	Nos.	6	9
B = Number of working hours of gantry cranes in a year	Hours	8760	8760
C = Average number of moves per gantry crane per hour	Nos.	25	25
D = TEU ratio	Ratio	1.3	1.3
E = 70%	%	70%	70%
Thus, Optimal Quay Capacity of Container = $A * B * C * D * E$	million TEUs	1.2	1.8

### 5.5 Navigational and Operational Requirement

JNPT approach channel is a Common Harbour channel for JNPT and Mumbai Port. The characteristic of the approach channel is as below:

<sup>16</sup> JNPCT can achieve optimum quay capacity of 1.8 million TEUs with 9 RMQCs provided 25 moves per RMQC per hour should be maintained.

**EXISTING CONTAINER TERMINAL  
JAWAHARLAL NEHRU PORT TRUST**

**TECHNICAL FEASIBILITY REPORT  
FOR CHANGE OF CRANE RAIL SPACING TO 30.5M**

**EXECUTIVE SUMMARY**



**Consultant**

Prof. S. Nallayarasu



DEPARTMENT OF OCEAN ENGINEERING  
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JAWAHARLAL NEHRU PORT TRUST  
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## **1. INTRODUCTION**

### **1.1. General**

The container berth (680m length) was initially designed in the year 1983 by the consultant M/S Howe (India) Pvt. Ltd. for 6000 TEU vessel and later is verified for 9000TEU vessel by the same consultant in the year 2003. The container berth was extended for 150m in the year 1997.

Later in the year 2018, JNPT request IITM to verify the existing container berth with wharf structure for larger capacity vessel and the existing structure is verified based on 12200 TEU vessel.

JNPT intend to augment the container handling capacity a by installing larger capacity cranes with a rail gauge spacing of 30m or 37m or any other spacing suitable for the existing structure. The existing rails spacing is 20m and hence new rail on landward side shall be installed using additional crane rail support beam and pile foundations. In order to achieve the goal, the project is divided in to three stages.

- (a) Technical feasibility Study and Report
- (b) Structural Audit and Report
- (c) Detailed Design and Engineering

**The scope of work defined in here is applicable to the existing JNPT container berth consisting of 530m old berth (Block 1, 2 & 3) and 150m wharf extension towards south. 150m from block 3 is given to other operators and hence not included in the present study. The width of the existing deck is 40.5m with crane tracks installed at 20m spacing.**

### **1.2. Technical feasibility study**

**Technical Feasibility study** includes the following activities.

- i. Collect information from RMQC vendors for latest technology Quay cranes suitable for larger span of 30m or more with efficient container handling facility and derive loading data and operational information.
- ii. Structural Analysis of existing berth with additional rail and increased crane loads during operation and standby condition during storm.



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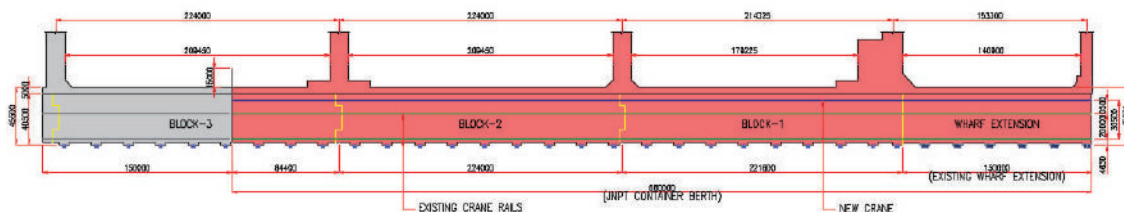
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- iii. Prepare a scheme for installation of additional piles at 30m or more rail gauge below the existing transverse beams and connecting them with pile cap/longitudinal beams to support crane rails.
- iv. Prepare overall layout of container handling operations using 30m rail gauge container handling cranes including layout, deck space etc.
- v. Prepare planning of demolition of existing slab and beams for driving new piles and construction of pile caps and beams to support the new crane rail considering the existing container handling operations.
- vi. Study stage wise demolition plan and structural stability and strength for each segment of the structure for continued operations with minimum disruption. Detailed discussion will be carried out with the various stake holders including JNPT Port marine and operational department on container handling ship berthing operations.
- vii. Prepare Technical Feasibility report detailing the proposal with various boundary limits of crane rail replacement.

*In addition to the above, an earlier study (Report No. IITM-JNPT-FBA-001) carried out for the assessment of fender and bollard capacity for berthing and mooring of container vessels up to 12200 TEU has been included in this report.*

### 1.3. Existing berth details

The existing Container berth is of length 830m. The layout for existing container berth including 150m wharf extension is given in figure 1.1. **However, only 680m is being used by JNPT and the north 150m is used by other operators.**



**Figure 1.1 Layout of old container berth**

### 1.4. Vessel characteristics

The Container berth has been originally designed for the vessel size of 6000 TEU and subsequently JNPT has verified the existing berth for 9000 TEU vessel. However JNPT has



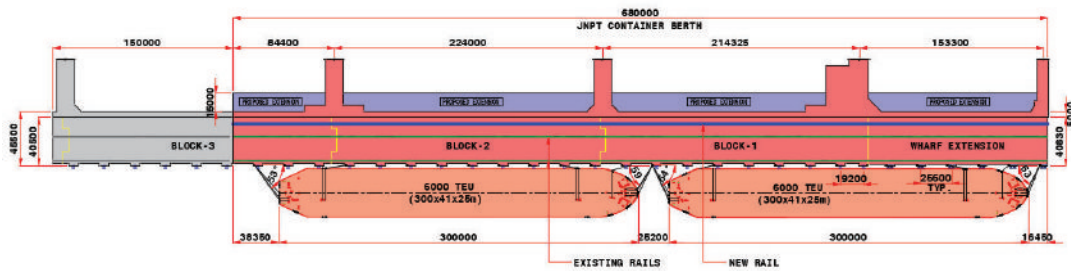
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planned to deepen the berth to accommodate the larger vessel as 12200TEU. The dimensions for all the three types of vessels are given in table 1.1.

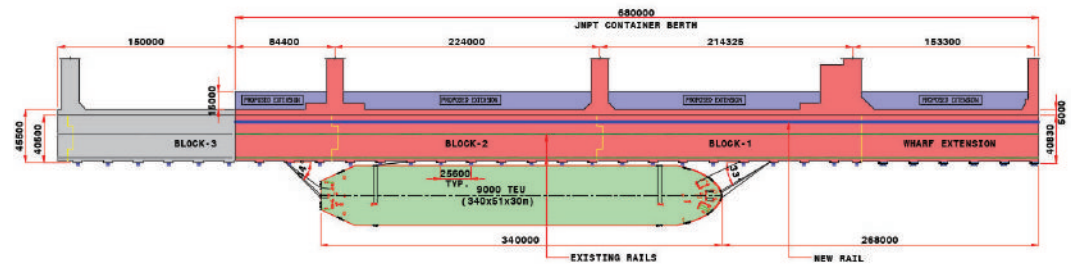
**Table 1.1 Vessel characteristics**

Ship type	Displacement tonnage	LOA (m)	Beam (m)	Loaded draft (m)	Berthing Velocity (m/sec)	Remarks
6000 TEU	110,000	300	41.0	13.5	0.1	
9000 TEU	150,000	340	51.0	14.5	0.1	
12200 TEU	215,000	398	56.4	15.0	0.1	

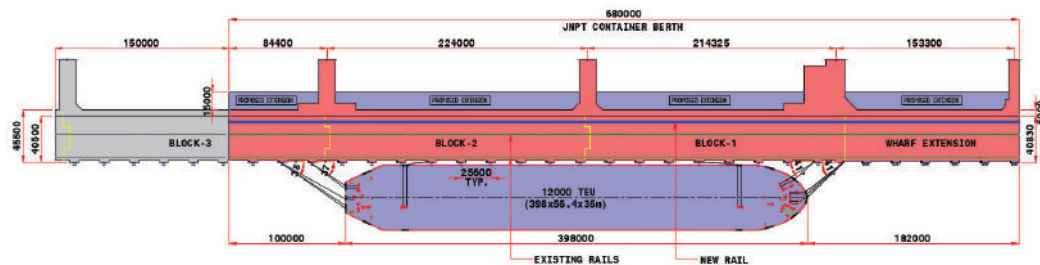
The spring lines and Bow/Stern lines can be arranged depending on the bollard locations. The proposed shore based Mooring points shall allow such variations and typical configurations are shown in Figure 1.2 to 1.4.



**Figure 1.2 Mooring layout for 6000 TEU Vessel**



**Figure 1.3 Mooring layout for 9000 TEU Vessel**



**Figure 1.4 Mooring layout for 12200 TEU Vessel**



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### **1.5. Study Approach**

The methodology adopted for the proposed capacity augmentation of the existing container handling system is explained in this section. The approach adopted is as follows.

- (a) Select a suitable crane rail span for the proposed crane that can be used for handling vessels of up to 12,200 TEU.
- (b) Establish the structural capacity of the existing berth structure for loading from larger cranes that can be used for larger vessels up to 12,200 TEU
- (c) Modification to existing berth fittings such as rails, bollards and fenders
- (d) Deck extension for container movement
- (e) Verification of existing structure during modification with minimal disruption

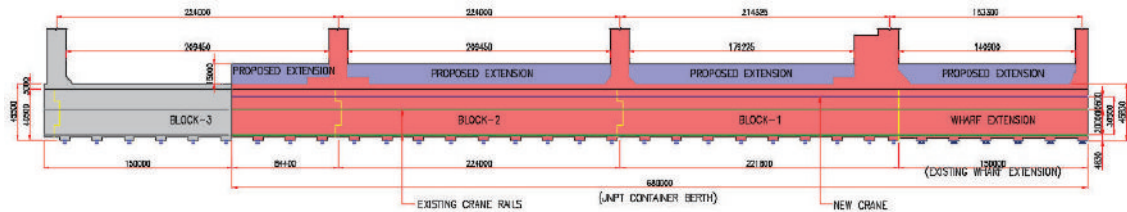
Based on scrutiny of existing quay cranes, 30.5m (100 feet) rail spacing seems to be very common and the same is adopted as the basis for the load consideration.

**2. TECHNICAL FEASIBILITY**

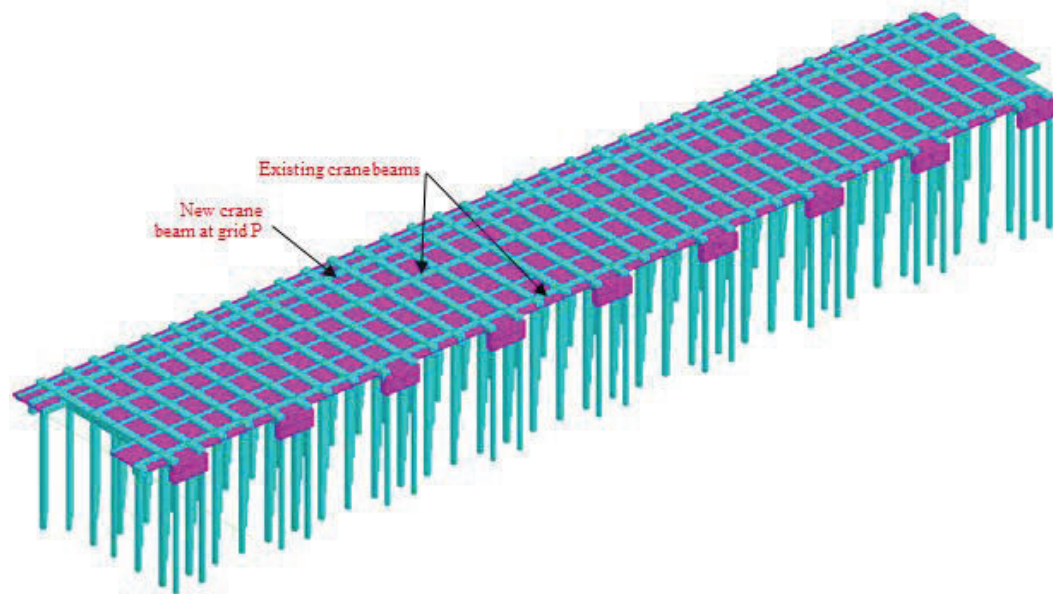
**2.1 Modification to existing container berth**

The overall layout of modified container berth with wharf structure for new quay crane is shown in figure 2.1. The container berth has 3 blocks and the overall length of the container berth with wharf extension is 680m.

The berth is extended behind the grid U and G is 15m and the overall width of the container berth and wharf structure is 60.5m and 60.83m respectively.

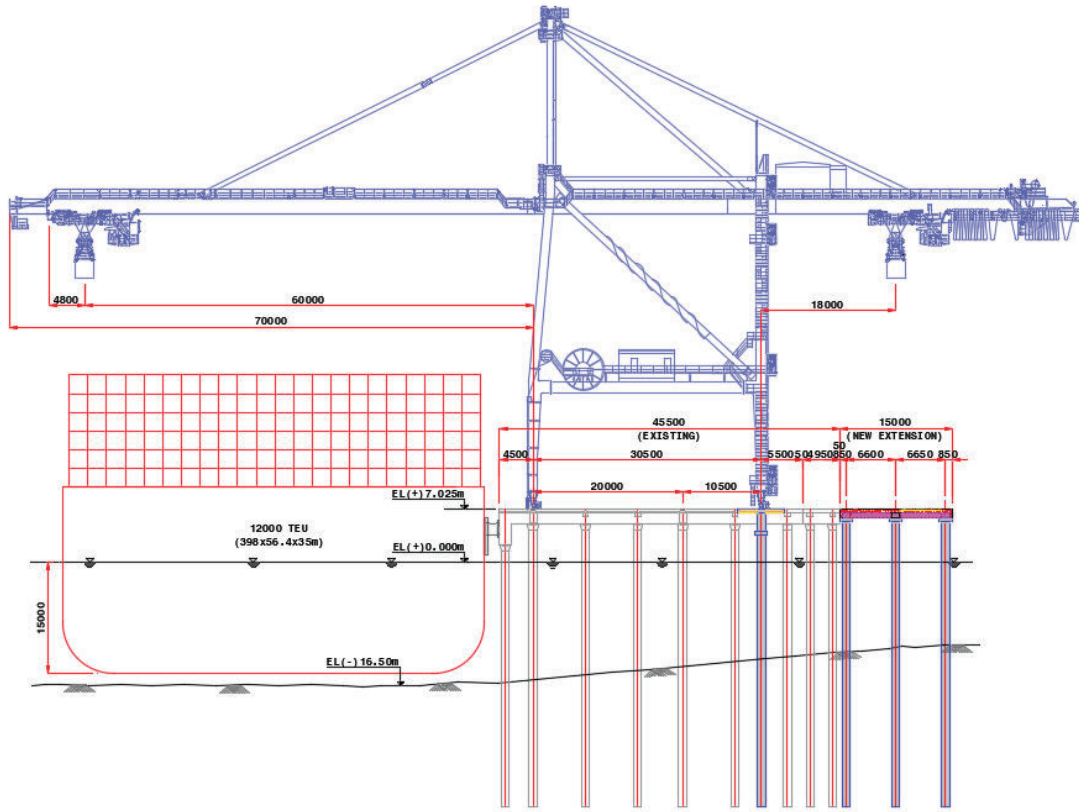


**Figure 2.1 Overall layout of modified container berth with wharf structure**



**Figure 2.2 Structural model – Modified Container berth**

The 3D view of the berth structure together with the crane beam is shown in figure 2.2. Typical cross section showing the quay crane (30.5m) supported on crane rails is shown in figure 2.3.



**Figure 2.3 Cross section of modified container berth**

## **2.2 Modification works for crane rail replacement**

The replacement of existing crane rail on the seaside shall be carried out in a phased manner such that the old container handling cranes move without hindrance. The proposed crane rails for 30.5m RMQC will be CR100/120 and hence the existing crane rail may not be adequate.

The replacement of existing rail on sea side shall be carried out in two blocks of 300m each so that the other t300m is available for the operation of the berth.

## **2.3 Refurbishment of Fenders and Bollards**

A separate study has been made for mooring and berthing of container vessels up to 12200 TEU and report submitted to JNPT. Reference shall be made to “**FENDER AND BOLLARD ASSESSMENT REPORT**”, Document No. IITM-JNPT-FBA-001. The extract of fender and bollard replacement is summarised in Table 2.1 and 2.2 respectively.

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**Table 2.1 Fender replacement Summary**

Location	Existing fender	Proposed fender (12200 TEU vessel)	Quantity
Existing container berth	SUC 1450H - RE	<b>SCK 1600 E3.0</b>	<b>27</b>
150m Wharf extension	SCN 1050 E3.0	<b>SCK 1450 E3.0</b>	<b>2x6</b>

**Table 2.2 Bollard replacement Summary**

Structure	Existing Bollard capacity	Proposed Bollard capacity (12200 TEU vessel)	Quantity
Existing container berth	125 MT	<b>200MT</b>	<b>33</b>
150m Wharf extension	125 MT	<b>200MT</b>	<b>33</b>

A quotation from vendor was received for supply and the cost of installation is taken as 50% of item and included in the cost estimate. Man day rate for visiting Vendor representative also included for assistance during installation. The fender and bollard shall be installed one by one by cordoning off and closing small part of the berth for this work.

#### **2.4 Refurbishment of existing fire fighting system**

Fire water from existing fire water pump house has been used for fire fighting and fire hydrants have been installed along the berth. However, after modernisation and deck extension, additional fire hydrants at every 30m will be installed. However, a detailed study will be carried out during detailed design. At present, the cost of fire hydrants and cement lined fire water header of 16" is included in the cost estimate and assumed as 1% of the civil works.

#### **2.5 Refurbishment of electrical wiring and lighting**

The existing electrical / lighting will be refurbished with modern lighting system. However, no new substation facility will be required. In order to meet the electrification of extended deck for lighting and other cabling, an allowance of 2% of the overall cost of civil work elements is allowed as an approximate estimate and included in the project cost estimate. Detailed wiring and cable extension shall be carried out during detailed engineering.

#### **2.6 Technical Feasibility Summary**

Assessment of existing RMQCs and the berths structure has been carried out for the berthing and mooring of larger container vessels in the range of 6000 TEUs, 9000 TEUs and 12200

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TEUs including upgrading the cranes with 30.5m rail gauge. The design / verification summary is given in Table 2.3.

**Table 2.3 Design verification summary**

Description of component of structure	Existing Crane Operations	During Modification works – existing crane operations	Post Modification – New crane operations
<b>Block 1 &amp; 2 (530m)</b>			
Piles	Ok	Ok	Ok
Crane Beam	Ok	Ok	Ok
Transverse beam	Ok	Ok	Ok
Longitudinal beam	Ok (Crack width marginally exceeded i.e. 0.33mm)	<b>Not Ok<sup>(3)</sup></b>	Ok (Crack width marginally exceeded i.e. 0.325mm)
Deck slab	Ok	Ok	Ok
Fender beam	Ok	Ok (Crack width marginally exceeded i.e. 0.321mm)	Ok
<b>150m extension</b>			
Piles	Ok	Ok	Ok
Crane Beam	Ok	Ok	Ok
Transverse beam	Ok	Ok	Ok
Deck slab	<b>Not Ok<sup>(2)</sup></b>	<b>Not Ok<sup>(2)</sup></b>	<b>Not Ok<sup>(2)</sup></b>
Fender beam	<b>Not Ok<sup>(1)</sup></b>	<b>Not Ok<sup>(1)</sup></b>	<b>Not Ok<sup>(1)</sup></b>

**Notes:**

- (1) The fender beam at 150m wharf extension is insufficient to resist vessel berthing loads as the fender panel is 700mm thick only. Due to this fenders have fallen at Bollard No. 5 location and similar exposure of reinforcement is found at the berth. This requires replacement of fenders together with local reinforcement as identified in Report No : IITM-JNPT-CT-RPT-001.
- (2) The deck slab design is insufficient to resist 30 kPa live load as the design crack width exceeds 0.3mm for staged construction and final load. This is also indicated in physical observation of under deck at several locations, distress of the slab reinforcement at the bottom requiring surface treatment as the existing concrete has fallen. However, reduced live load of 20 kPa can be allowed.
- (3) The longitudinal beams are not adequate during the construction stage due to the application of wind loads from the cranes. Hence the crane shall be away from the location during construction by managing the unloading operations.





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## 2.7 Conclusions

Following conclusions can be derived from the feasibility study.

- The fenders and bollards shall be replaced with higher capacity to cater for the 12200 TEU vessels.
- The existing structure of the berth such as piles, crane beams of the main berth and 150m extension has sufficient capacity to cater for the increased loads from the 30.5m rail gauge RMQC with an outreach of 60m.
- Existing sea side crane beam has sufficient strength to support the increased RMQC loads with a maximum wheel load of **85 MT** and hence the new RMQC shall be procured with a limiting wheel load as specified above.
- It is possible to provide a new crane beam at the land side at 30.5m from the existing sea side crane beam by opening up the existing deck slab at alternate pile grid locations and the longitudinal beam can be constructed under deck.
- Existing deck at the land side shall be extended by 15m to have sufficient space for container truck movement, and to support the additional crane rail support beam at 30.5m from the sea side crane rail.
- During construction of deck extension and new crane rail beam on sea side, the berth operations may have to be planned carefully by restricting the crane movement in the work area and construction shall be carried out in a phased manner.
- The fender beam at the 150m extension is insufficient to berth even smaller vessel of 6000 TEU. Hence, the strengthening of the same shall be carried out in accordance with earlier recommendations.
- Hence it is possible to upgrade the berth fitted with new RMQC with 60m outreach and 50-75 MT lift capacity for handling containers from vessels stacked up to 22 rows.



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### 3. IMPLEMENTATION SCHEME

#### 3.1 Construction Elements

Following construction elements and their activity duration is assumed based on typical marine construction. However, due to construction nearby the area handling containers, traffic and live berths, additional 50% time is considered as cushion for taking up this work.

- Demolition of **1661 m<sup>3</sup>** volume of deck slab of thickness 400mm including chipping, drilling and cutting of existing reinforcement bars etc.
- Demolition of existing crane rails including removal of concrete below to a depth of at least 300mm including cutting and removal of reinforcement bars etc.
- Construction of **105 Nos** of new RC bored cast-in-situ piles of 1200mm diameter within the existing berth in a confined space using rotary drilling rigs / chisel and bailer scheme suitable for mounting on to an existing deck structure.
- Construction of **3101m<sup>3</sup>** cast-in-situ concrete beams below deck including placement of precast pile muff and under deck shuttering for such in-situ works.
- Construction **281 Nos** of 1000mm diameter RC bored cast-in-situ piles for the 15m deck extension on the land side of the existing berth to a total length of 680m.
- Construction of longitudinal and transverse beams using partly precast and partly in-situ RC beams for deck using typical marine construction scheme. Total length of beams is 3146.0 m and the total quantity of concrete is **2516 m<sup>3</sup>**.
- Construction of deck slab 400mm (partly precast and partly in-situ) for the deck extension to a total area of 10200 m<sup>2</sup>.
- Procurement and installation of new crane rails of CR100/CR120 for a total length of 2 x 680m.
- Refurbishment of 33 Nos of bollards of 200 MT and 27 Nos of Fenders SCK 1600 E3.0 and 2x6 Nos of Fenders SCK 1450 E3.0 at container berths and wharf extension.
- Refurbishment of fire hydrants and fire water network piping along the extended part of the deck as well as the existing fire water network assuming that the existing fire water pump house is working in good condition.
- Refurbishment of electrical and lighting for the extended deck as well as the new crane electrical connections, detailed study shall be made during detailed engineering.
- Procurement and installation of 6 Nos of Post Panamax type RMQCs for handling containers using 30.5m rail gauge.



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### 3.2 Implementation schedule

Preparation of sensible schedule is an important task in planning such complex modification works. Following assumptions are made while preparing the schedule and the same shall be adhered to when the tendering for the said works is taken up to select the contractor.

- (a) The construction works involving the modification and installation of new crane rails is taken up in stages block by block to reduce the disruption to the existing container handling operations.
- (b) Minimum two work front shall be initiated from the starting of the project i.e. One for the modification works at the existing berth and the Second for the New Deck extension work. These works shall be executed parallel so that the overall progress can be achieved in shorter time.
- (c) Restricted operations means “JNPT will allocate workspace to the contractor without any restriction” for each block as defined elsewhere in the document.

Typical activity duration used for the estimation of construction duration is summarised in Table 3.1.

**Table 3.1 Activity duration**

Activity	Duration (days)	Remarks
Demolition of existing deck slab per 100 sq.m using conventional chiseling, jack hammer and removal by trucks and qualified manpower gang – One gang	5 days	
Pile Liner driving, boring and RC pile construction using typical chisel and bailer method	3 days	
Pile Liner driving, boring and RC pile construction using typical rotary boring method	2 days	
Deck beam and slab construction using in-situ and partly in-situ and precast wherever applicable per 100 sq.m.	30 days	Upon completion of pile

**A level 1 contract schedule has been prepared keeping mind that the modification works and 15m extension portion shall be constructed and made available for use within 30 months.**



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### 3.3 Preliminary cost estimate summary

Based on the structural drawings, the cost of modernisation of existing container berth is estimated using unit rates from the rate analysis which is attached in Annexure N. The total cost for the modernisation and construction of extension is Rupees **196.82 Crores**.

The cost estimate includes the following.

- *3% charges for PMC on overall project cost*
- *5% Contingency on overall project cost*
- *18% GST*
- *EPF @ 12.36% of 40% work element (Civil works)*
- *2% of project cost for firefighting hydrants and piping*
- *1% of project for electrification and lighting*

The summary of cost estimate for major work elements are given in Table 3.2.

**Table 3.2 Cost estimate summary**

Sl. No.	Description of items	Amount (in Rs Crores)
A	Demolition and reconstruction works	51.90
B	Refurbishment of fenders and bollards	26.30
C	Crane rails modification and installation	7.09
D	Construction of new deck extension	85.80
E	GRAND TOTAL (A+B+C+D)	171.14
F	Electrification and Lighting @ 1% of project cost of (E)	1.71
G	Fire hydrants and distribution piping for Firefighting system @ 2% of (E)	3.42
H	Price Escalation for next 3 years @ 6% per annum	20.54
	<b>FINAL GRAND TOTAL</b>	<b>196.82</b>

It is to be noted that the cost of new RMQCs are not included in the above estimate and separate quote from various vendors shall be obtained.



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#### **4. RECOMMENDATION**

It is recommended that the proposed crane rail upgrading is taken up after the under deck repair works are completed especially the crane beams and the transverse beams. Further, following sequence of operations can be taken up for implementation.

- a) Repair of existing container berth and the 150m Wharf extension as per the identified repairs in report **IITM-JNPT-CT-RPT-001 (Structural audit report)**.
- b) Replacement of fenders and bollards as per section 5.0 of the report and also earlier submitted assessment report **IITM-JNPT-FBA-001**.
- c) Enquiry of 30.5m rail gauge crane with various vendors and their design loads.
- d) Detailed design of proposed modification works for the berth and 150m extension.
- e) Planning of construction activities in a phased manner such that part by part the removal of deck slab for the construction of piles underneath can be taken up without affecting the existing container handling operations using existing RMQCs.
- f) Segregation of traffic of container movement in the berth area by dividing in to 150m blocks and demolition / removal of existing deck slab for the construction of piles and under deck beams.
- g) Construction of deck slab and extension on the land side including additional longitudinal crane rail beam.
- h) Laying of new crane rails in the land side crane rail beam.
- i) After the completion of the deck extension work and laying of crane rails on land side, container handling operations shall be shut for 6 months in two block to lay the sea side crane rail beams.
- j) During this process of civil construction, tenders can be called for the procurement of new RMQCs and installed on time to start the operation of the berth.

**APPENDIX C****Main Container Berth  
Quay Gantry Cranes Annual Moves Handled**

Yaer	QGC1	QGC2	QGC3	QGC4	QGC5	QGC9
2011-12	113,501				76,045	100,819
2012-13	110,500				130,990	103,070
2013-14	118,642				132,593	113,403
2014-15	97,836	5,685	16,653	24,304	130,612	113,244
2015-16	93,411	85,271	93,432	94,349	131,077	98,697
2016-17	103,043	111,580	114,237	116,391	131,237	100,993
2017-18	97,293	100,802	104,484	104,431	121,225	104,285
2018-19	77,102	81,218	84,614	86,892	99,738	68,015
2019-20	41,304	59,622	60,682	66,226	77,081	22,892
2020-21	69,874	81,078	85,081	80,566	22,663	305
2021-22*	32,037	41,719	40,851	37,317		

\* upto Aug-2021

## RTGC Moves

Year											2021-22	
Equipment	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	(up to Aug)	Total
RTGC01	41458	56488	54408	41845	53070	54042	41205	65498	35063	43678	12040	<b>498,795</b>
RTGC02	48247	56238	56255	45852	60223	61389	53179	67977	34863	37017	16730	<b>537,970</b>
RTGC03	48552	54879	51886	48183	55756	55124	52285	66777	38621	43680	13907	<b>529,650</b>
RTGC04	46403	60837	63795	46888	57143	57556	59367	69888	37091	34070	13489	<b>546,527</b>
RTGC05	48281	56861	53074	46333	55919	57541	36161	56062	24198	37354	15914	<b>487,698</b>
RTGC06	46811	60449	63493	44939	57095	66846	58724	67258	39954	51471	17147	<b>574,187</b>
RTGC07	48094	60196	58910	42105	56280	54488	53115	59854	36544	39362	15200	<b>524,148</b>
RTGC08	48512	60976	57629	42421	55881	54816	53344	61470	30187	44763	11923	<b>521,922</b>
RTGC09	43699	55262	26982	29053	34418	45313	32690	66572	35398	36147	12729	<b>418,263</b>
RTGC10	55244	57562	50192	50724	59323	39533	27799	60155	40144	46492	14594	<b>501,762</b>
RTGC11	55760	58019	49654	53472	58280	42416	51937	58888	34021	37569	10428	<b>510,444</b>
RTGC12	49160	58445	51924	54648	58813	42610	55150	62946	31165	29011	9389	<b>503,261</b>
e_RT13							10887	23781	36840	25526	12711	<b>109,745</b>
e_RT14							12769	22470	43238	24939	7099	<b>110,515</b>
e_RT15							11966	26067	33388	19742	9757	<b>100,920</b>
e_RT16							12027	32397	38457	31321	10945	<b>125,147</b>
e_RT17							11268	26699	43244	29747	11510	<b>122,468</b>
e_RT18							11232	25291	36803	17370	11640	<b>102,336</b>
e_RT19							2138	23941	30645	18159	7874	<b>82,757</b>
e_RT20							4102	19013	40163	26606	9476	<b>99,360</b>
e_RT21							1623	25860	41590	20468	10673	<b>100,214</b>
e_RT22							1902	26380	42577	27378	9186	<b>107,423</b>
e_RT23							2125	26711	39136	23037	4656	<b>95,665</b>
e_RT24							3379	26938	37151	24432	10998	<b>102,898</b>
e_RT25							2478	23580	35940	21354	7027	<b>90,379</b>
e_RT26							3413	20932	31712	18884	7889	<b>82,830</b>
e_RT27							2989	25070	29543	19642	12390	<b>89,634</b>
<b>Total</b>	<b>580221</b>	<b>696212</b>	<b>638202</b>	<b>546463</b>	<b>662201</b>	<b>631674</b>	<b>669254</b>	<b>1138475</b>	<b>977676</b>	<b>829219</b>	<b>307321</b>	<b>7,676,918</b>

## Moves handled by RMGCs

(Moves)

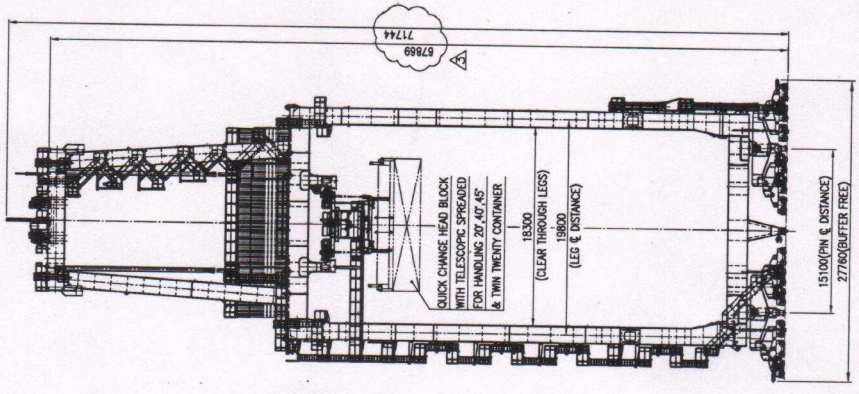
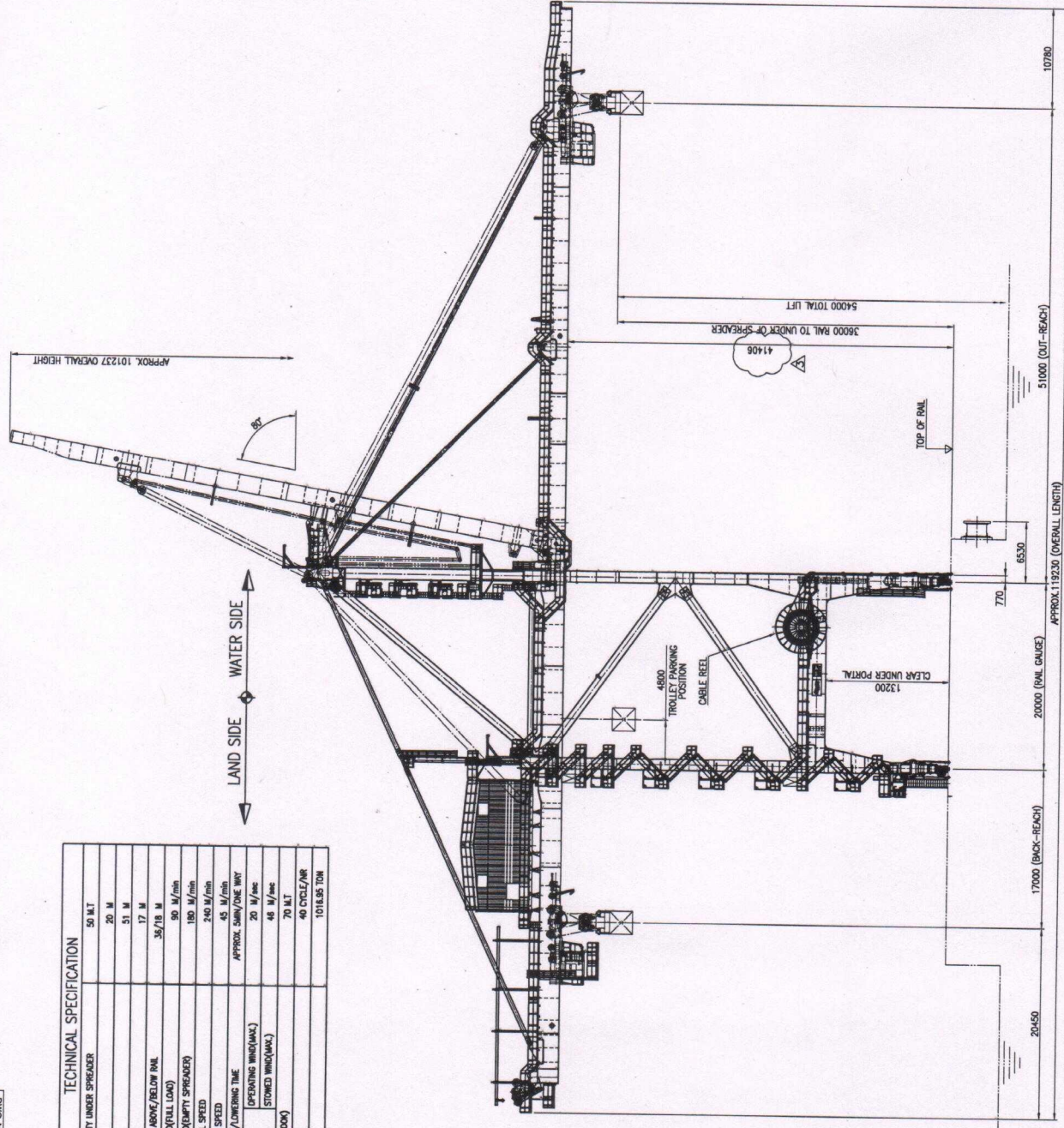
YEAR	RMGC04	RMGC05	RMGC06	TOTAL
2015-16	36022	40105	40664	116791
2016-17	31794	34075	36447	102316
2017-18	32752	34422	35048	102222
2018-19	33485	32039	35891	101415
2019-20	32987	34318	35767	103072
2020-21	29033	30983	33086	93102
2021-22 (upto Aug-21)	12447	13274	14866	40587
<b>TOTAL</b>	<b>208520</b>	<b>219216</b>	<b>231769</b>	<b>659505</b>





1000-1 RMO37-00-0001 (DWG NO.)

TECHNICAL SPECIFICATION	
LIFTING CAPACITY UNDER SPREADER	50 MT
RAIL GAUGE	20 M
OUTREACH	51 M
BOOMREACH	17 M
LIFTING HEIGHT ABOVE/BELOW RAIL	35/18 M
HOISTING SPEED(FULL LOAD)	90 M/min
HOISTING SPEED(EMPTY SPREADER)	180 M/min
CANTY TRAVEL SPEED	240 M/min
TROLLEY TRAVEL SPEED	45 M/min
BOOM HOISTING/LOWERING TIME	APPROX. 5MIN/ONE WAY
WIND SPEED	20 M/sec
STOWED WIND(LACK)	48 M/sec
S.W.L.(UNDER HOOK)	70 MT
DUTY CYCLE	40 CYCLE/HR
WEIGHT	10118.85 TON



PROJECT (과목명) Rail Mounted Quayside Crane

DOOSAN  
Doosan Heavy Industries & Construction Co., Ltd.

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TITLE GENERAL ARRANGEMENT  
DWG NO 1RM037-00-0001  
REV 3  
SHEET 1/1

DATE (날)	NAME (이름)	REVIEWED BY (검토)	APPROVED BY (승인)
2011.08.21	J.M.YE	J.M.YE	J.M.YE
2010.04.30	J.J.YUN	J.M.YE	J.M.YE
2010.02.10	S.Y.LEE	J.M.YE	J.M.YE
2008.10.15	S.Y.LEE	J.M.YE	J.M.YE
DATE (날) <td>NAME (이름) <td>DATE (날) <td>NAME (이름) </td></td></td>	NAME (이름) <td>DATE (날) <td>NAME (이름) </td></td>	DATE (날) <td>NAME (이름) </td>	NAME (이름)
PREPARED BY (작성)	DATE (날) <td>REVIEWED BY (검토)</td> <td>APPROVED BY (승인)</td>	REVIEWED BY (검토)	APPROVED BY (승인)

NO.	DATE (날)	DESCRIPTION
1	2011.08.21	ADDED DIMENSIONS
2	2010.04.30	CHANGED DIM. & DESIGN
3	2010.02.10	MODIFICATION TABLE
4	2008.10.15	FIRST ISSUE

DESCRIPTION OF REVISION (개정 사항)  
CAD FILE NAME (파일명) : 1RM037-00-0001-2  
APPLICATION

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**Information required for obtaining security clearance**

**I. Details in respect of Company/Firm (Indian/Foreign)**

Sr No	Name of Firms/Bidders	Date of registration of the company	Address of Head Office, Regional Office and Registered Office	Previous name of the company if any	Details of earlier approvals, if any(ref. No. and Date)

**II. Details in respect of Director**

Sr No	Full Name of Board of Directors	Present Position held with date (since when)	Date of Birth	Parentage	Present and Permanent Address	Nationality	Passport No. and issue date, if any	Contact Address and Telephone number

**III. Details of shareholders of applicant company (All firms/companies/entities/individuals having shareholding more than 10%)**

Sr No.	Full Name	Parentage Father/Mother	Date of Birth	Permanent Address	Present Position held in the company, if any	Nationality (if holding dual nationality, both must be clearly mentioned)	% of shares held in the company

**IV. Details of criminal cases, if any against the Company/Director(s)**

Self-declaration for company of Director(s) for whom security clearance is sought

a. Name and address and registration number of the company

b. Name and address of owners, promoters and directors of the company

1 .....

2 .....

3 .....

c. Is the company Owners, promoters or directors listed above the subject of any?

1. Preventive detention proceedings (PSA/NSA etc.) : YES/NO

2. Criminal proceedings : YES/NO

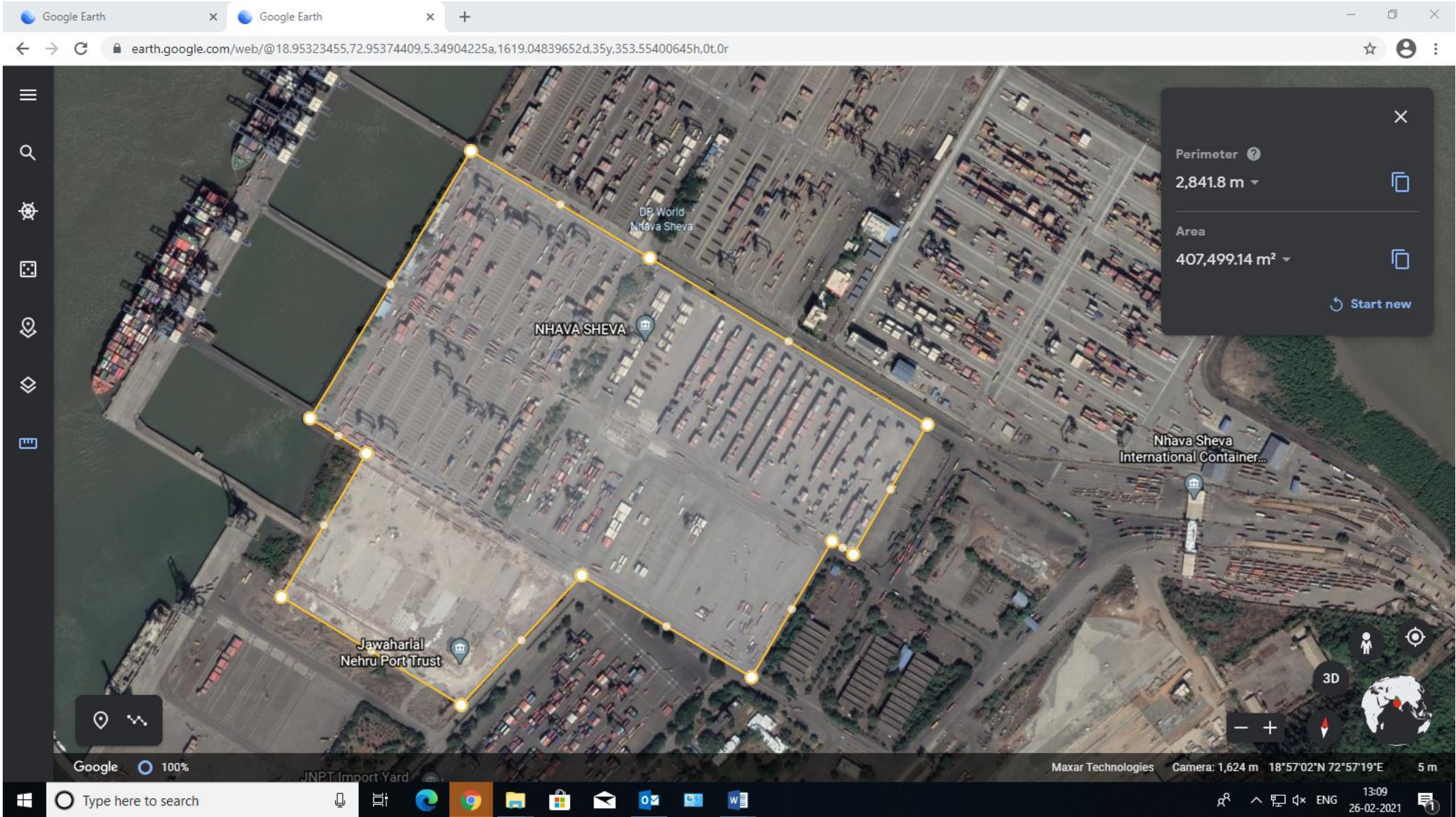
- d. **If Yes, Please provide following details**
  - 1. **Detention case/FIR/Warrant number**
  - 2. **Police station/District /Agency**
  - 3. **Section of law**
  - 4. **Name and place of the court**
- e. **The above mentioned details are in respect of both the Indian and any other foreign country.**

**Note : The above self-declaration is required to be filled and signed by the authorised signatory of the company.**

The image is a screenshot of a Google Earth web browser window. The browser's address bar shows the URL: [earth.google.com/web/@18.95470616,72.94862031,-0.1889852a,1634.11569031d,35y,353.55234086h,0t,0r](https://earth.google.com/web/@18.95470616,72.94862031,-0.1889852a,1634.11569031d,35y,353.55234086h,0t,0r). The main view is an aerial satellite image of a port area. A yellow polygon is drawn over a pier structure, with yellow dots at each vertex. To the right of the map, a dark grey data panel is open, displaying the following information:

- Perimeter: 3,400.79 m
- Area: 42,421.29 m<sup>2</sup>
- Buttons: Start new

On the map, labels for 'NHAVA SHEVA' and 'DP World Niteva Sheva' are visible. The bottom of the screen shows the Windows taskbar with various application icons and the system tray displaying the time as 13:17 on 26-02-2021. The Google Earth interface includes a search bar at the bottom left and navigation controls at the bottom right.



**BERTH AREA : 2.82 Ha**

**Based on the drawing total area of Berth, Yards stacking, Gate , in & out-survey point and ICD**

- 1) Berth and Approaches : 4.24 H Drawing enclosed**
- 2) Yards including internal roads, and gate complex : 41.5 H ( Drawing of yard area enclosed)**
- 3) ICD Area : 9.0 H ( Drawing not enclosed)**
- 4) Total : 54.74 H**

**This is the indicative year of the JNPCT, however the prospective bidders are requested to visit site for clarification**



## Terms and Abbreviations

Acronym	Description
ADB	Asian Development Bank
BMCT	Bharat Mumbai Container Terminals
CAGR	Compounded Annual Growth Rate
CFS	Container Freight Station
CHA	Customs House Agent
DFC	Dedicated Freight Corridor
FY	Financial Year
GTI	Gateway Terminals India
ICD	Inland Container Depots
JNPCT	Jawaharlal Nehru Port Trust
MCB	Main Container Berth
MS	Mild Steel
NSICT	Nhava Sheva International Container Terminal
NSIGT	Nhava Sheva (India) Gateway Terminal
O&M	Operations and maintenance
P&L	Profit and Loss
PPP	Public Private Partnership
R&M	Repair and Maintenance
SEZ	Special Economic Zone
SH	State Highways
TAT	Turnaround time
TEU	Twenty Foot Equivalent
WTP	Willingness to Pay Surveys

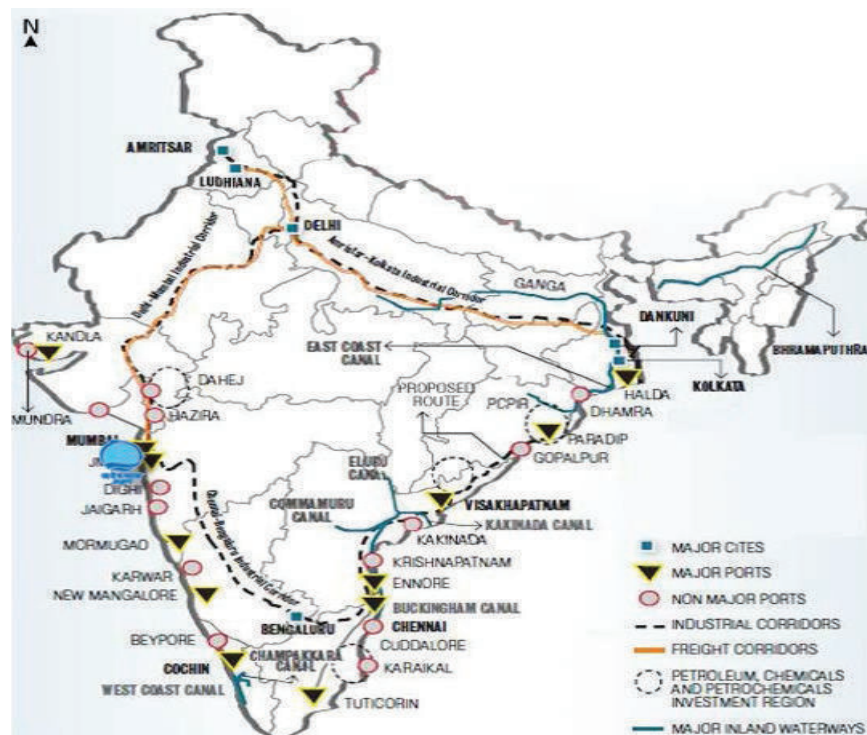


# 1 Introduction

## 1.1 About JNPT

The Jawaharlal Nehru Port Trust (JNPT) is India's largest container port handling more than half of the container cargo across all major ports in India. Commissioned on May 26, 1989 JNPT occupies a prominent place among the most modern ports in India. It is run by the trust, an autonomous body formed under Major Port Trust Act (1963) and works under the administrative control of the Ministry of Shipping (MoS), Government of India. The port is located at the eastern end of Mumbai on the Sheva Island and is situated at latitude 18° 56' 43" N and longitude 72° 56' 24" E. JNPT is spread across 3,402 Hectares (Ha) of land, as per the Comprehensive Land Use Plan Report of JNPT (2019). Location of JN Port is shown in Figure 1.

Figure 1: JNPT location map

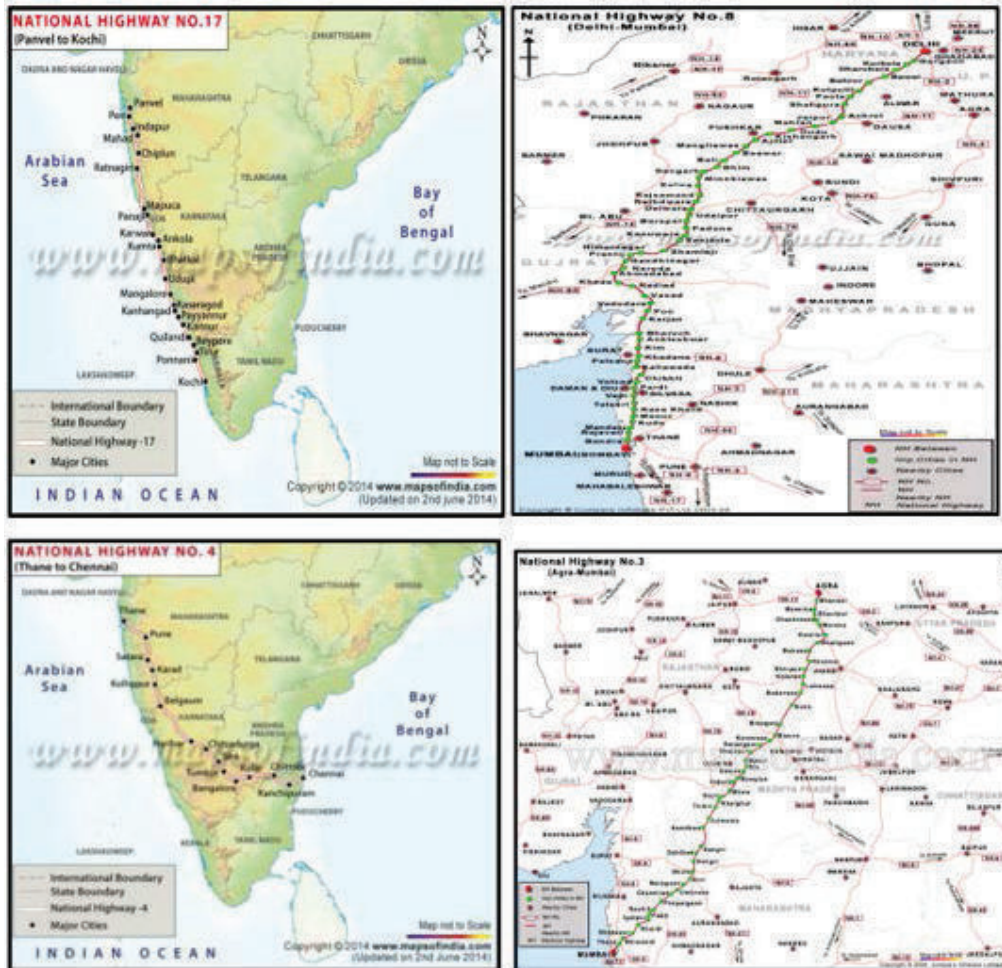


JN Port was planned as a satellite port to the Mumbai Port, with an objective to decongest Mumbai port and act as a hub port for container traffic in the region. In the pre-reform days, when Mumbai port faced issues like shallow depths, congestion on roads and railways through the Mumbai city linking the port to its hinterland as well as labour problems therefore, JN Port was considered. However, JNPT systematically evolved its operational efficiency and improved its capacity handling to transform into a port at par with global standards.

### 1.1.1 Road Connectivity

JN Port handled 83.96% of the containers through road in FY20 and hence, road connectivity has played a very important & crucial role in hinterland connectivity. Major roads connecting JNPT with the hinterland are NH4B, NH4, NH17, NH 3 & 8 and a State Highway 54.

Figure 2: NH4B, NH4, NH17, NH 3 & 8 of JNPT Hinterland



- 1 National Highway 4B – This road connects JNPT with Mumbai and other important cities of Maharashtra and Gujarat. The road mainly serves the heavy traffic of containerized vehicles to and from JNPT.
- 2 National Highway 4 (4 lanes) - The port is connected through National Highway number 4 through NH 4B. The linkage to NH 4 provides connectivity to Pune and southern states of India.

- 3 National Highway 17 - The state Highway number 66 links the port to National Highway number 17 (2 lanes) which provide connectivity to Goa.
- 4 National Highway 3 and 8 - National Highway Number 4 links port to NH 3 and NH 8 which provides connectivity to Nashik and Ahmedabad region.
- 5 State Highway 54 - This state Highway stretch connects Uran to Panvel. It runs parallel to NH 4B. SH54 meets NH 4B at km 6/000 on Uran side and km 21/000 on Panvel side. Several container yards are located abutting SH54 and most of the traffic on this road is due to the JNPT.

Through any of these National Highways, various destinations in India can be accessed.

To cater to the demand of future traffic, JN Port, through NHAI, has awarded the work of widening of 43.9 Kms. length of NH 4B, SH 54 and Amra Marg Linkages to 6 / 8 lanes along with two lanes service roads by SPV formed by JNPT, NHAI and CIDCO. The work on the project which is being executed on EPC mode in 4 civil packages is expected for completion in Dec. 2020<sup>1</sup>.

### 1.1.2 Rail Connectivity

JN Port handled about 16.04% of its cargo through rail in FY20<sup>2</sup>. Railway transport serves as an economic transport mode as compared to road transport, hence Ministry of Shipping (MoS) in collaboration with Ministry of Railways (MoR) has taken various initiatives to increase the modal share of railways at JN Port.

JN Port is connected to the Indian Railway network through a lead line connecting the port with Central Railway division (Jasai), located at 9 km from the port. The rail system at the port, which is operated and maintained by the Indian Railways, has 8 full-length railway lines serving the existing container terminals.

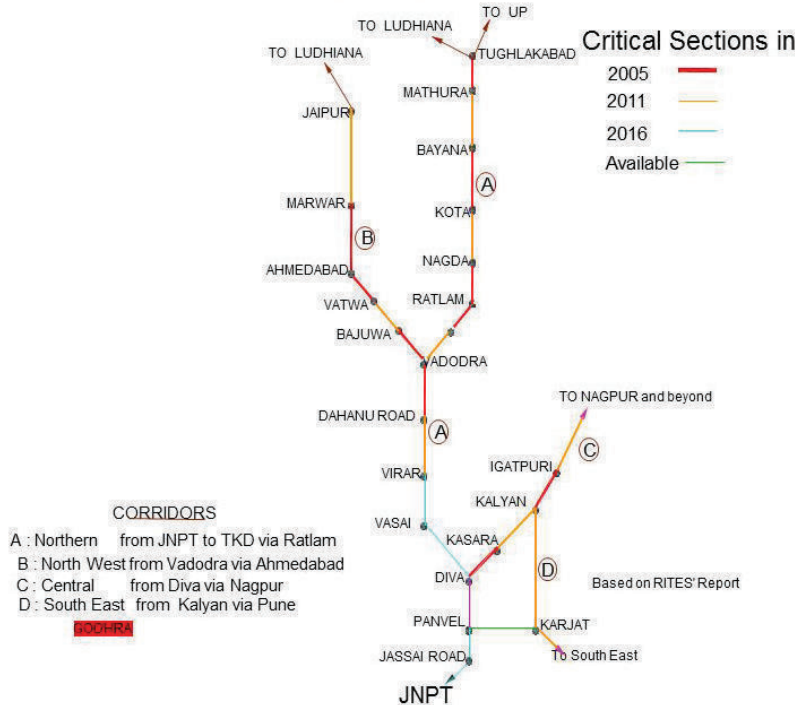
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<sup>1</sup> Master Plan for Jawaharlal Nehru Port Trust

<sup>2</sup> [www.jnport.gov.in](http://www.jnport.gov.in)

Figure 3: Rail connectivity to JNPT Hinterland

### JNPT Rail Connectivity to Hinterland



Besides these, there is a 4-line intermediate holding yard between Jasai and the port. The Jasai station yard deals with all traffic between JNPT and the Indian Oil Tank farm Ltd. In the event of congestion at JNPT or at Jasai yard, 4-line intermediate holding yard is used for holding back and regulate traffic. JNPT is connected through Northern corridor and Northern Western rail corridor to rest of India.

- Northern Corridor from JNPT up to Ludhiana via Diva, Vasai road, Vadodara, Ratlam, Kota, Bayana, Mathura junction, Tughlaqabad and Delhi.
- North Western Corridor from JNPT to Rewari via Vadodra-Ahmedabad, Sabarmati Palanpur, Marwar Jn. Jodhpur, Jaipur

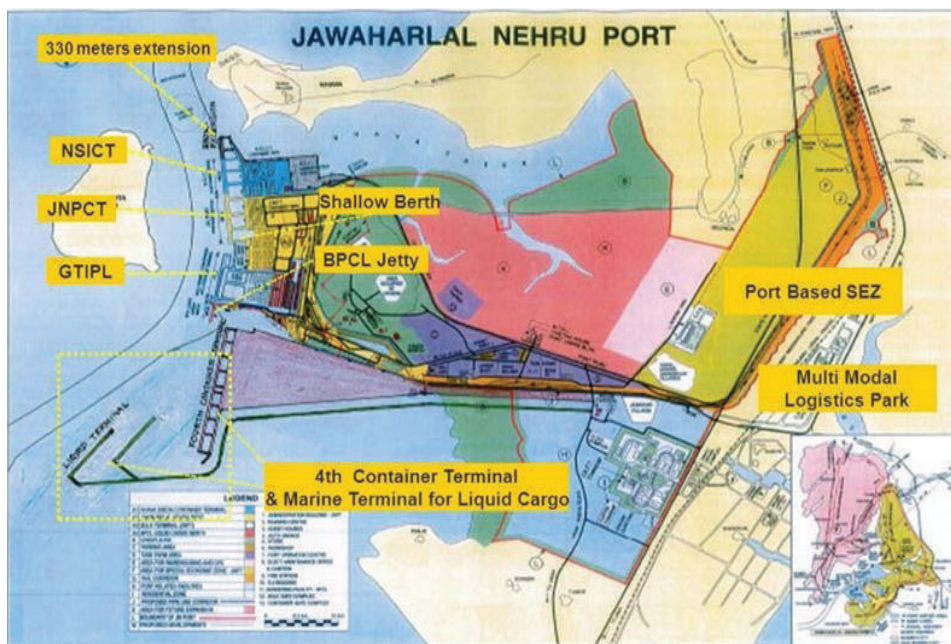
#### 1.2 Terminals at JNPT

At present, total berth length of container terminals of JNPT is 3322 m. JNPT port has five container terminals, one liquid terminal and one shallow water berth. The total capacity of these terminals is 8.1 million TEUs. Out of the five container terminals, one of the terminals is operated by JNPT, whereas other four container terminals are operated by private players through BOT concession. List of five container terminals and one liquid terminal is presented below.

1. Jawaharlal Nehru Port Container Terminal (JNPCT)
2. Nhava Sheva International Container Terminal (NSICT)
3. Gateway Terminals India (GTI) Container terminal
4. Bharat Mumbai Container Terminal (BMCT)
5. Nhava Sheva (India) Gateway Terminal
6. Bharat Petroleum Corporation Limited (BPCL)- Liquid Terminal

Following figure depicts location of all the terminals

**Figure 4: JNPT site location map**



Source: [www.jnport.gov.in](http://www.jnport.gov.in)

JN Port started operating the first container terminal in 1989. In 1997, first PPP project of JNPT was awarded to Consortium led by P&O Ports, Australia

### **Jawaharlal Nehru Port Container Terminal (JNPCT)**

JNPCT, is JNPT's own container terminal with the state of art facilities, meeting all international standards, user-friendly atmosphere, most economical, excellent connectivity by rail and road to the hinterland, backup infrastructure like 34 CFSS, connectivity with 50 ICDs, full fledge Custom House, Airport, Hotels, proximity to Mumbai, Pune, Nasik city and its industrial belt all makes JNPCT a unique container terminal of JNPT.

### **Nhava Sheva International Container Terminal (NSICT-DP World)**

JN Port entered into a license agreement in July 1997 with M/s. Nhava Sheva International Container Terminal (NSICT) led by M/s. P&O Ports, Australia, for construction, operation and management of a new 2-berth container terminal on BOT basis for a period of 30 years. The same was Commissioned in April 1999. The project comprises construction of 600 meters quay length; reclamation of 25.84 hectares of area backup for container yards and requisite container handling equipment along with other related facilities. The Present Capacity of the Terminal Is currently assessed as 1.2 million TEUs per year<sup>3</sup>.

### **GTI-APM container terminal**

Gateway Terminals India (GTI) is a joint venture between APM Terminals and the Container Corporation of India Ltd (CONCOR). Incorporated in July 2004, GTI operates the third container terminal at Jawaharlal Nehru Port on a build, operate and transfer (BOT) basis for a period of 30 years. It commenced operations in March 2006.

### **Nhava Sheva (India) Gateway Terminal (NSIGT)**

In view of continuous growth in container traffic and meeting growing demand of business community and trade partners to have additional facilities for handling the same, the port introduced private participation to develop new Container Terminal to augment its container handling capacity.

NSIGT was Commissioned in July 2016. The project comprises construction of 330 meters quay length; reclamation of 27 hectares of area backup for container yards and requisite container handling equipment along with other related facilities. The Capacity of the Terminal is assessed as 0.8 million TEUs per year.

### **Bharat Mumbai Container Terminal (BMCT)**

BMCT - Fourth Container Terminal is developed on Design, Built, Fund, Operate and Transfer (DBFOT) basis for the concession period of 30 years. The estimated cost of the project is Rs. 7915 Crores. The work was awarded to M/s Bharat Mumbai Container Terminals Pvt. Ltd. (the subsidiary of Port of Singapore Authority). <sup>4</sup>The Concession Agreement was signed on 6th May 2014 and the Concession was awarded on 22nd December 2014.

The project is to be implemented in two Phases. i.e. Phase –I and Phase –II. The indicative cost of the project for Phase – I is Rs. 4,719 Crores and for Phase-II is 3,196 Crores. The total capacity

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<sup>3</sup> Master Plan for Jawaharlal Nehru Port Trust

<sup>4</sup> Master Plan for Jawaharlal Nehru Port Trust

addition would be 4.8 Million TEUs. Capacity addition in Phase1<sup>5</sup> would be 2.4 Million TEUs and 2.4 Million TEUs in Phase 2.

Following table represents key details of the container terminals

**Table 1: Key details of Container Terminals at JNPT**

SL. No.	Name of Terminal	Date commissioning/ of Berths	Existing Capacity (in million TEUs)	Quay length (Mtrs.)	Draft (Mtrs.)
1	Jawaharlal Nehru Port Container Terminal (JNPCT)	2 Berths	1.50	680	15
2	Nhava Sheva International Container Terminal (NSICT)	1999, 2 Berths	1.20	600	15
3	Gateway Terminals India (GTI)	2006, 2 Berths	1.80	712	15
4	Nhava Sheva (India) Gateway Terminal (NSIGT)	2016, 1 Berth	0.8	330	15
5	Bharat Mumbai Container Terminal (BMCT)	2018, Phase 1 (3 berths)	2.4	1000	16.5
	<b>Total</b>	<b>10 Berth</b>	<b>7.7</b>		

Source: JNPT

### 1.3 Existing Supporting Infrastructure of JNPT

JNPT existing supporting infrastructure details are listed below

**ICD:** JNPT has good rail and road connectivity to Inland Container Depots (ICDs) across India. It is connected through roads by NH 4-B and NH348-A. Widening of NH4-B and NH348-A is already commenced. Through rail connectivity, JNPT is connected to 47 ICD destinations across India while it has connected through rail to 3 local CFS destinations<sup>6</sup>. Following tables represents ICD destinations across India and 3 local CFS destinations.

**Table 2: ICD Destinations across India**

Sr No.	JNPT Code	ICD Destinations
1	AGA	Agra (U.P.)

<sup>5</sup> Master Plan for Jawaharlal Nehru Port Trust

<sup>6</sup> [http://www.inport.gov.in/connected\\_inland\\_depots](http://www.inport.gov.in/connected_inland_depots)

Sr No.	JNPT Code	ICD Destinations
2	ANK	Ankaleshwar (GUJ.)
3	BLR	Bangalore (K.S.)
4	BRD	Baroda (GUJ.)
5	BSL	Bhusaval (M.S.)
6	BVH	Faridabad/Ballabgagh (HAR.)
7	CCH	Chinchwad (M.S.)
8	DDR	Dadri (U.P.)
9	DES	Desur (Karnataka)
10	DLB	Daulatabad (M.S.)
11	DPR	Dhapar (Punjab)
12	HYD	Hyderabad (A.P.)
13	IND	Dhannad, Indore (M.P.)
14	JAI	Jaipur (RAJ.)
15	JOD	Jodhpur (RAJ.)
16	KCH	Kanech, Ludhiana (Punjab)
17	KPR	Kanpur (U.P.)
18	KYR	Khodiyar (GUJ.)
19	LUD	Ludhiana (Punjab)
20	MAL	Malanpur (M.P.)
21	MBS	Madhav Singh (RAJ.)
22	MDB	Moradabad (U.P.)
23	MDP	Mandadeep (M.P.)
24	MUL	Mulund (M.S.)
25	NAG	Nagpur (M.S.)
26	PPK	Panki, Kanpur (U.P.)
27	RAI	Raipur (M.P.)
28	REW	Rewari (HAR.)
29	RTL	Ratlam (M.P.)
30	SHM	Shalimar (W.B)
31	TUR	Turbhe (M.S.)
32	TUMB	Sarigam (Guj.)
33	BNG	Boisar (M.S.)
34	GAR	Gari Harsaru (U.P.)
35	KLM	Kalamboli (M.S.)
36	LNI	Loni, Patparganj (U.P)
37	MUN	Mundra (GUJ.)
38	NDE	Tughlkabad, New Delhi
39	PAT	Patli (HAR.)
40	PAV	Pipavav (GUJ.)
41	PIT	Pitampur (M.P.)
42	RNQ	Renuqoot (M.P.)
43	RRD	Rawta Road (RAJ.)
44	SAU	Sanand (GUJ.)
45	SON	Sonepat (HAR)
46	VSD	Valsad (GUJ)
47	WRD	Wardha (M.S.)

**Table 3: Local ICD Destinations**

Sr. No.	JNPT Code	ICD Destinations
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1	NCL	Navkar Corp. Ltd, Somatne Village
2	CLP	Hind Terminal, CWC Logistic Park
3	DRT	Concor, Dronagiri

**CFS<sup>7</sup>:** Near JNPT, there are facilities to store the goods to shipped it together in number of containers. In and around JNPT, there are 33 Container Freight Stations being operated. Following table represents list of container freight stations.

**Table 4: List of Container Freight Stations**

Sr. No.	CFS Name
1	All Cargo CFS (AG) (AGL)
2	Ameya Logistics Pvt. Ltd. (AL)(AMY)(APL)
3	Apollo Logisolution (AO) (APO)
4	Arshiya International CFS (AR) (ARS)
5	Ashte Logistics (ASL)(ALP) (AST)
6	Balmer Lawrie CFS (BL) (BML)(BLC)
7	CEC D-Node (DW) (CDN)
8	CWC Distripark (DC) (CDP) CDD
9	CFS Impex Park (IP) (CIP) IPX
10	CWC Logistics Park Ltd. (LP) (CLP)
11	Continental W-Housing (NC)(CNW)CNT
12	DRT CFS (RC) (DRT)
13	EFC Logistics India Pvt Ltd (FC) (Efc)
14	TG TERMINALS PVT LTD
15	GDL CFS (GD) (GDL)
16	Indev Logistics CFS (II) (IIp)(III)
17	Speedy Multimodes (JNP CFS) (CF) (JCF)
18	JWC Logistic Park (JW) (JWC)
19	JWR Logistics Pvt Ltd (JR) (JWR)
20	Maersk Annex CFS (MA) (MAX) MSA
21	Maersk CFS (MF) (MSK)
22	Maharashtra State (MS) (MSW)
23	Navkar Corp. Ltd. (NK) (NCL) NCA NCB
24	Ocean Gate CFS (OG) (OGL) OCN
25	Punjab Conware (PW) (PCW) CON
26	Navkar Corpo. - li CFS (PL) (PLL) NCC
27	Navkar Corpo. - I CFS - PLR
28	Seabird CFS (SB) (SBD) SMS
29	SBW Logistics P. Ltd (SW) (SBW)
30	Take Care Logistics (TC) (TCL)
31	Transindia Logistics Park (TR) (TLP)
32	ULA CFS (UC) (ULA)

<sup>7</sup> [http://www.inport.gov.in/container\\_freight\\_stations](http://www.inport.gov.in/container_freight_stations)

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Sr. No.	CFS Name
33	Vaishnao Logistics (VL) (VLY)

## 1.4 Proposed Supporting Infrastructure of JNPT

Details of proposed supporting infrastructure of JNPT are listed below

### A. Coastal Berth<sup>8</sup>:

JNPT has taken up the project of 'Coastal Berth'. The work comprises of construction of 250 m long Coastal Berth with 2 trestles 94m long each with backup area reclamation of 11 hectares. Dredging to achieve a dredged depth of 11 m at Berth pocket back side of the berth is also proposed for handling port crafts with a dredged depth of 6m below CD. Capacity for handling liquid cargo of 1.5 MTPA and General Coastal cargo of 1 MTPA. It will reduce the delays caused due to port related paperwork and customs formalities thus save time and enhance overall Trade.

### B. JNPT Special Economic Zone (SEZ)<sup>9</sup>:

Inaugurated in 2014, JNPT Special Economic Zone (SEZ) covers 277 Hectares (Ha) of land near JN Port located at 5 Kms from the port boundary. It is a multiproduct SEZ and has access to upcoming multi-modal infrastructure projects including New Mumbai airport, DFC rail corridor and Trans-harbor road link. It has a geocentric advantage of global as well as local connectivity. Also, being close to Mumbai, the financial capital of India makes it an attractive manufacturing location.

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<sup>8</sup> [http://www.inport.gov.in/dry\\_bulk\\_terminal](http://www.inport.gov.in/dry_bulk_terminal)

<sup>9</sup> Source: <http://www.inport.gov.in/sez>

**Figure 5: JNPT SEZ multi modal connectivity**



Source: [www.jnptsez.com](http://www.jnptsez.com)

Various transport connectivity options to the SEZ are as follows:

- i. Road:
  - NH-4B: 4 Lane national highway, widening to 6/8 Lane under process by NHAI
  - SH-54: 4 Lane State highway, widening to 6/8 Lane under process
- ii. Rail:
  - 9 Railways sidings with capacity of 27 rakes/day
  - Multiple CFS & with rail connectivity to port
  - Direct connectivity with upcoming Delhi-Mumbai Dedicated Freight Corridor (DFC)
- iii. Inland waterways:
  - Coastal movement handled separately through shallow water berth
  - Dedicated coastal terminal construction in progress
- iv. Air:
  - JNPT SEZ is 60 km away from existing airport.
  - Planned Navi Mumbai airport is 15 km from SEZ

### **C. Centralised Parking Plaza:**

Centralised parking has also been foreseen for a 2000 Tractors and Trailers (TTs). A total of 45 ha area will be developed for this purpose in phases, where Phase 1 will cover 22 ha. The work has been awarded and is contemplated to complete soon. The proposed facility includes Dormitories for truck drivers, Auto Repairs Zone and Customs set-up for examining EXIM consignments.

### **D. Dedicated Freight Corridor (DFC)**

The Ministry of Railways has planned for Western Dedicated Freight Corridor or Western DFC to connect JN Port with the Northern hinterland, being taken up by the Dedicated Freight Corridor Corporation of India Ltd. This corridor will cover 1483 km and would be electrified with double line operation.

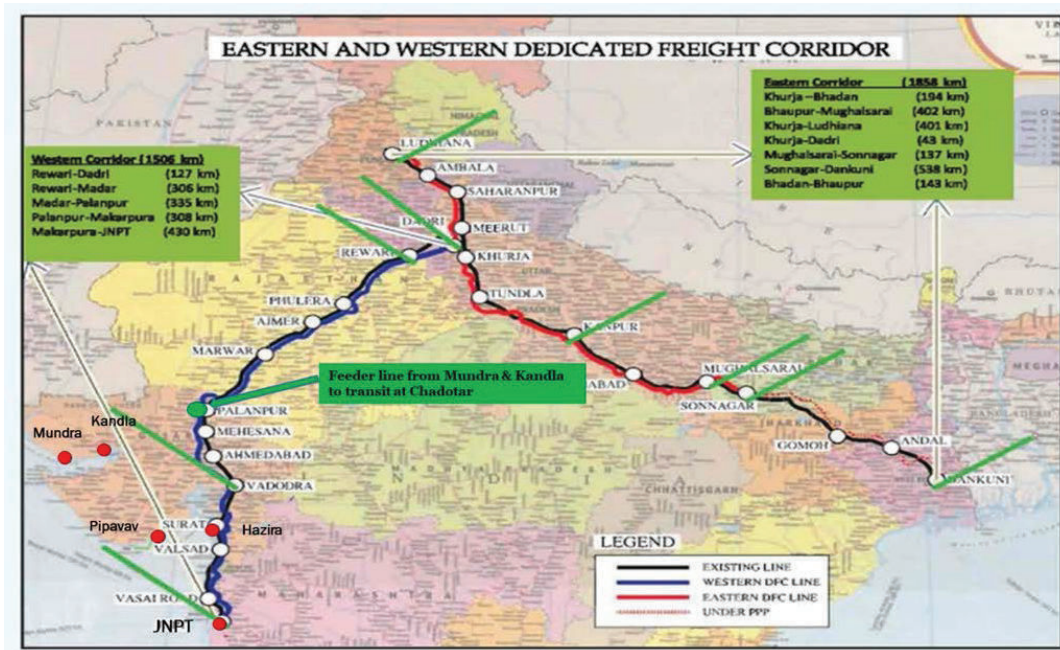
Following are the main features of DFC Corridor:

- Western Dedicated freight Corridor is connected from JNPT to Dadri in Uttar Pradesh.
- The Ministry of Railways had already initiated the construction of doubling-line high-speed Dedicated Freight Corridor (DFC) between Delhi and Mumbai which will pass through Gujarat.
- Mundra, the primary competitor of JNPT, has grown rapidly at more than 20% rate over the last 5-7 years.
- Operational DFC will benefit JNPT, in terms of reducing the total logistic cost to the hinterlands in Northern part of India as compared to that of other ports in Gujarat such as Mundra, Pipavav & Kandla etc.
- Western DFC is expected to start its operation fully by 2020-21 as per DFCIL.
- The 200 km stretch between Rewari and Phulera got commissioned as the DFC has been asked to work with that target on priority by the Govt.

An inaugural Trial-Run of Indian Railways (IR) freight train on the newly built Rewari-Madar section of Western Dedicated Freight Corridor (WDFC), covering about 306 km (Total 663 track Km) was conducted in Dec 2019.

The following figure represents Eastern and Western Freight Corridors.

Figure 6: Eastern and Western Freight Corridors



Source: DFCCIL Website

### 1.5 Historic Traffic at JNPT

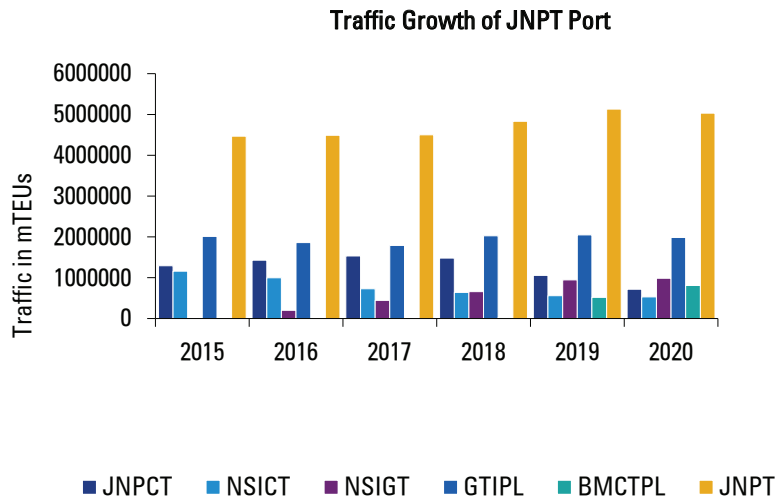
In the financial year 2018-19, the port handled 5.13 million TEUs, which is ~31% of the total container traffic handled by all ports put together, in India. JNPT is the only port from India, among the top 30 container ports in the world and ranked 28<sup>th</sup> globally as per Lloyds report 2019<sup>10</sup>.

It is currently India's largest and premier container gateway, which serves the industrial and manufacturing centers and cities not just adjacent to the port location but as far as northern India. It is well connected by road and rail to the key markets in Maharashtra, Gujarat, National Capital Region of India and Rajasthan.

Following Figure 7 depicts the traffic trend of JNPT for last 6 years.

<sup>10</sup> <https://lloydlist.maritimeintelligence.informa.com/one-hundred-container-ports-2019>

**Figure 7: Traffic Growth of Container Terminals of JNPT and JNPT Port**



Source: JNPT and KPMG Analysis

## 2 Background and Context

### 2.1 Jawaharlal Nehru Port Container Terminal features

JNPT terminal is operated by JNPT. JNPT has 3 berths with a total quay length of 680 m and is capable to handle vessels up to 15 m draft. The capacity of JNPT terminal is about 1.8 million TEUs with a backup yard of approx. 64.97 ha. (including shallow berth area). The existing JNPTs facilities are shown in the following figure.

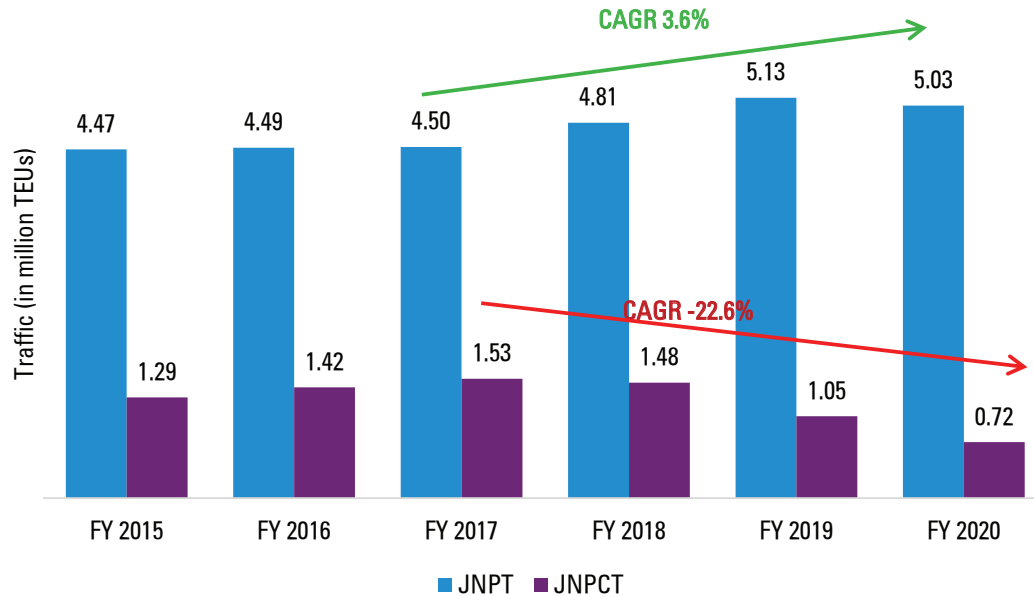
Figure 8: JNPT Existing facilities



JNPT terminal which is operated by JNPT is facing a decline in container traffic over the last three years and decreasing JNPT share in the overall JNPT traffic. It has declined by more than 50% within a period of three years from 1.53 million TEUs in FY2017 to 0.72 million TEUs

FY2020 (Estimated value<sup>11</sup>) whereas overall traffic at JNPT registered a moderate growth during this period at a CARG of 3.6% as shown in chart below.

**Figure 9: Traffic trends JNPT vs JNPCT**



Source: JNPT and KPMG Analysis

There are various reasons for declining traffic volume of JNPCT, few of them are listed below:

1. Being a government operated container terminal, it loses competitive advantage in comparison with other privately-operated container terminals of JNPT.
2. Private terminals at JNPT have modern infrastructure
3. The operational efficiency of other terminals is much higher
4. JNPCT has no international presence unlike other private terminal operators. Strong international network helps in quickly adopting global practices and to run the terminal at par with global standards.

JNPT has therefore decided to undertake Development of JNPCT terminal through Public-Private Partnership (PPP) on Upgradation, Operation, Maintenance and Transfer (UOMT) basis



("the Project"). The following are the development activities that the Port is planning to implement at JNPCT:

1. Re-development of 680 Meter Container berth which can handle vessel size of 12,200 TEUs.
2. Provision of state-of-the-art equipment consisting of quay cranes and yard equipment.
3. Carrying out the operation of the terminal in the most efficient way.

To invite bids for implementing the project through PPP, the following tasks need to be completed by JNPT

1. Project appraisal
2. Development of a revenue model
3. Review of the cost estimates based on feasibility reports
4. Assessment of financial viability of the Project.

If the project found to be technically feasible and financially viable, the Project may be awarded to a private entity, on PPP basis. The private entity shall be selected through an international competitive bidding process. The Project would be implemented in accordance with the terms and conditions stated in the concession agreement to be signed between JNPT and the Concessionaire.

For this purpose, JNPT has appointed KPMG to carry out a study to understand the operational and financial condition of JNPCT and explore the possibility of re-development of the project under PPP mode.

CRISIL has carried out a traffic study to assess current traffic of JNPT and forecast future container traffic of the JNPT. JNPT has also worked out the Traffic projections through primary discussions with stakeholders. The Traffic numbers projected by JNPT has been considered in this report for financial and technical evaluation.

Another relevant study has been carried out by Indian Institute of Technology Madras (IIT-M) to assess berth condition of JNPCT and to suggest strengthening measures for JNPCT and associated cost. To assess the financial feasibility of the project, civil cost estimates have been taken from the IIT-M study.

## 3 Traffic Assessment

JNPT handles containers, liquid cargo including POL, vegetable oil and chemicals and cement in dry and bulk cargo. Out of these commodities, containers constitute a large chunk of the cargo. JNPT currently has Maharashtra as its primary hinterland for containers with other hinterlands including Gujarat, NCR, Punjab, Rajasthan and UP which it shares with Gujarat ports - Mundra and Pipavav.

Traffic assessment is an essential part of the feasibility study. Realistic traffic forecast forms the basis for the financial viability of the project.

### 3.1 Traffic Assessment Approaches

Two different approaches have been worked out for container traffic forecasting. First approach<sup>12</sup> was based on container traffic and its correlation with economic indicators of India and states in the project hinterland. It was suggested by CRISIL in their traffic study report.

Second approach<sup>13</sup> was a market-driven approach, where container traffic projections are estimated by JNPT based on interaction with existing services of JNPT. Findings of the above two approaches have been discussed in a detailed manner in the following sections.

### 3.2 First Approach of traffic projection

#### 3.2.1 Container Traffic growth in India

The container traffic handled at Indian ports in 2018-2019 was 17.02 million<sup>14</sup> TEUs (annual growth rate of 8%). The growth of traffic has been at around 11.4% CAGR over the last 18 years, while annual average growth rate over 2012- 17 hovered between 5%-9%.

#### 3.2.2 Historic Container Traffic of India

In the last four years, the container handling capacity of India has grown by 11.8% from 20.25 million TEUs to 28.32 million TEUs. From FY16 to FY19, traffic has grown at 10.8% CAGR from

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<sup>12</sup> First approach was based on traffic assessment study carried out CRISIL for JNPT.

<sup>13</sup> Second Approach was based on interaction of JNPT advisors with Service lines.

<sup>14</sup> *Indian Ports Association Handbook*

12.49 million TEUs to 17.02 million TEUs. Also, the capacity utilization has been in the range of 58% - 65% in the last four years<sup>15</sup>.

The container handling capacity grew from 21 million TEU to 27.05 million TEU during FY17 to FY18, however due to global trade slowdown, the traffic growth has not been able to catch up. Hence, at an overall India level, the capacity utilization in FY 2019 was 60% and there is enough capacity available to handle more traffic.

In FY03, major ports in India accounted for almost 99% of India's container traffic. However, over the years, the container traffic at non-major ports in India has increased considerably. The share of non-major ports increased from 34% to 42% during FY 2016-19 in just a three-year period.

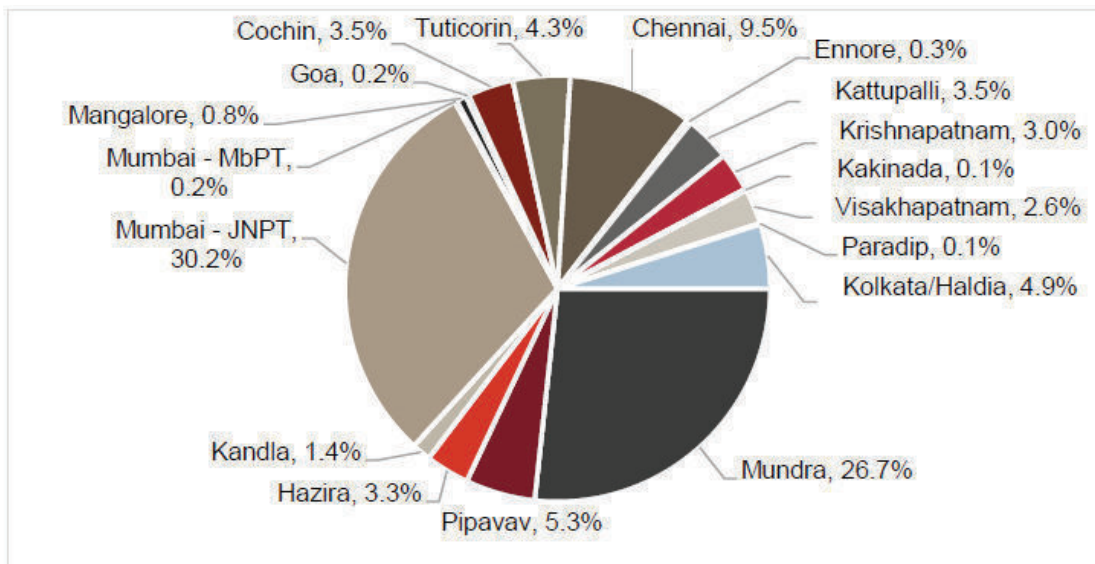
The container handling capacity of India considering all major and non-major ports stood at 28.32 million TEU at the end of FY19, whereas actual container handling at these terminals recorded at 17.02 million TEU, registering a growth of 8% from FY18. The capacity utilization for FY19 has improved to 60% from 58% in FY18.

JNPT is the biggest container handling port in the country, followed by Mundra and Chennai Port. These three ports together account for ~66% of the total container traffic handled in the country in the year FY19. Following Figure 10 represents container traffic share of ports.

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<sup>15</sup> Techno-Economic Feasibility Report for increase in rail span from 20 mtrs to 30 mtrs at JNPCT- CRISIL

**Figure 10: Container Traffic share-FY19**



JNPT has appointed CRISIL to carry out traffic study to increase rail span from 20m to 30m at JNPT. The report dated February 2020, is attached as **Annexure 1**.

### 3.2.3 Summary of traffic assement by first approach

#### Containerization Scenario in India

Containerization of general & break-bulk cargo traffic has progressed steadily in the last decade, and now almost 90% of the world general & breakbulk cargo traffic is containerized. Containerization rate in India has steadily progressed from 37% to 65% (from 2000-2019). This rate is far behind the international rate of 90%. It is anticipated that the containerization trend will grow further in the coming years.

The Indian general cargo markets i.e. break-bulk cargo and containerized cargo has witnessed high growth in recent years.

The container penetration level has been continuously increasing over the years and now stands at 65%, while the average weight of container is still quite high, compared to the global average of 9-10 tonnes/TEU and stands close to 13.7 (avg) tonnes/TEU. The major reason for high average weight per TEU for containers in India is the profile of the commodities handled in containers in India and the stowage factor. Some of the major heavy commodities moving in containers in India are machinery, spares, steel & metal products, grains, stones, sugar, paper & paper products, etc. The high average weight of these commodities and their share in the

overall commodity profile of goods carried in containers in India have resulted in high average weight per TEU.

The Indian container market is primarily driven by gateway cargo and is O-D (origin-destination) driven; whereas transshipment cargo contributes only marginally to the total container throughput in India.

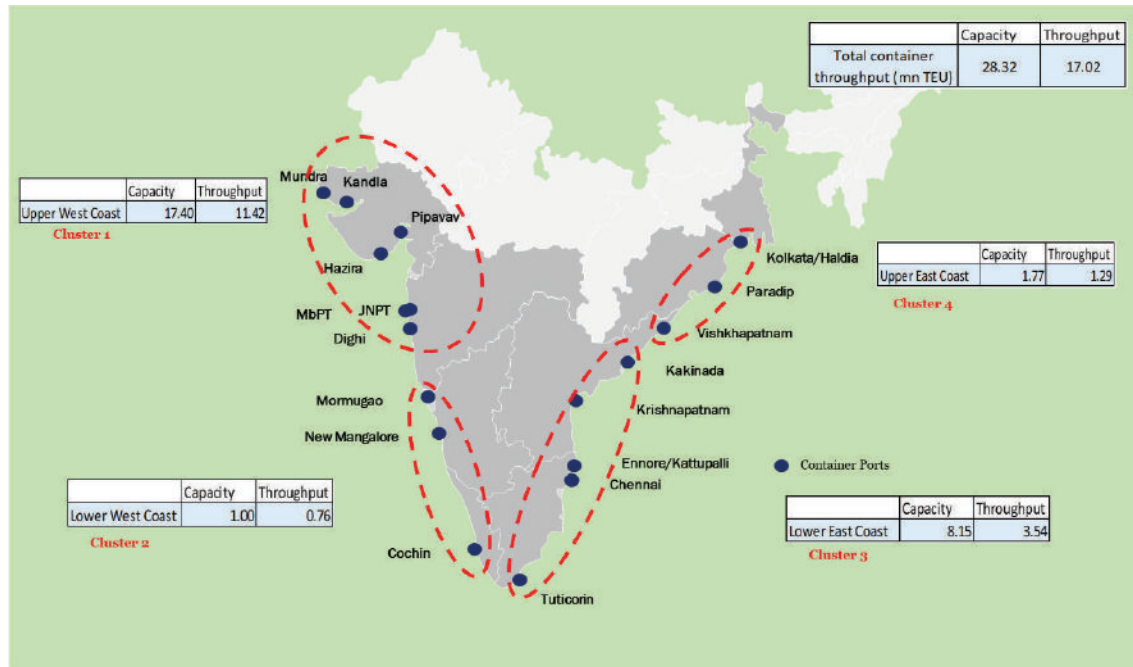
Growth in the Indian container industry can largely be attributed to economic growth and increasing penetration of containers into the general cargo market. Efficiency brought in by the private sector has also led to growth. In addition to good facilities, perfect mapping of container demand with the supply of better quality and efficient support infrastructure facilities at the right location is of primary importance to attract more and more containers to the port.

For example, Tuticorin port has not been able to realize its full potential despite the presence of a global port operator like PSA due to lack of hinterland infrastructure and weak immediate hinterland. On the other hand, JNPT has been able to attract traffic away from the traditional gateway port of Mumbai (MbPT) by providing and developing better infrastructure and higher efficiency. JNPT has acted as a catalyst in boosting container throughput until FY12-13 on the west coast of India. However, in the last 5-6 years, Mundra has captured the container traffic market in a big way on the west coast and has maintained a growth rate far better than the national average.

Although at India level in FY 19 capacity utilization was 60% capacity utilization but west coast ports have done exceedingly well as compared to east coast ports.

Upper West Coast ports include ports of Pipavav, Hazira, Kandla, Mundra, Mumbai port, Dighi and JNPT. These ports share a common hinterland. Container traffic originated from northern hinterland mainly uses the Gujarat ports and comes to JNPT, only to some extent. JNPT serves Maharashtra as its primary hinterland beside northern hinterland. The following figure shows capacity and throughputs of various clusters of ports in India.

**Figure 11: Container Handling Capacity and Throughput**



Mundra has grown at 18% CAGR from 2010-11 to 2018-19. The growth of Mundra started mainly on the backdrop of capacity constraints at Nhava-Sheva and a slight delay in implementation of major capacity addition projects (4th Container terminal). Mundra port has emerged as the biggest competitor to JNPT, which currently controls a significant chunk of the volumes generated from the northern hinterland. Almost 67% of the total Indian container traffic is handled at upper west coast ports - JNPT (Nhava-Sheva) & Mundra have handled 30% & 27% of total container traffic in India respectively in 2018-19.

Nhava Sheva is the largest container handling facility in the region followed by Mundra. The high volumes handled by Nhava-Sheva are primarily due to the existing supporting infrastructure (CFSS, Warehouses, CHAs, Shipping Line agencies etc.).

#### Import vs export container traffic at major ports

The composition of import and export container accounts for 52% and 48% respectively of total container cargo at major ports. The share has almost remained the same in the past five years.

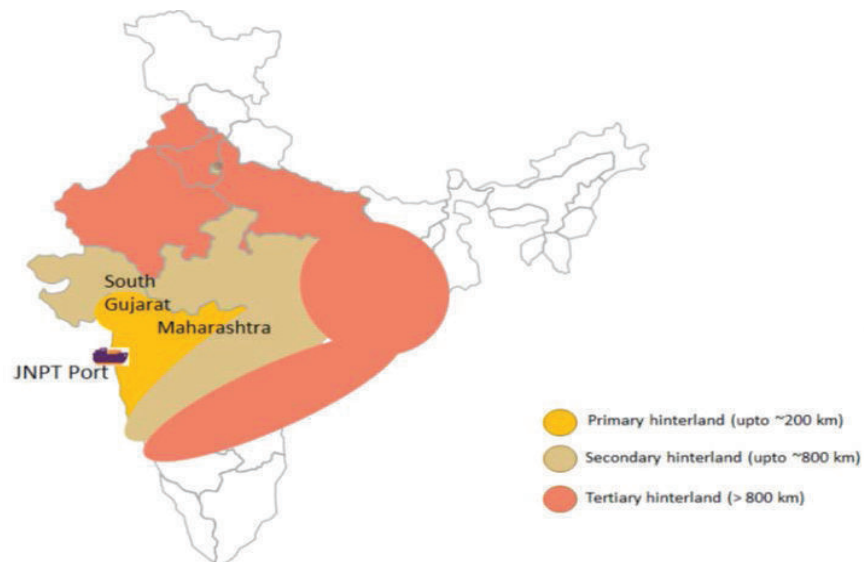
Of the total container traffic of major ports in FY 2019, the share of full container load (FCL) accounted for over 75% of exports and 86% of imports cargo. This used to be 87% of exports

and 84% of imports in FY 2014. Empty container share for export has increased from 13% in FY 2014 to 25% in FY 2019, whereas import of empty has remained the same at 14%-16%.

### Hinterland Analysis

The hinterland of the JNPT port can be segregated into three categories, viz, primary, secondary and tertiary hinterland. This segregation is essentially based on distance. The primary hinterland mainly consists of cargo centres in the state of Maharashtra, which account for 54% of JNPT laden traffic in FY2019. Primary hinterland covers 200 km of distance from JNPT. The primary hinterland has large and medium manufacturing facilities especially chemical industries, which gives JNPT due advantage. Following figure show hinterland for JNPT Port.

**Figure 12: Hinterland of JNPT port**



The secondary hinterland consists of cargo centers in Saurashtra region of Gujarat and MP which covers the region between 200 Km to 800 Km from JNPT. The tertiary hinterland is a region beyond 800 Km range which comprises of National Capital Region (NCR), Punjab, Haryana and UP.

Following is the split of traffic in the hinterland based on historic traffic of JNPT and ports of Gujarat.

**Table 5: Historic Traffic allocation in hinterland of JNPT and Gujarat Ports**

Cluster	JNPT				Gujarat			
	Year	2014	2016	2019	CAGR	2014	2016	2019
Rajasthan	6%	6%	1%	-29%	94%	94%	99%	1%
Gujarat-Kutch	0%	0%	0%	0%	100%	100%	100%	0%
Gujarat-Saurashtra	14%	23%	11%	-3%	86%	77%	89%	0%
Gujarat-South Gujarat	25%	56%	43%	10%	74%	44%	57%	-5%
Maharashtra	99%	100%	97%	0%	1%	0%	3%	22%
Madhya Pradesh	80%	87%	79%	0%	20%	13%	21%	1%
National Capital Region	56%	43%	35%	-9%	44%	57%	65%	8%
Punjab, Haryana	11%	26%	18%	10%	89%	74%	82%	-2%
South	100%	100%	99%	0%	0%	0%	1%	0%
Uttar Pradesh	82%	52%	37%	-15%	18%	48%	63%	28%
Total	53%	54%	46%	-3%	47%	46%	54%	3%

Source: CRISIL Traffic Study Report

**Table 6: Projected Traffic allocation in hinterland of JNPT and Gujarat Ports**

Cluster	JNPT				Gujarat			
	Year	2019	2023	2028	2037	2019	2023	2028
Maharashtra	97%	95%	95%	95%	3%	5%	5%	5%
Gujarat-South Gujarat	43%	43%	43%	43%	57%	57%	57%	57%
National Capital Region	35%	31%	30%	30%	65%	69%	70%	70%
Punjab Haryana	18%	23%	27%	29%	82%	77%	73%	71%
Uttar Pradesh	37%	31%	30%	30%	63%	69%	70%	70%
Madhya Pradesh	79%	80%	80%	80%	21%	20%	20%	20%
Rajasthan	1%	1%	1%	1%	99%	99%	99%	99%
Gujarat-Kutch	0%	0%	0%	0%	100%	100%	100%	100%
Gujarat-Saurashtra	11%	9%	7%	6%	89%	91%	93%	94%

Source: Traffic Study Report (CRISIL)

CRISIL has carried out traffic study to assess the current traffic situation and project future traffic of JNPT container terminals.

As per the study, covering future traffic projection, container traffic growth is correlated with GDP and GSDP of states in the hinterland. The current and future trade slowdown has also been considered in projections. Following assumptions are considered for both the scenarios.

- Capacity addition of 2.4 million TEUs by 4<sup>th</sup> Container terminal i.e. BMCT will be completed by FY2024.
- Capacity addition of 0.5 million TEUs by NSICT will be achieved through replacement of quay cranes by 2030



- Upgradation of BMCT and NSICT are considered in both scenarios (with and without JNPCT upgradation).
- Capacity addition of 0.4 million TEUs is considered for JNPCT

Following table depicts capacities over years for container terminals with and without upgradation of JNPCT scenarios.

**Table 7: Forecast Capacities of JNPT Terminals (without JNPCT upgradation)**

Container Terminals	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2045	2050
GTIL	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
NSICT	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.9	1.9	1.9	1.9	1.9	1.9	1.9
NSIGT	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
JNPCT	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
4th container terminal (BMCT)	2.4	2.4	2.4	2.4	2.4	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
<b>Total</b>	<b>8.1</b>	<b>8.1</b>	<b>8.1</b>	<b>8.1</b>	<b>8.1</b>	<b>10.5</b>	<b>10.5</b>	<b>10.5</b>	<b>10.5</b>	<b>11</b>	<b>11</b>	<b>11</b>	<b>11</b>	<b>11</b>	<b>11</b>	<b>11</b>

Source: CRISIL Traffic Study Report

**Table 8: Capacities over years for Container terminals of JNPT (with upgradation of JNPCT)**

Container Terminals	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2045	2050
GTIL	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
NSICT	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.9	1.9	1.9	1.9	1.9	1.9	1.9
NSIGT	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
JNPCT	1.5	1.5	1.5	1.5	1.5	1.5	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
4th container terminal (BMCT)	2.4	2.4	2.4	2.4	2.4	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
<b>Total</b>	<b>8.1</b>	<b>8.1</b>	<b>8.1</b>	<b>8.1</b>	<b>8.1</b>	<b>10.5</b>	<b>10.9</b>	<b>10.9</b>	<b>10.9</b>	<b>11.4</b>	<b>11.4</b>	<b>11.4</b>	<b>11.4</b>	<b>11.4</b>	<b>11.4</b>	<b>11.4</b>

Source: CRISIL Traffic Study Report

As per CRISIL report, traffic projection for container traffic of the last 10 years is correlated with GDP of the country. Based on the correlation it was observed that for every 1% growth of GDP, there is an increase of 1.02 times of container traffic. Further, based on projected GDP, container traffic is forecasted for 30 years.

For JNPT container traffic, data on clusters contributing traffic to the JNPT for the last 5 years were analyzed. After studying shift of container traffic to the Ports in Gujarat region, the cluster

traffic is projected based on GSDP growth rates and levels of containerization. An adjustment has been done to project a realistic scenario due to current slowdown.

### 3.2.4 Container Traffic Forecast for JNPCT

CRISIL has projected negative growth for JNPCT Terminal in the initial years of projection. Negative growth of JNPCT of traffic for initial years is due to stiff competition from other terminals, lack of digitization at gate entry procedures, longer lead time for import out gate due to Equipment Interchange Receipt (EIR) generation at the gate, longer processing time for CISF seal number verification along with low quay crane productivity. Further, CRISIL has projected container traffic for JNPCT terminal for both with and without JNPCT upgradation scenario. Following table depicts projected container traffic for JNPCT.

**Table 9: Projected Container Traffic for JNPCT**

Years	FY2020	FY2025	FY2030	FY2045	FY2050
JNPCT without upgradation (In million TEUs)	0.75	0.39	1.37	1.45	1.45
JNPCT with upgradation (In million TEUs)	0.75	0.39	1.37	1.81	1.81

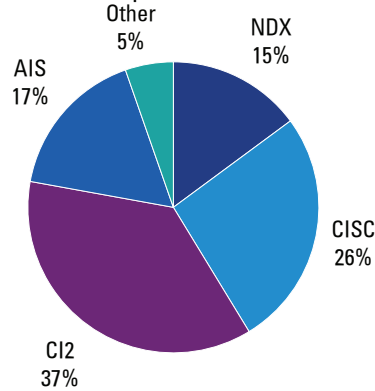
Source: CRISIL Traffic Study Report

### 3.3 Market Driven Traffic Assessment

The second approach of traffic assessment i.e. market-driven traffic assessment is an output of discussion with the existing services of JNPCT container terminal. Based on Apr19 to Dec 19 data of traffic handled at JNPCT, around 94.7 % of Traffic handled was from four (CISC, C12, NDX and AIS) services of JNPCT. Following chart encapsulates detail about traffic generated from different services.

**Figure 13: Traffic Composition based on services (Apr19-Dec19)**

JNPT Traffic composition based on services(Apr19-Dec19)



The details of four service lines are being operated at JNPT container terminal which are listed below

- 1 NDX: List of NDX service participant ports/terminals presented below

**Table 10: Participant port/terminals of NDX Service**

Service Name	Nation Name	Port	Terminal
NDX	India	Mundra	Mundra International Container Terminal PVT LTD
	India	Nhava Sheva	Port, Nhava Sheva, JNPT
	Qatar	Hamad	Hamad Port (Container Terminal 01)
	United Arab Emirates	Jebel Ali	Dubai Port, Jabel Ali Terminal

- 2 AIS: List of AIS service participant ports/terminals presented below

**Table 11: Participant port/terminals of AIS Service**

Service Name	Nation Name	Port	Terminal
AIS	China	Chiwan	CWN01
	China	Ningbo	Ningbo Meishan International Container Terminal Co., Ltd(Msict)
	China	Qingdao	Qingdao Qianwan Ctnr Terminal Co. Ltd.

Hong Kong	Hong Kong	Hongkong International Terminals (HIT)
India	Mundra	Adani
India	Nhava Sheva	Port, Nhava Sheva, JNPT
Korea	Busan New Port	Pusan Hanjin New Port Co., Ltd.
Korea	Kwangyang	Korea International Terminal (KIT Terminal)
Malaysia	Port Klang West Port	Kelang West Port
Pakistan	Karachi(Sapt)	South Asia Pakistan Terminals Limited
Singapore	Singapore	Port of Singapore Authority (PSA)

3 CI2: List of CI2 service participant ports/terminals presented below

**Table 12: Participant port/terminals of CI2 Service**

Service Name	Nation Name	Port	Terminal
CI2	China	Guangao Port	Guang Ao Terminal
	China	Ningbo	Ningbo Meishan International Container Terminal Co., Ltd(MSICT)
	China	Qingdao	Qingdao Qianwan Ctnr Terminal Co. Ltd.
	China	Shanghai	Shanghai East Container Terminal Co. Ltd Container Terminal (WGG-Sect: W4)
	China	Shekou	SKU01
	Hong Kong	Hong Kong	Hongkong International Terminals (HIT)
	India	Cochin	Cochin Port (Cochin Port Trust)
	India	Nhava Sheva	Port, Nhava Sheva, JNPT
	India	Tuticorin (New Tuticorin)	Dakshin Bharat Gateway Terminal Private Limited (DBGT)
	Malaysia	Penang	Penang New Port: NBCT
	Malaysia	Port Klang North Port	Port Klang North Port - CT1
	Singapore	Singapore	Port of Singapore Authority (PSA)

4 CISC: List of CISC service participant ports/terminals presented below

**Table 13: Participant port/terminals of CISC Service**

Service Name	Nation Name	Port	Terminal
CISC	China	Tianjinxingang	Tct
	China	Qingdao	Qingdao Qianwan Ctr Terminal Co, Ltd.
	Singapore	Singapore	Port Of Singapore Authority (Psa)
	Malaysia	Port Klang West Port	Kelang West Port
	India	Nhava Sheva	Port, Nhava Sheva, JNPT
	Sri Lanka	Colombo	Colombo International Container Terminals Limited (CICT)
	Malaysia	Tanjung Pelepas	Port of Tanjung Pelepas

These four service lines have handled total traffic volume of 6,85,683 TEUs out of 718, 863 TEUs in FY 2019-20

### 3.3.1 Assumptions of container traffic projections

Based on primary discussions with the service lines participating in the existing services of JNPCT, the following assumptions have been made for developing forecast traffic:

- 1 Due to current pandemic, traffic volume will drop by 25-30% for far east service lines i.e. AIS, CI2 and CISC and it will be recovered to the normal level by the end of FY 2021-22.
- 2 For NDX, traffic volume is expected to reach 120,000 TEUs per annum by FY 2022
- 3 To retain the existing services till awarding the contract to a private player, it is necessary for JNPCT to reach vessel productivity of 25 moves per hour per crane and maintain at least existing pricing difference with other container terminals of JNPT
- 4 Traffic projection for FY 2021 can be considered as 0.50 million TEUs
- 5 Addition and Reduction of services are assumed.

### 3.3.2 Traffic Projection Scenarios

The traffic projection for JNPCT depends on various factors such as the productivity of terminal, tariff rates applicable, addition of new services etc. Hence, traffic projection for three different scenarios was done to check the sensitivity of the traffic, on the above mentioned factors and the assumptions mentioned in the section 3.3.1.

#### Scenario 1:

As mentioned earlier there are four services (NDX, AIS, CI2 and CISC) are being operated in the JNPCT. In scenario 1, it is assumed that all the four services will be intact during the concession period. Also, it is assumed that in FY21 traffic will drop to 0.5 million TEUs from 0.72million TEUs

in FY20. From FY22 onwards it will increase at the rate of 5% in each successive year. Addition of service is assumed on year 5 and 10.

**Scenario 2:**

In scenario 2, out of four services only three services will continue their contract with JNPCT. One service will terminate its contract with JNPCT. It is assumed that FY 21 and FY 22 will remain at 0.5 million TEUs. Thereafter traffic will increase at the rate of 5% in each successive year. Addition of service is assumed on year 5 and 10.

**Scenario 3:**

In scenario 2, out of four services, two services will terminate their contract with JNPCT. Two service will continue their contract with JNPCT. It is assumed traffic will decline in FY 21 and FY 22. Traffic will become 0.5 million TEUs in FY21 and 0.3 million TEUs in FY22. Thereafter traffic will increase at the rate of 5% in each successive year. Addition of service is assumed on year 5 and 10.

Following table summarizes important parameters considered for scenario analysis.

**Table 14: Market Driven Traffic Projection key parameters**

Parameters	Scenario 1	Scenario 2	Scenario 3
Number of Service lines to be retained	4	3	2
Current traffic FY 2020 (million TEUs)	0.72	0.72	0.72
Traffic in FY 2021 (million TEUs)	0.50	0.50	0.50
Traffic in FY 2022 (million TEUs)	0.70	0.50	0.30
Traffic growth % YOY	5%	5%	5%
Addition of Service in years	Year 5 and 10	Year 5 and 10	Year 5 and 10

Based on above assumptions, container traffic has been projected for the period starting from FY2020 to FY2051. Following table represents projected container traffic all scenarios.

**Table 15: Market Driven Projected traffic from FY20 to FY51**

Years	Projected Traffic on TEUs		
	Scenario 1	Scenario 2	Scenario 3
<b>2019-20</b>	718,863	718,863	718,863
<b>2020-21</b>	500,000	500,000	500,000
<b>2021-22</b>	700,000	500,000	300,000
<b>2022-23</b>	735,000	525,000	315,000
<b>2023-24</b>	771,750	551,250	330,750
<b>2024-25</b>	810,338	578,813	347,288
<b>2025-26</b>	1,050,854	807,753	564,652

Years	Projected Traffic on TEUs		
	Scenario 1	Scenario 2	Scenario 3
2026-27	1,103,397	848,141	592,884
2027-28	1,158,567	890,548	622,529
2028-29	1,216,495	935,075	653,655
2029-30	1,277,320	981,829	686,338
2030-31	1,341,186	1,030,920	720,655
2031-32	1,500,000	1,282,466	956,688
2032-33	1,500,000	1,346,590	1,004,522
2033-34	1,500,000	1,413,919	1,054,748
2034-35	1,500,000	1,484,615	1,107,485
2035-36	1,500,000	1,500,000	1,162,860
2036-37	1,500,000	1,500,000	1,221,003
2037-38	1,500,000	1,500,000	1,282,053
2038-39	1,500,000	1,500,000	1,346,155
2039-40	1,500,000	1,500,000	1,413,463
2040-41	1,500,000	1,500,000	1,484,136
2041-42	1,500,000	1,500,000	1,500,000
2042-43	1,500,000	1,500,000	1,500,000
2043-44	1,500,000	1,500,000	1,500,000
2044-45	1,500,000	1,500,000	1,500,000
2045-46	1,500,000	1,500,000	1,500,000
2046-47	1,500,000	1,500,000	1,500,000
2047-48	1,500,000	1,500,000	1,500,000
2048-49	1,500,000	1,500,000	1,500,000
2049-50	1,500,000	1,500,000	1,500,000
2050-51	1,500,000	1,500,000	1,500,000

### 3.4 Most Preferred Traffic Scenario

Multiple discussions and deliberations on most preferred traffic scenario were carried out with JNPT, existing service providers of JNPCT, Technical Advisors of JNPT and other stakeholders involved in the study.

In addition to the assumptions, detailed above, the following assumptions have been considered for developing the traffic forecast model for the “Most Preferred Traffic Scenario” for JNPCT:

- The impact of present COVID-19 situation on the traffic estimates. It is assumed that COVID-19 impact will continue till FY22. Traffic levels in FY22 will remain at 0.5 million TEUs. Thereafter traffic will start ramping up.

- b) The development of JNPCT will be done on PPP basis and the concessionaire will have to compete with the other private terminal operators at JNPT. Other terminal operators are already at the productivity level of 25 moves per hour per QC. Hence, it has been assumed that JNPCT will also be able to do 25 moves per RMQC per hour.
- c) Berth length of JNPCT terminal is 680m. As per TAMP 2008 guidelines, requirement of 1 RMQC is considered per 100m of berth length. However, JNPCT has operated 9 RMQC in 680 m of length. Therefore, number of RMQCs are restricted to 9. After consideration of 25 number of moves per crane per hour, each RMQC can handle 0.2 million TEUs of traffic. Therefore, maximum estimated traffic handled by container terminal is revised to 1.8 million TEUs.

Following table encapsulates details about most preferred traffic scenario.

**Table 16: Most Preferred Traffic Scenario estimated traffic from FY22 to FY51**

Years	Most Preferred Traffic Scenario Traffic in TEUs
2021-22	500,000
2022-23	735,000
2023-24	771,750
2024-25	810,338
2025-26	1,050,854
2026-27	1,103,397
2027-28	1,158,567
2028-29	1,216,495
2029-30	1,277,320
2030-31	1,341,186
2031-32	1,608,245
2032-33	1,688,658
2033-34	1,773,090
2034-35	1,800,000
2035-36	1,800,000
2036-37	1,800,000
2037-38	1,800,000
2038-39	1,800,000
2039-40	1,800,000
2040-41	1,800,000
2041-42	1,800,000
2042-43	1,800,000
2043-44	1,800,000
2044-45	1,800,000
2045-46	1,800,000



<b>Years</b>	<b>Most Preferred Traffic Scenario Traffic in TEUs</b>
<b><i>2046-47</i></b>	1,800,000
<b><i>2047-48</i></b>	1,800,000
<b><i>2048-49</i></b>	1,800,000
<b><i>2049-50</i></b>	1,800,000
<b><i>2050-51</i></b>	1,800,000

## 5 Project Requirement

Project requirement has been prepared in consultation with JNPT, traffic report and the technical report prepared by IIT-M to assess the current project facility of JNPCT. Subsequent sections set out the proposed project requirement to be developed by private developer under PPP.

### 5.1 General

The concessionaire will be required to indicate the development plan of facility, including procurement of equipment, setting up the infrastructure and upgradation of berth. However, the development plan shall be submitted to JNPT for approval and shall be finalized in consultation with the JNPT. Concessionaire shall follow good industry practice for all development works. Following figure represents location of JNPCT Terminal with respect to other terminals and infrastructure of JNPT.

**Figure 19: Location of JNPCT with respect to other terminals and infrastructure**



### 5.2 Berth Dimensions

Berth dimensions of JNPCT terminal are as follows

- Length of the berth: 680 m (530 m berth + 150 m Wharf)
- Width of the berth: 40.5 m
- Approach trestle

### 5.3 Design Vessel

The design ship is the largest ship that is likely to be handled at the berth. The size of the vessel influences the approach channel, berthing facility and mechanical handling equipment.

JNPT has planned to deepen the berth to accommodate vessel of 12,200 TEU (398m of LOA, 15 m draft and 56.4 of beam) capacity.

### 5.4 Terminal Capacity

TAMP guidelines to determine the optimum quay capacity is being used to calculate phase wise terminal Capacity. Terminal capacity for each phase is calculated based on requirements of equipment (calculated based on traffic). As per the requirement, maximum terminal capacity of JNPT for Phase 1 will be 1.2 million TEUs<sup>16</sup> and for phase 2 will be 1.8 million TEUs (terminal capacity for Phase 1 & 2). Following table represents parameters used to calculate maximum terminal capacity.

**Table 18: Phase wise maximum terminal capacity**

Phases		Phase 1	Phase 2
Berth Length	M	680	
A = Number of gantry cranes deployed for work in a year	Nos.	6	9
B = Number of working hours of gantry cranes in a year	Hours	8760	8760
C = Average number of moves per gantry crane per hour	Nos.	25	25
D = TEU ratio	Ratio	1.3	1.3
E = 70%	%	70%	70%
Thus, Optimal Quay Capacity of Container = A * B * C * D * E	million TEUs	1.2	1.8

### 5.5 Navigational and Operational Requirement

JNPT approach channel is a Common Harbour channel for JNPT and Mumbai Port. The characteristic of the approach channel is as below:

<sup>16</sup> JNPT can achieve optimum quay capacity of 1.8 million TEUs with 9 RMQCs provided 25 moves per RMQC per hour should be maintained.

APPENDIX H

**Sr.No.77: Details of TP Handling of last five years by Terminal with breakup of volume mix (Import/export/transshipment/laden/empty)**

										<i>in TEUs</i>
	Import			Export			Transshipment			Annual Throughput
Fiscal Year	Laden	Empty	Total	Laden	Empty	Total	Laden	Empty	Total	Port Traffic
<b>2016-17</b>	651,907	111,614	763,521	485,050	258,440	743,490	25,559	1,405	26,964	<b>1,533,975</b>
<b>2017-18</b>	639,269	90,510	729,779	418,058	299,299	717,357	33,204	1,428	34,632	<b>1,481,768</b>
<b>2018-19</b>	465,632	82,927	548,559	283,990	212,653	496,643	10,732	434	11,166	<b>1,056,368</b>
<b>2019-20</b>	330,991	50,138	381,129	148,442	178,556	326,998	10,667	69	10,736	<b>718,863</b>
<b>2020-21</b>	242,158	48,684	290,842	149,481	97,510	246,991	5,447	747	6,194	<b>544,027</b>
<b>2021-22 *</b>	95,134	34,646	129,780	73,137	30,622	103,759	1,798	276	2,074	<b>235,613</b>
<i>* Upto Sep-21</i>										

**APPENDIX I**

<b>RMQC</b>						
	<b>RMQC-1</b>	<b>RMQC-2</b>	<b>RMQC-3</b>	<b>RMQC-4</b>	<b>RMQC-5</b>	<b>RMQC-9</b>
<b>Year of commissioning/purchase</b>	2002 Dec	2015	2015	2015	2011	2002 Dec
<b>Make</b>	Doosan	Anupam-MHI	Anupam-MHI	Anupam-MHI	Doosan	Doosan
<b>Life in years</b>	Jan-00	20	20	20	20	20
<b>Expiry of economic life</b>	2022 Dec	2035	2035	2035	2031	2002 Dec
<b>Design classification:</b>						
<b>Crane structure</b>	U8-Q2-A8					
<b>Main Hoist</b>	T8-L3-M8					
<b>Trolley travel</b>	T8-L3-M8					
<b>Boom hoist</b>	TT5-L3-M6					
<b>Gantry travel</b>	T6-L2-M6					
<b>NDT last carried out in the year</b>	2021	2021	2021	2021	2017 ( NDT will be carried out this year alongwith structural repair)	2015 ( NDT will be carried out this year alongwith structural repair)
<b>Major maintenance activities</b>	Boom rope replacement-2021	Touch up painting-2021	Touch up painting-2021	Hoist brakes replaced with Sibre make brakes-2021	Major structural repairs being carried out through an agency recommended by OEM	Major structural repairs being carried out through an agency recommended by OEM
	Trolley wheels (All the 04 nos) replacement-2018		One Skew cylinder replaced-2021	Touch up painting-2021	Cable reel system being repalced through OEM	Cable reel system being repalced through OEM
	Head block replacement-2019		Head block replaced-2021		Power cable being replaced	Power cable being replaced
	Lift- rack & pinion replacement--2017				Enegy chain replaced-2019	Lift- rack & pinion replacement--2017
	Fixed Twin Spreader replaced by seperating Twin Spreader in 2014.			Head block replacement-2019	Head block replacement-2018	Fixed Twin Spreader replaced by seperating Twin Spreader in 2014
	Spreader communication SCS3 replaced wth SCS4 in year 2018				Boom rope replacement-2018	Spreader communication SCS3 replaced with SCS4 in year 2018
	Trolley rail replacement-2012					Trolley rail replacment-2012

RTGC-Doosan make												
	RTGC-1	RTGC-2	RTGC-3	RTGC-4	RTGC-5	RTGC-6	RTGC-7	RTGC-8	RTGC-9	RTGC-10	RTGC-11	RTGC-12
Year of commissioning/purchase	2004											
Make	Doosan											
Life in years	20											
Expiry of economic life	2024											
NDT last carried out in the year	Not carried out											
Design Classification												
Crane Structure	U7-Q2-A7											
Main Hoist	T7-L3-M8											
Trolley travel	T7-L3-M8											
Gantry travel	T6-L2-M6											
<b>Major maintenance activities</b>												
i) Complete festoon cables replaced	2017	2021	2021	2021	2018	2018	2021	2018	2021	2021	2021	2021
ii) Metal halide Flood lights replaced with LED fittings	-	2018	2017	2018	-	2018	2018	2018	2018	2018	-	-
iii) Air conditioners in Electrical room & Operators cabin replaced	2019	2019	2019	2019	2019	2019	2019	2019	2019	2019	2019	2019
iv) Generator set/power pack replaced ( KTA 19 engine & alternator replaced with QSN 14 engine with stamford alternator)	-	2019	-	-	2019	-	-	-	2019	2019	2019	2019
v) Engine overhauling	2017	-	2021	2021	-	2018	2019	2020	-	-	-	-
vi) Painting of complete crane structure	2019	2019	2019	2020	2019	2020	2019	2020	2020	2019	2019	2020
vii) Hoist brake overhauling & testing through OEM M/s.Hillmar	2019	2019	2019	2019	2019	2019	2019	2019	2019	2019	2019	2019
<b>RMGC</b>												
	<b>RMGC-4</b>		<b>RMGC-5</b>		<b>RMGC-6</b>							
Year of commissioning/purchase	2007		2007		2013							
Make	FELS, Singapore		FELS, Singapore		Doosan							
Life in years	20		20		20							
Expiry of economic life	2027		2027		2033							
NDT last carried out in the year	2018		2018		2018							
Design Classification												
Crane Structure	U7-Q2-A7											
Main Hoist	T7-L3-M8											
Trolley travel	T7-L3-M8											
Gantry travel	T7-L2-M6											
<b>Major maintenance activities carried out</b>	All the trolley wheels & trolley axle bushings replaced-2019		All the trolley wheels & trolley axle bushings replaced-2019									
	Headblock replaced-2019											
	2 nos. trolley gear boxes replaced											



**MAHARASHTRA POLLUTION CONTROL BOARD**

Tel: 24010706/24010437  
Fax: 24023516  
Website: <http://mpcb.gov.in>  
Email: cac-cell@mpcb.gov.in



Kalpataru Point, 2nd and  
4th floor, Opp. Cine Planet  
Cinema, Near Slon Circle,  
Slon (E), Mumbai-400022

RED/L.S.I (R46)

No:- Format1.0/CAC/UAN No.000097172/CR - 2103001085

Date: 19/03/2021

To,  
M/s. Jawahralal Nehru Port Trust,  
JNPT, Sheva,  
Tal. Uran, Dist. Raigad.



Your Service is Our Duty

**Sub: Renewal of consent for operation of JNPT container terminal-3 nos berth having length 680 mts and shallow berth terminal ( SWB )- 2 nos berth having length 450 mtrs.**

**Ref:** 1. Earlier renewal of consent accorded by Board vide dated 10.01.2018 which is valid up to 30.09.2020.  
2. Minutes of CAC meeting dated 02.12.2020.

Your application No.MPCB-CONSENT-000097172 Dated 28.08.2020

For: grant of Renewal of Consent under Section 26 of the Water (Prevention & Control of Pollution) Act, 1974 & under Section 21 of the Air (Prevention & Control of Pollution) Act, 1981 and Authorization under Rule 6 of the Hazardous & Other Wastes (Management & Transboundary Movement) Rules 2016-is considered and the consent is hereby granted subject to the following terms and conditions and as detailed in the schedule I, II, III & IV annexed to this order:

1. The consent to renewal is granted for a period up to 30/09/2025
2. The capital investment of the project is Rs.3640.5 Crs. (As per C.A Certificate submitted by Industry Existing CI Is of Rs. 3129.62 Crs + Increase in C.I. by Rs. 510.88 Crs)
3. Consent is valid for handling of:

Sr No	Product	Maximum Quantity	UOM
Products			
Handling of containers, Dry and Liquid bulk cargos at following terminals			
1	JNPT Container Terminal having 3 Nos of berth, length 680 Mtrs & shallow water berth (SWB) having 2 Nos of berth & length of berth and container storage area for this both is 61.5 Ha.	0	--NA--
2	All A, B, C class of liquid cargos for receipt & distribution will handled by JNPT container Terminal & shallo Water Berth (No storage) including below list up following material of Total handling quantity 26.6 MTPA	26.6	MTPA
3	MTBE	0	--NA--
4	Ortho Xylene	0	--NA--



Sr No	Product	Maximum Quantity	UOM
5	Isopropyle Alcohol	0	--NA--
6	Carbon Tetrachloride	0	--NA--
7	Ethylene Di Amine	0	--NA--
8	AHE-70	0	--NA--
9	Paraffin Oil	0	--NA--
10	Meta Methyl Acrylate	0	--NA--
11	Cyclohexane	0	--NA--
12	Diethylene Glycol	0	--NA--
13	Biodiesel	0	--NA--
14	Propylene Glycol	0	--NA--
15	Ethylene Di Chloride	0	--NA--
16	Palm Fatty Oil/Acid	0	--NA--
17	Luprant	0	--NA--
18	Isobutyl Alcohol	0	--NA--
19	Tri ethylene Glycol	0	--NA--
20	Meta Xylene	0	--NA--
21	N Paraffin	0	--NA--
22	Poly Propylene	0	--NA--
23	All A, B, C, Class of Petroleum	0	--NA--
24	Methyl Isobutyl Ketone	0	--NA--
25	Styrene Monomer	0	--NA--
26	Phenol	0	--NA--
27	Glycerine	0	--NA--
28	Aniline Oil	0	--NA--
29	Aromex	0	--NA--
30	Acrylonitrile	0	--NA--
31	Phosphoric Acid	0	--NA--
32	Benzene	0	--NA--
33	Toluene	0	--NA--
34	Propylene	0	--NA--
35	Sulphuric Acid	0	--NA--
36	2-Propyltheptan-1	0	--NA--
37	Paraxylene/ Mixed Xylene	0	--NA--
38	Butyl Acetate	0	--NA--
39	Methanol	0	--NA--
40	Acetic Acid	0	--NA--





Sr No	Product	Maximum Quantity	UOM
41	Iso Nonyl Alcohol	0	--NA--
42	L.A.B.	0	--NA--
43	Lube Oil	0	--NA--
44	Iso Butanol	0	--NA--
45	Base Oil	0	--NA--
46	Allyl Alcohol	0	--NA--
47	2-Ethyl Hexanol	0	--NA--
48	CBFS	0	--NA--
49	1,4 Butanediol	0	--NA--
50	M.E.G/Crude Glycol	0	--NA--
51	Ethanol	0	--NA--
52	Ammonia	0	--NA--
53	Palm Oils	0	--NA--
54	Caustic Soda	0	--NA--
55	Ethylene	0	--NA--
56	Castor Oil	0	--NA--
57	Acetone	0	--NA--
58	Edible Oil	0	--NA--
59	1-Butanol	0	--NA--
60	Molasses	0	--NA--
61	Vegetable Oils	0	--NA--
62	Chloroform	0	--NA--
63	Aromatic Feed Stocks (AFS)	0	--NA--
64	Ethyl Acetate	0	--NA--
65	Acetic Anhydride	0	--NA--
66	Lauryl Mirystl Alcohol	0	--NA--
67	Butadine	0	--NA--
68	n-Hexane	0	--NA--
69	Methyl ethyl ketone	0	--NA--
70	Butyl Acetate	0	--NA--
71	Vinyl Acetate	0	--NA--

4. Conditions under Water (P&CP), 1974 Act for discharge of effluent:

Sr No	Description	Permitted (in CMD)	Standards to	Disposal Path
1.	Trade effluent	0	As per Schedule-I	Not Applicable



Sr No	Description Permitted	Standards to	Disposal	
2.	Domestic effluent	3200	As per Schedule-I	The treated effluent shall be 60% recycled for secondary purposes such as toilet flushing, air conditioning, cooling tower make up, firefighting etc. and remaining shall be utilized on land for gardening and connected to the sewage system provided by Local body/disposed into creek.

4. **Conditions under Air (P& CP) Act, 1981 for air emissions:**

Sr No.	Stack No.	Description of stack / source	Number of Stack	Standards to be achieved
1	S-1 to S-18	DG Set (18 x 200 KVA)	18	As per Schedule -II
2	S-19 to S-S-32	DG Set (14 x 450 KVA)	14	As per Schedule -II
3	S-33 to S-35	DG Set (3 x 500 KVA)	3	As per Schedule -II
4	S-36 to S-37	DG Set (2 x 1000 KVA)	2	As per Schedule -II
5	S-38 to S-39	DG Set (2 x 1500 KVA)	2	As per Schedule -II

5. **Non-Hazardous Wastes:**

Sr No	Type of Waste	Quantity	UoM	Treatment	Disposal
1	Solid Waste	10	MT/Day	Biogas with Recycling, scientific Landfill	Composting and recycling

6. **Conditions under Hazardous & Other Wastes (M & T M) Rules 2016 for treatment and disposal of hazardous waste:**

Sr No	Category No./ Type	Quantity	UoM	Treatment	Disposal
1	3.3 Sludge and filters contaminated with oil	300	MT/M	Incineration	CHWTSDF
2	5.1 Used or spent oil	1.5	MT/M	Reprocessing	Sale to authorized recycler
3	5.2 Wastes or residues containing oil	0.250	MT/Day	Reprocessing	Sale to authorized recycler

**(The Applicant shall ensure disposal of all recycle-reprocessing of hazardous waste to the actual user having permission under Rule 9 of Hazardous & Other Waste (M & T M) Rules, 2016.)**

- The Board reserves the right to review, amend, suspend, revoke this consent and the same shall be binding on the industry.
- This consent should not be construed as exemption from obtaining necessary NOC/ permission from any other Government authorities.



Maharashtra Pollution Control Board  
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- 9 The applicant shall comply with the conditions stipulated in letter received from MoEF, GOI vide No. J-17011/18/96-IA-III dated 22.07.2005 & office memorandum regarding EC vide letter No. J-11013/21/88-IA dated 16.09.1988.
- 10 This consent is issued pursuant to the decision of the 18th Consent Appraisal Committee Meeting held on 02.12.2020.
- 11 PP and operator will be jointly and severally responsible for legal action in case of any violation of environmental enactments towards and compliance of consent conditions.
- 12 PP shall submit justification about increase in CI.
- 13 PP shall submit BGs of Rs. 5.0 Lakh towards O & M of PCS.
- 14 The applicant shall make an application for renewal of consent 60 days prior to date of expiry of the consent.

For and on behalf of the  
Maharashtra Pollution Control Board.

  
(Ashok Shingare IAS),  
Member Secretary

**Received Consent fee of -**

Sr.No	Amount(Rs.)	Transaction/DR.No.	Date	Transaction Type
1	7281000.00	MPCB-DR-1516	01/09/2020	RTGS
2	30145700.00	MPCB-DR-2366	21/10/2020	RTGS

**Copy to:**

1. Regional Officer, MPCB, Navi Mumbai and Sub-Regional Officer, MPCB, Talaja  
- They are directed to ensure the compliance of the consent conditions.
2. Chief Accounts Officer, MPCB, Sion, Mumbai
3. CAC Cell - for record & updation purposes.



**SCHEDULE-I**

**Terms & conditions for compliance of Water Pollution Control:**

1. A) Generation - As per your application the treated effluent generation is Nil.  
B) Treatment - NA  
C) Disposal - NA
2. A) As per your application, you have provided Sewage Treatment Plant of designed capacity 4000 CMD for the treatment of 3200 CMD of sewage.  
B) The Applicant shall operate the sewage treatment system to treat the sewage so as to achieve the following standards.

Sr.No	Parameters	Standards	
1	Total Suspended solids	Not to exceed	100
2	BOD (3 days 27°C )	Not to exceed	100

- C) The treated effluent shall be 60% recycled for secondary purposes such as toilet flushing, air conditioning, cooling tower make up, firefighting etc. and remaining shall be utilized on land for gardening and connected to the sewage system provided by Local body/discharged into creek.
3. The Board reserves its rights to review plans, specifications or other data relating to plant setup for the treatment of waterworks for the purification thereof & the system for the disposal of sewage or trade effluent or in connection with the grant of any consent conditions. The Applicant shall obtain prior consent of the Board to take steps to establish the unit or establish any treatment and disposal system or an extension or addition thereto.
  4. The industry shall ensure replacement of pollution control system or its parts after expiry of its expected life as defined by manufacturer so as to ensure the compliance of standards and safety of the operation thereof.
  5. The Applicant shall comply with the provisions of the Water (Prevention & Control of Pollution) Act, 1974 and as amended, by installing water meters and other provisions as contained in the said act:

Sr. No.	Purpose for water consumed	Water consumption quantity (CMD)
1.	Industrial Cooling, spraying in mine pits or boiler feed	0.00
2.	Domestic purpose	5000.00
3.	Processing whereby water gets polluted & pollutants are easily biodegradable	0.00
4.	Processing whereby water gets polluted & pollutants are not easily biodegradable and are toxic	0.00
5.	Gardening	0

6. The Applicant shall provide Specific Water Pollution control system as per the conditions of EP Act, 1986 and rule made there under from time to time/ Environmental Clearance/ CREP guidelines.



**SCHEDULE-II**

**Terms & conditions for compliance of Air Pollution Control:**

1. As per your application, you have provided the Air pollution control (APC) system and erected following stack (s) to observe the following fuel pattern:

Stack No.	Stack Attached To	APC System	Height in Mtrs.	Type of Fuel	Quantity & UoM	S%	SO <sub>2</sub> (kg/day)
S-1 to S-18	DG Set (18 x 200 KVA)	Acoustic enclosure & stack	3.5	HSD	42Kg/Hr	1.00	20.16
S-19 to S-32	DG Set (14 x 450 KVA)		4.5		94.5Kg/Hr		45.36
S-33 to S-35	DG Set (3 x 500 KVA)		4.5		105Kg/Hr		50.40
S-36 to S-37	DG Set (2 x 1000 KVA)		4.5		210Kg/Hr		100.80
S-38 to S-39	DG Set (2 x 1500 KVA)		5.5		315Kg/Hr		151.20

2. The Applicant shall provide Specific Air Pollution control equipments as per the conditions of EP Act, 1986 and rule made there under from time to time/ Environmental Clearance / CREP guidelines.
3. The applicant shall operate and maintain above mentioned air pollution control system, so as to achieve the level of pollutants to the following standards:

Parameters	Standards
Total Particulate Matter	Not to exceed 150 mg/ Nm3

4. The Applicant shall obtain necessary prior permission for providing additional control equipment with necessary specifications and operation thereof or alteration or replacement/alteration well before its life come to an end or erection of new pollution control equipment.
5. The Board reserves its rights to vary all or any of the condition in the consent, if due to any technological improvement or otherwise such variation (including the change of any control equipment, other in whole or in part is necessary).

**SCHEDULE-III**

**Details of Bank Guarantees:**

Sr. No	Consent (C2E/C2O/C2R)	Amt of BG Imposed	Submission Period	Purpose of BG	Compliance Period	Validity Date
1	C to R	Rs. 5 Lakhs	15 Days	Towards O & M of PCS	Continous	31.01.2026

**\*\*Existing BG obtained for above purpose if any, may be extended for period of validity as above.**

**BG Forfeiture History**

Srno.	Consent (C2E/C2O/C2R)	Amount of BG imposed	Submission Period	Purpose of BG	Amount of BG Forfeiture	Reason of BG Forfeiture
1	NA	NA	NA	NA	NA	NA



**BG Return details**

<b>Srno.</b>	<b>Consent (C2E/C2O/C2R)</b>	<b>BG imposed</b>	<b>Purpose of BG</b>	<b>Amount of BG Returned</b>
1	NA	NA	NA	NA

**SCHEDULE-IV**

**General Conditions:**

1. The Energy source for lighting purpose shall preferably be LED based
2. The PP shall harvest rainwater from roof tops of the buildings and storm water drains to recharge the ground water and utilize the same for different industrial applications within the plant
3. Conditions for D.G, Set
  - a) Noise from the D.G. Set should be controlled by providing an acoustic enclosure or by treating the room acoustically.
  - b) Industry should provide acoustic enclosure for control of noise. The acoustic enclosure/ acoustic treatment of the room should be designed for minimum 25 dB (A) insertion loss or for meeting the ambient noise standards, whichever is on higher side. A suitable exhaust muffler with insertion loss of 25 dB (A) shall also be provided. The measurement of insertion loss will be done at different points at 0.5 meters from acoustic enclosure/room and then average.
  - c) Industry should make efforts to bring down noise level due to DG set, outside industrial premises, within ambient noise requirements by proper siting and control measures.
  - d) Installation of DG Set must be strictly in compliance with recommendations of DG Set manufacturer.
  - e) A proper routine and preventive maintenance procedure for DG set should be set and followed in consultation with the DG manufacturer which would help to prevent noise levels of DG set from deteriorating with use.
  - f) D.G. Set shall be operated only in case of power failure.
  - g) The applicant should not cause any nuisance in the surrounding area due to operation of D.G. Set.
  - h) The applicant shall comply with the notification of MoEFCC, India on Environment (Protection) second Amendment Rules vide GSR 371(E) dated 17.05.2002 and its amendments regarding noise limit for generator sets run with diesel.
4. The applicant shall maintain good housekeeping.
5. The non-hazardous solid waste arising in the factory premises, sweepings, etc. be disposed of scientifically so as not to cause any nuisance / pollution. The applicant shall take necessary permissions from civic authorities for disposal of solid waste.
6. The applicant shall not change or alter the quantity, quality, the rate of discharge, temperature or the mode of the effluent/emissions or hazardous wastes or control equipments provided for without previous written permission of the Board. The industry will not carry out any activity, for which this consent has not been granted/without prior consent of the Board.
7. The industry shall ensure that fugitive emissions from the activity are controlled so as to maintain clean and safe environment in and around the factory premises.
8. The industry shall submit quarterly statement in respect of industries obligation towards consent and pollution control compliance's duly supported with documentary evidences (format can downloaded from MPCB official site).
9. The industry shall submit official e-mail address and any change will be duly informed to the MPCB.

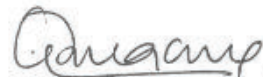


10. The industry shall achieve the National Ambient Air Quality standards prescribed vide Government of India, Notification No. B-29016/20/90/PCI-L dated. 18.11.2009 as amended.
11. The Board reserves its rights to review plans, specifications or other data relating to plant setup for the treatment of waterworks for the purification thereof & the system for the disposal of sewage or trade effluent or in connection with the grant of any consent conditions. The Applicant shall obtain prior consent of the Board to take steps to establish the unit or establish any treatment and disposal system or an extension or addition thereto.
12. The industry shall ensure replacement of pollution control system or its parts after expiry of its expected life as defined by manufacturer so as to ensure the compliance of standards and safety of the operation thereof.
13. The PP shall provide personal protection equipment as per norms of Factory Act
14. Industry should monitor effluent quality, stack emissions and ambient air quality monthly/quarterly.
15. Whenever due to any accident or other unforeseen act or even, such emissions occur or is apprehended to occur in excess of standards laid down, such information shall be forthwith Reported to Board, concerned Police Station, office of Directorate of Health Services, Department of Explosives, Inspectorate of Factories and Local Body. In case of failure of pollution control equipments, the production process connected to it shall be stopped.
16. The applicant shall provide an alternate electric power source sufficient to operate all pollution control facilities installed to maintain compliance with the terms and conditions of the consent. In the absence, the applicant shall stop, reduce or otherwise, control production to abide by terms and conditions of this consent.
17. The industry shall recycle/reprocess/reuse/recover Hazardous Waste as per the provision contain in the Hazardous and Other Wastes (M & TM) Rules 2016, which can be recycled /processed /reused /recovered and only waste which has to be incinerated shall go to incineration and waste which can be used for land filling and cannot be recycled/reprocessed etc. should go for that purpose, in order to reduce load on incineration and landfill site/environment.
18. An inspection book shall be opened and made available to the Board's officers during their visit to the applicant.
19. Industry shall strictly comply with the Water (P&CP) Act, 1974, Air (P&CP) Act, 1981 and Environmental Protection Act, 1986 and industry specific standard under EP Rules 1986 which are available on MPCB website ([www.mpcb.gov.in](http://www.mpcb.gov.in)).
20. Separate drainage system shall be provided for collection of trade and sewage effluents. Terminal manholes shall be provided at the end of the collection system with arrangement for measuring the flow. No effluent shall be admitted in the pipes/sewers downstream of the terminal manholes. No effluent shall find its way other than in designed and provided collection system.
21. Neither storm water nor discharge from other premises shall be allowed to mix with the effluents from the factory.
22. The industry should not cause any nuisance in surrounding area.
23. The industry shall take adequate measures for control of noise levels from its own sources within the premises so as to maintain ambient air quality standard in respect of noise to less than 75 dB (A) during day time and 70 dB (A) during night time. Day time is reckoned in between 6 a.m. and 10 p.m. and night time is reckoned between 10 p.m. and 6 a.m.



24. The industry shall create the Environmental Cell by appointing an Environmental Engineer, Chemist and Agriculture expert for looking after day to day activities related to Environment and irrigation field where treated effluent is used for irrigation.
25. The applicant shall provide ports in the chimney/(s) and facilities such as ladder, platform etc. for monitoring the air emissions and the same shall be open for inspection to/and for use of the Board's Staff. The chimney(s) vents attached to various sources of emission shall be designated by numbers such as S-1, S-2, etc. and these shall be painted/ displayed to facilitate identification.
26. The industry should comply with the Hazardous and Other Wastes (M & TM) Rules, 2016 and submit the Annual Returns as per Rule 6(5) & 20(2) of Hazardous and Other Wastes (M & TM) Rules, 2016 for the preceding year April to March in Form-IV by 30th June of every year.
27. The applicant shall install a separate meter showing the consumption of energy for operation of domestic and industrial effluent treatment plants and air pollution control system. A register showing consumption of chemicals used for treatment shall be maintained.
28. The applicant shall bring minimum 33% of the available open land under green coverage/ plantation. The applicant shall submit a yearly statement by 30th September every year on available open plot area, number of trees surviving as on 31st March of the year and number of trees planted by September end.
29. The Board reserves its rights to review plans, specifications or other data relating to plant setup for the treatment of waterworks for the purification thereof & the system for the disposal of sewage or trade effluent or in connection with the grant of any consent conditions.
30. The firm shall submit to this office, the 30th day of September every year, the Environment Statement Report for the financial year ending 31st March in the prescribed FORM-V as per the provisions of Rule 14 of the Environment (Protection) (second Amendment) Rules, 1992.
31. The Applicant shall obtain necessary prior permission for providing additional control equipment with necessary specifications and operation thereof or alteration or replacement/alteration well before its life come to an end or erection of new pollution control equipment.
32. The Board reserves its rights to vary all or any of the condition in the consent, if due to any technological improvement or otherwise such variation (including the change of any control equipment, other in whole or in part is necessary).
33. The applicant shall provide facility for collection of environmental samples and samples of trade and sewage effluents, air emissions and hazardous waste to the Board staff at the terminal or designated points and shall pay to the Board for the services rendered in this behalf.

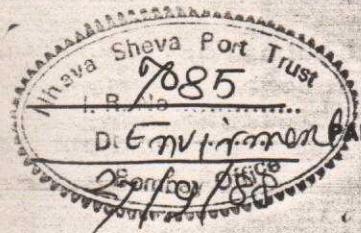
For and on behalf of the  
Maharashtra Pollution Control Board.

  
(Ashok Shingare IAS),  
Member Secretary



कार  
वन मंत्रालय  
Ministry of India  
Department of Environment & Forests

No. J-11013/21/88-IA



दूरभाष :  
Telephone No.

तार :  
Telegram : PARYAVARAN.  
NEW DELHI

पर्यावरण भवन, सी. जी. ओ. कॉम्प्लेक्स,  
PARYAVARAN BHAWAN, C.G.O. COMPLEX  
लोदी रोड, नई दिल्ली-११०००३  
LODI ROAD, NEW DELHI-110003

September 16, 1988

OFFICE MEMORANDUM

Subject: Environmental clearance to Nhava Sheva Port Project

The undersigned is directed to refer to Ministry of Surface Transport D.O.No.PD/17023/1/86-NSPT, dated the 28th August, 1988, on the subject mentioned above.

2. In a directive dated August 8, 1980, the Prime Minister instructed that Nhava Sheva Port Project must significantly decongest Bombay and that environmental safeguards and necessary financial outlay to carry them out must be provided for in the Project. The Prime Minister also directed that the feasibility Report of the Nhava Sheva Port should provide for release of land by the Bombay Port Trust for Park, etc. Pursuant to the Prime Minister's directive, a Monitoring Committee and later a Working Group were set-up. After deliberations of the Committee and the Working Group and the discussions with the Standing Committee of the Ministry of Surface Transport, a general outline of environmental safeguards and decongestion of Bombay was formulated. On the basis of these discussions and on the basis of commitment of the Ministry of Surface Transport given in the letter referred to above, environmental clearance to the Nhava Sheva Port project is hereby accorded, subject to the following conditions:-

- (i) The total land area of the project must not exceed 2584 hectares, as approved by the Government. Any re-appraisal of land requirement may be only towards reduction and not for additional land.
- (ii) No further cutting of hill slopes would be undertaken by the Nhava Sheva Port Trust(NSPT) except in the areas already contracted for terracing along the cut line as of 4.8.88.
- (iii) Administration and operation buildings built on the hill feature at Sheva Island should not be more than what is existing now, i.e. two storeys. No further buildings be built on hill feature area. All temporary structures built in the area must be removed before the end of 1990.

D.11-259/  
Date-29/9/88

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- (iv) The NSPT must not have major blasting in the Port area.
- (v) Dredging will be limited for operation and maintenance only. Disposal of dredged material will be done in consultation with Environment Division of NSPT. Such material must not be used for filling up any waterbody.
- (vi) No large-scale dumping of wastes shall be undertaken by NSPT without clearance from environmental angle. This is to ensure that marine ecology of the area is not affected by dumping in the marshy lagoon/low level areas.
- (vii) A green belt of 500 metres must be provided all along the periphery of the Port excluding the water areas. The approximate cost of the greening - initial cost and cost of maintenance for 5 years will be Rs. 3.5 crores at present day cost. A provision for this amount has to be made in the Project cost for the NSPT. Annual financial requirement after initial 5 years has to be provided in the annual budgets of the Port.
- (viii) Inside the Port, 800 hectares of land must be afforested. This may be spread in pockets of hill and vacant areas and need not be concentrated in one area. The cost of such afforestation approximately Rs. 1.6 crores, spread over a period of 5 years, must be included in the project cost of the NSPT. Thereafter, annual fund requirement must be provided for in each year's budget.
- (ix) Suitable tidal low-lying areas should be identified for mangrove plantation and provision of the required amount - approximately Rs.1.5 crores, must be made for this purpose in the Project cost of the NSPT.
- (x) Six Air Pollution Monitoring Stations and six Water Pollution Monitoring Stations must be set-up, in the Port area and in the neighbour-hood, susceptible to pollution arising out of the Port's functions and port related activities. The capital cost of these stations, approximately Rs. 1 crores, must be provided for in the Project cost of the NSPT. Annual recurring expenditure must be provided for in the annual budgets.
- (xi) With the operation of the Nhava Sheva port, as a measure of decongestion of Bombay Port, the traffic in Bombay Port must be gradually reduced, by steps to be taken by the Ministry of Surface Transport, Bombay Port Trust and NSPT, so that the total general cargo inclusive of container cargo handled at Bombay Port comes down within

three years to 6.5 million tonnes. The schedule of reduction and the action programme in this regard should be forwarded to this Ministry by the Ministry of Surface Transport within three months.

- (xii) The Ministry of Surface Transport and Bombay Port Trust must take action to gradually make the land of Bombay Port, which is not required for operational purposes of the Port, available for greening and recreation. A time frame and an action programme in this regard should be forwarded to this Ministry by the Ministry of Surface Transport within six months.
- (xiii) The NSPT must draw up a Disaster Management Plan and get it approved by the nodal department of the State Government and forward it to this Ministry for approval.
- (xiv) There must not be any cutting of trees in any area of the NSPT.
- (xv) The operation of the berth of the NSPT which falls within 200 metres of the protected zone of the Elephanta Caves should be controlled with adequate safeguards so that there is no damage to the Elephanta Caves.
- (xvi) Adequate measures for protection of Elephanta Caves, particularly from SO<sub>2</sub> emissions from the vessels funnels and from vibrations must be taken. Regular monitoring in the Elephanta Caves must be done for this purpose at the cost of the NSPT.
- (xvii) An Environmental Division must be set up in the NSPT which will consist of one Environmental Manager, two Environmental Engineers, two Forest Officers, four Laboratory Assistants and 13 Forest Guards. An Environmental Laboratory for water, air and solid waste monitoring must be set up with adequate equipment and qualified staff. The approximate capital cost for the Laboratory which will be Rs.50 lakhs must be provided in the Project cost. The annual recurring cost for the Laboratory and the Environmental Division must be provided for in the Annual budgets of the Port..
- (xviii) The minimum financial requirements for meeting the above conditions, that is Rs. 8.1 crores besides the annual recurring cost, must be provided for in the Project cost. The annual recurring cost for the different items for environmental protections must be provided for in each year's Annual budget of the port.

3. The implementation of the above conditions of the environmental clearance must be monitored by a Standing Committee to be set-up for the purpose with the representatives of Ministry of Surface Transport, Nhava Sheva Port Trust, Government of Maharashtra and the Ministry of Environment & Forests. The Ministry of Surface Transport will take action for setting up of this Committee.

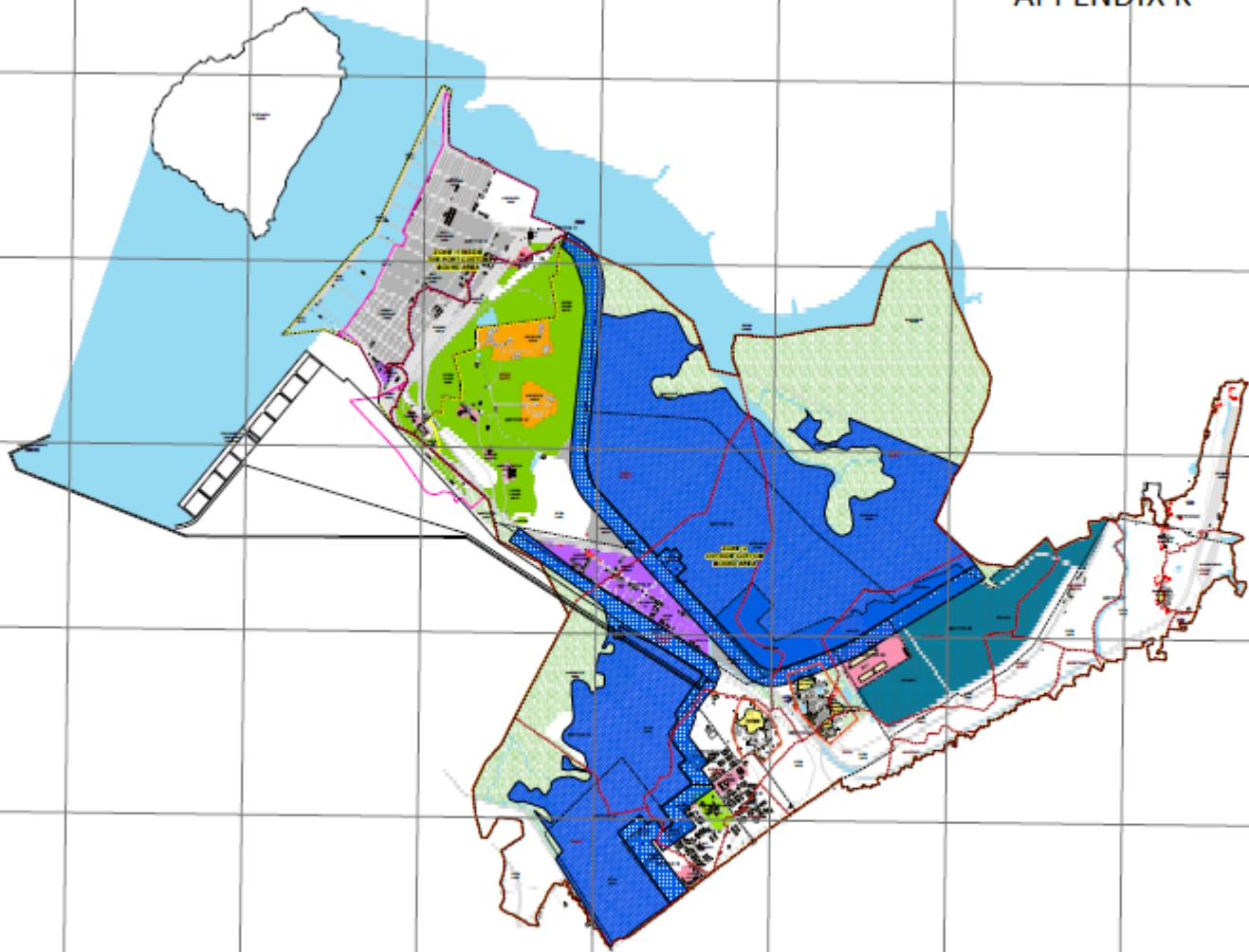
4. The enforcement of the conditions stipulated in this Office Memorandum will be under the provisions of the Environment(Protection) Act, 1986.

*A.C. Ray*  
( A.C. RAY )  
Additional Secretary

To

- (1) Secretary,  
Ministry of Surface Transport,  
Parliament Street,  
New Delhi.
- ✓(2) Chairman,  
Nhava Sheva Port Trust,  
Bombay.
- (3) Chairman,  
Bombay Port Trust,  
Bombay.
- (4) Secretary,  
Department of Culture,  
Ministry of Human Resources,  
New Delhi.
- (5) Director General,  
Archaeological Survey of India,  
New Delhi.
- (6) Chief Secretary,  
Government of Maharashtra,  
Bombay.

# APPENDIX K



**JAWAHARLAL NEHRU PORT TRUST**

SHEET TITLE : KEY PLAN

Legend	<ul style="list-style-type: none"> <li>Water</li> <li>Land</li> <li>Green</li> <li>Blue</li> <li>Yellow</li> <li>Orange</li> <li>Red</li> <li>Grey</li> <li>White</li> <li>Black</li> <li>Green</li> <li>Blue</li> <li>Yellow</li> <li>Orange</li> <li>Red</li> <li>Grey</li> <li>White</li> <li>Black</li> </ul>
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APPROVED BY: JAWAHARLAL NEHRU PORT TRUST

APPROVED BY: JAWAHARLAL NEHRU PORT TRUST



## JNP Container Terminal

## APPENDIX L

### 183 (a)

#### Container Volume handled by JNPCT & Overall Volume of JN Port

##### JNP Container Terminal

Fiscal Year	JNPCT Annual Throughput in TEUs
2016-17	1,533,975
2017-18	1,481,768
2018-19	1,056,368
2019-20	718,863
2020-21	544,027
2021-22*	235,613

##### JN Port

JN Port Annual Throughput in TEUs
4,500,149
4,833,397
5,133,274
5,031,187
4,676,831
2,703,051

\* Upto Sep-21

**JNP Container Terminal**

APPENDIX M

**183 (b)**

**(i) Import & Export Container Volume handled by JNPCT & Overall Volume of JN Port**

**(ii) Foreign & Coastal Volume handled by JNPCT & JN Port**

**JNP Container Terminal**

*(in TEUs)*

Fiscal Year	Foreign	Coastal	JNPCT Total
2016-17	1,508,881	25,094	1,533,975
2017-18	1,449,307	32,461	1,481,768
2018-19	1,018,691	37,677	1,056,368
2019-20	690,413	28,450	718,863
2020-21	511,311	32,716	544,027
2021-22*	226,401	9,212	235,613

\* Upto Sep-21

**JN Port**

*(in TEUs)*

Foreign	Coastal	JN Port Total
4,470,764	29,385	4,500,149
4,796,189	37,209	4,833,398
5,029,657	103,617	5,133,274
4,891,601	139,586	5,031,187
4,500,237	176,594	4,676,831
2,632,105	70,946	2,703,051

**(iii) Laden & Empty Volume handled by JNPCT & JN Port**

**JNP Container Terminal**

*(in TEUs)*

Fiscal Year	Laden	Empty	JNPCT Total
2016-17	1,162,516	371,459	1,533,975
2017-18	1,090,531	391,237	1,481,768
2018-19	760,354	296,014	1,056,368
2019-20	490,100	228,763	718,863
2020-21	397,086	146,941	544,027
2021-22*	150,295	55,964	206,259

\* Upto Aug-21

**JN Port**

*(in TEUs)*

Laden	Empty	JN Port Total
3,723,824	776,325	4,500,149
4,003,874	829,523	4,833,397
4,271,340	861,934	5,133,274
4,123,455	907,732	5,031,187
3,832,726	844,105	4,676,831
1,848,724	402,219	2,250,943

**JNP Container Terminal**

183 (b)

(iv) 20 ft, 40 ft, Transshipment and ODC handled by JNPCT & Overall Volume of JN Port

JNP Container Terminal

*(in TEUs)*

Fiscal Year	20 ft	40 ft	Transshipment	ODC	JNPCT Total
2016-17	673,702	826,336	26,964	6,973	1,533,975
2017-18	579,230	861,638	34,632	6,268	1,481,768
2018-19	457,973	581,988	11,166	5,241	1,056,368
2019-20	321,350	384,190	10,736	2,587	718,863
2020-21	244,794	291,554	6,194	1,485	544,027
2021-22*	108,280	124,520	2,074	739	235,613

\* Upto Sep-21

JN Port

*(in TEUs)*

20 ft	40 ft	Transshipment	ODC	JN Port Total
1,778,182	2,651,732	44,462	25,773	4,500,149
1,797,794	2,938,039	62,796	27,106	4,833,398
1,858,074	3,014,623	63,812	33,996	5,133,274
1,806,875	2,822,766	121,151	31,337	5,031,187
1,629,046	2,620,594	109,081	26,704	4,676,831
880,181	1,604,211	40,999	14,623	2,703,051

(v) Evacuation by Road & Rail

JNP Container Terminal

*(in TEUs)*

Fiscal Year	Outbound Road	Outbound Rail
2016-17	656,716	105,127
2017-18	636,637	91,916
2018-19	485,961	62,062
2019-20	335,421	45,418
2020-21	245,448	45,028
2021-22*	114,527	14,860

\* Upto Sep-21

JN Port

*(in TEUs)*

Outbound Road	Outbound Rail
1,885,878	359,132
2,033,036	370,976
2,015,376	346,358
2,073,018	421,237
1,828,850	637,072
1,088,197	244,407



## APPENDIX N

## Annual Productivity Parameters - JNPCT

Sr.	Pameters	Units	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22*
1	Gross Berth Productivity (GBP)	<i>moves/hour</i>	64.98	68.06	64.31	61.52	60.05	55.33	49.94
2	Gross Crane Productivity (GCP)	<i>moves/Crane hour</i>	18.04	17.49	16.54	16.11	18.82	17.96	17.11
3	Crane Density	<i>Avg Crane/Vsl</i>	3.79	4.11	4.03	3.82	2.87	2.78	2.69

*upto Sep-21*

## Litigations relating to JNPCT

Sr. No.	Case Details	Nature of Disputes
01	<p><b>Suit no. 2969 of 2010 Pending before HC Bombay</b></p> <p>Shiffaharts Gesellschaft HS BrucknermbH V/s JNPT</p>	<p>Claim against JNPT for accident caused to vessel due to crane operation/. Nature of Damage- One of the holding wires for the masthead was also damaged. Both radar antennas were seriously damaged. The plaintiffs also stated that the operator was an apprentice and this damage happened due to the rough handling and negligence of QC2 Crane operator and Plaintiff. The Claimants has claimed US \$ 3,67,044.77 &amp; interest 15% till the payment. Status of case-Pre admission</p>
02	<p><b>Suit No.1333/2012 Pending before HC Bombay</b></p> <p>M/s Surat Metalics Ltd. V/s JNPT</p>	<p>The Plaintiff of Surat Metalics has filed suit for recovery of Rs.2.25 crores with 18% interest against JNPT for damaged to the container No.BHCU-4711736 40' flat rack with equipment (Bopet film) on account of accident caused by tractor trailer. Status admitted.</p>
03	<p><b>Suit No.2422 of 2012 Pending before High Court Bombay</b></p> <p>M/s Norasia Container Lines Ltd. V/s JNPT</p>	<p>Claim for damages to vessel and cargo/containers due to cranes accident /operations party has filed suit against JNPT for recovery of US \$ 3,31,423.87 with interest @ 18% from 11.05.2012 till payment of realization.</p>
04	<p><b>Suit No.1117 of 2015- Pending before HC Bombay</b></p> <p>NOL(Pte) Ltd. &amp; APL (Pte) Ltd. V/s JNPT</p>	<p>Claim for damages has been filed against JNPT caused due to crane accident . Parties has claimed damages/ sum of Rs.4,43,14,847/- with interest thereon at 15% from 5<sup>th</sup> August 2015 till payment/realization in favor of the Plaintiff.</p>
05	<p><b>Suit No.3378 of 2014</b></p>	<p>Suit filed by Party against JNPT seeking declaration that plaintiff is</p>

	<p><b>Pending before City Civil Court Bombay</b></p> <p>M/s RRC International Fright Ser. Ltd.</p> <p style="text-align: center;">Vs</p> <ol style="list-style-type: none"> <li>1. JNPT</li> <li>2. M/s Amit Lifters</li> </ol>	<p>not under liability to pay expenses for repair or rectification of sign board.</p>
06	<p><b>Suit No.135 of 2016</b> <b>Pending before Ld. Judicial Magistrate First class Thane</b></p> <p style="text-align: center;">JNPT V/s</p> <p>M/s Satkar Logistics Pvt. Ltd.</p>	<p>JNPT has filed summary suit before <b>Ld. Judicial Magistrate First class Thane</b> for recovery of a sum of Rs.61,36,259/- along with interest of 16.75% p.a. Rs.16,82,078/- together with Rs.78,18,337/- which is due and payable by the defendant towards its admitted liability of paying import dwell time charges for the period from 1<sup>st</sup> Feb. 2013 to 27<sup>th</sup> Aug. 2015. The JNPT had raised two invoices dated 22<sup>nd</sup> Nov. 2013 &amp; 14<sup>th</sup> Sept. 2015 on the defendant for import dwell time charges which it has failed and or neglected to pay to the plaintiff.</p>
07	<p><b>Spl. Civil Suit No.204 of 2014</b> <b>Pending before Civil Court Sr. Div. Thane</b></p> <p>New India Insurance Company Ltd. <b>V/s</b></p> <ol style="list-style-type: none"> <li>1. M/s Ashwini Logistics Solutions</li> <li>2. Green Agropack Pvt ltd.</li> <li>3. JNPT</li> </ol>	<p>Suit pertaining to Insurance claim filed by New Indian Insurance Company Ltd. seeking decree of Rs.5.52 lakhs plus interest @18% against Defendant No. 1 M/s Ashwini Logistics as accident was caused due to Defendant No. 1 acts.</p>

## Legal Notices Received relating to JNPCT

Sr. No.	Details of Notice	Status
1	<p>Legal Notice received from Dewanchand Ramsaran Corporation Private Limited dated 27.11.2020.</p> <p><b>Sub:-</b> Calls for refund of amount deducted for the services rendered in respect of Reach Stackers.</p>	<p>Reply sent by JNPT on 10.02.2021. No Litigation filed.</p>
2	<p>Legal Notice received from Kanishka Salvage and Under Water Services Private Limited dated 08.01.2021.</p> <p><b>Sub:-</b> Calls for legal action to be taken against other qualified bidders for making false representation pertaining to e-tender (Salvage, Removal and Disposal of 03 Nos. Rail Mounted Quay Cranes) was floated.</p>	<p>Reply sent by JNPT on 10.02.2021 No Litigation filed.</p>