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TARIFF AUTHORITY FOR MAJOR PORTS

G.No.8

New Delhi,

6 January 2016

NOTIFICATION

In exercise of the powers conferred under Sections 48 and 50 of the Major Port Trusts Act, 1963 (38 of 1963), the Tariff Authority for Major Ports hereby disposes of the proposal received from New Mangalore Port Trust (NMPT) for fixation of reference tariff for mechanization of Berth No. 12 at NMPT by providing equipments for handling bulk cargo through Public Private Partnership (PPP) mode under the revised guidelines for Determination of Tariff for Projects at Major Ports, 2013, which were notified vide Notification No.TAMP/18/2013-Misc. dated 30 September 2013 vide Gazette No. 254, as in the Order appended hereto.

(T.S. Balasubramanian)
Member (Finance)

Tariff Authority for Major Ports
No. TAMP/60/2015-NMPT

New Mangalore Port Trust (NMPT)

- - -

Applicant

O R D E R

(Passed on this 16 day of November 2015)

This case relates to the proposal received from the New Mangalore Port Trust (NMPT) for fixation of reference tariff for mechanization of Berth No. 12 by providing equipments for handling bulk cargo at NMPT through Public Private Partnership (PPP) mode.

2. The main submissions made by the NMPT in the proposal are summarized below:

- (i). (a). The proposed project is about Mechanization of Berth No. 12 by providing equipments for handling Bulk Cargo at the NMPT. A feasibility study for the project has been carried out on the basis of traffic analysis and technical assessment. It is proposed that Coal and Other Cargo (Fertilizer, Limestone, Gypsum, Dolomite) to be the major commodities to be handled at the berth.
 - (b). However, coal will be one of the major drivers of traffic growth at NMPT. In order to provide support in viability to prospective bidder during initial project phases of coal cargo realization and in order to utilize available spare quay capacity of berth 12, other cargo has been proposed. It has been considered that around 92.5% of the total cargo at the berth shall be coal, and the balance (7.5%) shall be the other cargo.
 - (c). The demand for Coal handling is most likely to be generated from the various power plants in the primary and secondary hinterland. The traffic for Other Cargo shall mainly be the diverted traffic of NMPT.
 - (d). The Berth No. 12 has a total length of 325m, which is available under this project. The present depth at NMPT approach channel and lagoon is maintained at (-) 15.4 m CD and (-) 15.1 m CD. It is expected to encounter rock in the lagoon area at (-) 15.4 m CD. Hence, the depth in the lagoon and docks will be restricted to (-) 15.1 m CD i.e. the present maintained depth in the turning circle area. Given the depth constraints in the inner harbour, vessel sizes up to and including 80,000 DWT have been considered for this project. Further, the back-up area is 15 hectare would be available to the developer.
 - (e). Since the project envisages handling of different commodities i.e. Coal and Other Cargo, the norms prescribed for a multipurpose berth appear to be more relevant. However, the NMPT proposed to adopt two different set of norms (one set relating to coal terminal for handling coal and another set relating to multipurpose berth for handling other cargo) instead of the norms prescribed for the multipurpose berth. By following this norm, the NMPT would achieve better handling rates for coal and other cargo than the handling rates for the same cargo prescribed in the norms relating to multipurpose berth. Further, the major cargo of coal is proposed to be handled through an automated Material Handling System, adoption of the norms prescribed in the Guidelines relating to mechanised Coal Terminal is found to be more appropriate.
- (ii). **Estimation of Optimal Capacity:**
- (a). Optimal capacity of the cargo (mostly coal import) terminal has been determined taking into consideration various components of the facility that will be required to be created, equipment and plant and machinery to

be provided, productivity levels and utilization levels, as per the norms prescribed. Tariff shall be prescribed with reference to the optimal capacity of the terminal irrespective of any traffic forecast.

The optimal capacity of the terminal is reckoned as the lower value of the optimal quay capacity and optimal yard capacity.

(b). Estimation of Optimal Quay Capacity:

- (i). For coal cargo, vessels of up to Panamax (upto 80,000 DWT) sizes could be handled at the berth. For other cargo, vessels of upto 30,000 DWT would be handled at the berth.
- (ii). Handling rate of 35000 TPD for coal terminals is considered based on TAMP 2008 guidelines for panamax vessels. Two unloaders with rated capacity of 2000 TPH each is proposed.
- (iii). Other cargo would be mostly handled by Handymax vessels. As per norm for other cargo, the handling rate for lower size vessels (Handymax) is 7500 tonnes/day and for vessels of more than 30,000 tonnes parcel size is 10,000 tonnes/day. However, in this project, the NMPT has proposed to consider handling rate of 8000 TPD, considering only the lower size vessels, which is still higher compared to the norms.
- (iv). Considering the average vessel size, the percentage share of coal vessels is around 75% and percentage share of other cargo is around 25%. This is due to the handling rate of other cargo being less as compared to coal and more time required to handle the other cargo. Therefore, the ratio of time taken to handle coal and other cargo at 75%:25% has been considered for capacity calculation.

(c). Calculation of Optimal Quay Capacity:

- (i). Coal:
 - (a). Average Parcel Size:
The parcel sizes and percentage share of vessels are as follows:

Parameters	Dry Bulk Vessel Sizes (DWT)			
	50000	60000	70000	80000
Parcel Size, Tonnes	45000	54000	63000	72000
Percentage of vessel call	20%	30%	30%	20%
Avg. Unloading rate - TPD	35000	35000	35000	35000

$$\text{Average Cargo Capacity} = 45000 \times 20\% + 54000 \times 30\% + 63000 \times 30\% + 72000 \times 20\% = 58500 \text{ Tonnes}$$

- (b). Unloading rate:

The unloading rate has been considered as 35,000 TPD as stipulated in guidelines of 2008 for Mechanized Coal Terminal. To achieve the same it is envisaged to propose two grab unloaders of 2000 TPH.

- (c). Berthing Time:

The NMPT proposes to consider an additional time of 0.125 days i.e. 3 hours towards berthing / de-berthing. The berthing takes into account the time from boarding of pilot for inward movement to his disembarking and de-

berthing takes into account the time from boarding of pilot for outward movement and his disembarking at the outer anchorage.

(d). Ship day output:

Loading / Unloading Time	= Average Parcel Size / Unloading Rate = 58500 / 35000 = 1.671
Turnaround Time	= Loading/Unloading Time + Berthing Time = 1.671 + 0.125 = 1.796
Ship Day Output	= Average Parcel Size / Turnaround Time = 58500 / 1.796 = 32565

(e). Optimal Quay Capacity:

Optimum Quay Capacity = 70% x 32565 x 365 x 75% = 6240194 TPA.

(ii). Other cargo (Fertilizers, Limestone, Gypsum, Dolomite):

(a). Average Parcel Size:

The parcel size as per Detailed Project Report is 27000 Tonnes.

(b). Unloading rate:

The unloading rate has been considered as 8,000 TPD. As per the Norm, for Multipurpose Cargo, the handling rate is 7500 TPD for lower size vessels. To achieve the same, one mobile hopper (30 m³) and one pay loader (4.5 cum) has been proposed.

(c). Berthing time:

The NMPT proposes to consider an additional time of 0.125 days i.e. 3 hours towards berthing/ de-berthing.

(d). Ship Day Output:

Loading/Unloading Time = Average Parcel Size / Unloading Rate = 27000 / 8000 = 3.375

Turnaround Time = Loading/Unloading Time + Berthing Time = 3.375 + 0.125 = 3.5

Ship Day Output = Average Parcel Size / Turnaround Time = 27000 / 3.5 = 7714.

(e). Optimal quay capacity:

Optimum Quay Capacity = 70% x 7714 x 365 x 25% = 492750 TPA.

(iii). As shown above, the optimal quay capacity for Coal is estimated to be 6.24 MTPA and for Other Cargo 0.49 MTPA.

(d). Estimation of optimal yard capacity:

- (i). The total backup area available is 16.01 hectares. The backup area available for coal and other cargo is 15.01 hectares and 1 hectares respectively.

(ii). Calculation of Optimal Yard Capacity for coal:

- (a). The coal is unloaded using two grab unloaders of 2000 TPH capacity each. The unloader releases the cargo on a hopper which discharges the cargo on to the conveyor system. Rail tracks are proposed for the movement of the ship unloader parallel to the berth during hatch change over. Four units of stackers (weighted capacity 4000 TPH) and three units of reclaimers are proposed to lift the cargo and form a stock pile.
- (b). Given the assorted / fragmented customer base of coal users, more equipments have been planned in the stackyard (4 stackers, 3 reclaimers) to ensure independent operations of stacking and reclaiming and faster cargo circulation/ evacuation. In addition, the shape of the available area does not allow for having long stockpiles and hence multiple medium sized stockpiles have been planned. Owing to this, the stacking area works out to 62% of the total area, against the norm of 70%.
- (c). The norm of 3 tonnes of coal/sqm indicated in the guidelines for estimating the terminal capacity is very conservative. For the proposed setup with mechanized cargo handling systems for handling, transfer, storage and evacuation, a stack height of around 10 m is envisaged. For this stack height, a coal storage factor of 6.44 tonnes/ sqm is achievable.
- (d). In view of the same, though the norms are provided for 3 tonnes/sqm, the storage rate of 6.44 tonne/sqm for coal is achievable and hence the same is considered for calculation of Optimal Yard Capacity.
- (e). The guidelines of 2008 stipulate plot turnover ratio of 12 based on the dwell time of 30 days. This appears to be very conservative. The estimated dwell time for coal is expected to be 24 days for the proposed terminal. In view of the same, the plot turnover ratio of 15 is considered for coal.

Parameters	Norms	Proposed for Coal terminal
A	As provided by Port	150100 sqm
U	70%	61.55%
Q	3 Tonnes/sqm	6.44 tonnes/sqm
T	12	15
Capacity of Yard		6248771 TPA

(iii). Calculation of yard capacity for other cargo (Limestone, Gypsum, Dolomite):

- (a). For other cargo (Limestone, Gypsum, Dolomite), one payloader and one mobile hopper would be used in unloading. Dumper trucks are proposed for transfer of

other cargo to storage area. Specific norms are not available in the guidelines for the quantity that could be stacked per sqm of area and the turnover ratio of the plot in a year. The current dwell time is expected to be at least 30 days. In view of the same the turnover ratio of the shed in a year for other cargo is considered as 12. Further, the other cargo may not be stacked into higher heights due to its nature, and hence the density of 3 tonnes/sqm of area has been adopted.

- (b). For other cargo (Fertilizer), it is envisaged that it shall be stored in the storage shed of NMPT/ private. No capital cost has been provided for development of storage shed for fertilizer. For optimal yard capacity calculation, the component of fertilizer has been arrived based on the traffic study. In this regard, a capacity 0.27 MTPA has been calculated:

Parameters	For Other Cargo (Limestone, Gypsum, Dolomite)	For Other (Fertilizer)
A	10000 sqm	
U	70%	
Q	3 tonnes/sqm	
T	12	
Capacity of Yard	226800 TPA	273200 TPA
Total Capacity	500000 TPA	

- (e). Optimal terminal capacity:

As per the Guidelines of 2008, optimal terminal capacity is the lower value of the optimal quay capacity and optimal yard capacity. According to the calculations undertaken in the earlier sections, optimal capacity is determined as below:

Parameters	For Coal	For Other Cargo
Quay Capacity	6240194 TPA	492750 TPA
Yard Capacity	6248771 TPA	500000 TPA
Optimal Capacity	6240194 TPA	492750 TPA

- (iii). Capital Cost:

It is to be noted that Berth 12 would remain primarily a mechanized coal handling berth and priority will be given to coal carrying vessels at all times. Considering this, the nominal CapEx and OpEx for the additional cargo has been proposed. It is envisaged that the other cargo would be handled using equipments which are mainly on lease.

Hence, the capital cost is estimated for handling both the commodities – coal and other cargo. The same is divided into three categories as stipulated in the guidelines.

- (a). Civil construction cost:

Particulars	(₹ in crores) Amount
(a). Coal	
Civil Works	2.74
Structural Works	21.03
Civil & structural cost of Conveyor	77.09

Control Room/ Substation/buildings	3.30
Additional Rail siding at existing railway yard for wagon loading (1850m)	8.33
Stockyard Boundary Wall	3.00
Road pavement	18.52
Subtotal	134.00
(b). Other Cargo:	
Subtotal	0.00
(c). Total civil costs (a + b)	134.00

(b). Cargo Handling Equipment Costs:

(₹ in crores)

Particulars	Amount
(a). Coal	
Grab Unloaders – 2000 TPH – 2 Nos	90.00
Jetty Conveyor (4000 TPH) – 2 Rows	12.15
In between conveyors upto RLS (11 nos.)	37.95
Conveyor for Stockyard (4000 TPH) – 2 Rows	40.80
Stacker Equipment (4 Nos.)	48.00
Reclaimer Equipment (3 Nos.)	39.00
Rapid Loading system (RLS)(2000-4000TPH)	30.00
Pay loaders - 4.5 cum – 1 no.	0.40
Truck loading system	3.50
Utilities	9.50
Subtotal	311.30
(b). Other Cargo	
Mobile Hopper (30 m3) -1 No.	1.50
Pay loaders - 4.5 cum – 1 No.	0.40
Subtotal	1.90
(c). Total equipment costs (a + b)	313.20

(c). Miscellaneous Costs:

(₹ in crores)

Particulars	Capex (₹ Crores)
Civil Costs	134.00
Mechanical Equipment Cost	313.20
Total Cost	447.20
Miscellaneous Costs (@5%)	22.36
Total Capital Costs	469.56

(iv). Operating cost:

(a). The operating cost incurred in a Coal Import Terminal & for a Multi-Purpose Berth, as per the Guidelines of 2008, is grouped under the following major heads and is calculated for operating at the optimal capacity.

(b). Calculation of Operating cost for coal handling:

(₹ in crores)

Sr. No.	Particulars	Amount	Unit
(i).	Power Costs		
(a).	Consumption per ton	1.4	Unit/ tonne
(b).	Cost per Unit (KWH)	10.4	₹ / unit
(c).	Optimal Capacity	6.24	MTPA
(d).	Cost of Electrical energy	9.09	₹ Crore
(ii).	Repair & Maintenance Costs		

(a).	Civil Assets (1% on civil work)	1.34	₹ Crore
(b).	Mechanical & Electrical Equipment including spares (7% on equipment cost)	21.79	₹ Crore
(iii).	Insurance Costs		
(a).	Insurance Costs (1% of Gross Fixed Asset Value)	4.68	₹ Crore
(iv).	Depreciation		
(a).	Civil Work @ 3.34%	4.48	₹ Crore
(b).	Mechanical Work @ 10.34%	32.19	₹ Crore
(c).	Miscellaneous Assets @ 3.34% on civil component and 10.34% on equipment component	1.83	₹ Crore
(v).	License Fee for Land		
(a).	Area of land available (in sqm)	15.01	Hectare
(b).	Licence Fee per month	20.39	₹ per sqm/ month
(c).	Licence Fee for Land	3.67	₹ Crore
(vi).	License fee for Waterfront		
(a).	Area of Water front (=325 m x 25m)	8125	Sqm
(b).	Licence Fee per month (50% of License fee for Land)	10.19	₹ per sqm/ month
(c).	Percentage of Vessel Cargo	75%	
(d).	Licence Fee for Waterfront	0.01	₹ Crore
(vii).	Other Expenses		
(a).	Other Expenses towards salaries and overheads (5% on gross fixed assets)	23.38	₹ Crore
(viii).	Total Operating Costs for coal handling	102.45	₹ Crores

(c). Calculation of Operating cost for other cargo handling:

(₹ in crores)

Sr. No.	Particulars	Amount	Unit
(i).	Power Costs		
(a).	Norm for consumption of power	100	Units /Hour/Crane
(b).	Cost per Unit (KWH)	10.4	₹ / unit
(c).	Total Hours required	4000	Hours
(d).	Total Power Charges	0.42	₹ Crore
(ii).	Fuel Costs		
(a).	Unit Cost of Fuel	52.59	₹ / litre
(b).	Consumption of fuel	10	Litres/ hr
(c).	Total time of truck operations	15	Hr/ day
(d).	Number of trucks	20	Nos.
(e).	Average Unloading Capacity of Payloader	8000	TPD
(f).	Total Fuel Charges	0.97	₹ Crore
(iii).	Truck Lease Cost for 20 truck (Note-1)		
(a).	Lease rate per truck per day	10000	₹/day/truck
(b).	Turnaround Time	3.5	Days
(c).	Number of Trucks	20	Nos.
(d).	Vessel Call (=Optimal Capacity/Parcel Size)	18.25	
(e).	Lease Cost for 20 trucks of capacity 15 tonnes	1.28	₹ Crore

(vi).	Repair & Maintenance Costs		
(a).	Civil Assets (1% on civil work)	0.00	₹ Crore
(b).	Mechanical & Electrical Equipment including spares (5% on equipment cost)	0.10	₹ Crore
(vii).	Insurance Costs		
(a).	Insurance Costs (1% of Gross Fixed Asset Value)	0.02	₹ Crore
(viii).	Depreciation		
(a).	Civil Work @ 3.34%	0.00	₹ Crore
(ix).	Mechanical Work @ 10.34%	0.20	₹ Crore
(a).	Miscellaneous Assets @ 3.34% on civil component and 10.34% on equipment component	0.01	₹ Crore
(x).	License Fee for Land		
(a).	Area of land available (in sqm)	1	Hectare
(b).	Licence Fee per month	20.39	₹ per sqm/ month
(c).	Licence Fee for Land	0.24	₹ Crore
(xi).	License fee for Waterfront		
(a).	Area of Water front (=325 m x 50m)	8125	Sqm
(b).	Licence Fee per month (50% of License fee for Land)	10.19	₹ per sqm/ month
(c).	Percentage of Vessel Cargo	25%	
(d).	Licence Fee for Waterfront	0.002	₹ Crore
(xii).	Other Expenses		
(a).	Other Expenses towards salaries and overheads (5% on gross fixed assets)	0.10	₹ Crore
(xiii).	Total Operating Costs at Optimal Capacity	3.33	₹ Crores

Note-1:

Number of trucks required for continuous unloading has been worked out as below:

Description		Unit
Per day cargo evacuation requirement	8000	TPD
Carrying Capacity of 1 Truck	15	ton
Time taken to load one rake	2	min
Transit time (assuming lead distance of 2.5 km)	28	min
Total Time	0.5	Hrs
Number of trucks required	14	nos
Allowance for break down and peak movement	6	nos
Total No of Trucks to be provided	20	nos
Total Truck trips per day	534	trips / day

(v). The return on capital employed is estimated at 16% on the gross block of assets.

(vi). Accordingly, the revenue requirement estimated by NMPT is as follows:

(a). Annual Revenue Requirement:

(₹ in crores)

Sl. No.	Particulars	Amount
1.	For coal	
(i).	ROCE @ 16% (₹ 467.56 crores * 16%)	74.81
(ii).	Operating cost	102.45
(iii).	Total Revenue Requirement	177.26

2.	For other cargo	
(i).	ROCE @ 16% (₹ 2 crores * 16%)	0.32
(ii).	Operating cost	3.33
(iii).	Total Revenue Requirement	3.65

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Apportionment of Revenue Requirement:

(₹ in crores)

Particulars	For Coal		For Other Cargo	
Total Revenue Requirement	177.26		3.65	
Revenue apportionment for				
Cargo Handling + Miscellaneous Charges	175.48	99%	3.47	95%
Storage Charges	1.77	1%	0.18	5%

(vii). Tariff cap per tonne of cargo handled:

(in ₹ /MT /day or part thereof)

Sl. No.	Commodity	For Coal	For other cargo
(i).	Revenue Requirement for Cargo Handling & Miscellaneous Charges	₹175.48 Crores	₹3.47 Crores
(ii).	Total Capacity	6.24 MTPA	0.49 MTPA
(iii).	Tariff Cap Per Ton of Cargo Handled	281.22	70.41

(viii). The reference tariff proposed for Cargo Handling Charges for Mechanized evacuation system by the NMPT to meet the estimated revenue requirement is as follows:

Sl. No.	Commodity	Rate per in MT (in Indian Rupees)	
		Foreign	Coastal
1	Thermal Coal	281.22	281.22
2	Other Coal	281.22	168.73
3	Other Cargo (Fertilizer, Limestone, Gypsum, Dolomite)	70.41	42.25

(ix). The reference tariff proposed for storage Charges for Mechanized evacuation system by the NMPT to meet the estimated revenue requirement is as follows:

Sl. No.	Commodity	Rate per in MT (in Indian Rupees)	
		Coal	Other cargo
1	Free period	25 days	5days
2	First five days after expiry of free period	1.06	0.75
3	6 th day to 10 th day after expiry of free period	1.59	1.13
4	From 11 th day onwards	2.12	1.50

(x). **Performance standard:**

(a). **Gross Berth Output:**

(i). The parameter deals with the productivity of the terminal (Gross Berth Output) for Coal. In case of dry and break-bulk cargo, the capability of the terminal (mechanization method of handling) and parcel size will determine the Gross Berth Output. Higher terminal capability and greater parcel size will lead to high productivity.

(ii). The Gross Berth Output shall be calculated as the total cargo handled from the ship during a month divided by the time spent by the ship at the terminal expressed in number of working days of ships in that month at that terminal. While determining the number of working days from the ship hours, the berth allowance of 5 (five) hours shall be subtracted from the total hours.

(iii). The norms for Gross Berth Output for different categories of cargo are as follows:

Cargo Category	Norms
Thermal Coal	35,000 T/day
Other Coal	35,000 T/day
Other Cargo (Fertilizer, Limestone, Gypsum, Dolomite)	8,000 T/day

(b). Transit Storage Dwell Time:

Bulk Cargo:

The Transit Storage Dwell Time for coal shall be calculated, as half of average parcel size of above cargo vessels in a month divided by average disposal of cargo from the port per day as per the following methodology:

Average disposal of Cargo per day (A) = $\frac{OB + Received/Despatched - CB}{No. of days}$

No. of days

OB = Opening Balance, CB = Closing Balance.

Average Parcel Sizes (B) = $\frac{P1+P2+ \dots +Pn}{N}$ (no. of parcels)

P1, P2 ... Pn are parcel size of each vessel in a month.

Transit Storage Time for Bulk Cargo = $0.5(B/A)$.

(c). Transit Storage Dwell Time- Import:

Coal (at stackyard) 15 days on completion of vessel.

(d). Turnaround Time for receipt/delivery operation:

The Turnaround Time for receipt/delivery operation shall be the sum of time taken for loading/ unloading of cargo divided by the number of trucks/trailers/rakes deployed, as the case may be, in a month. Further, in case the truck/trailer/rake does both unloading and loading operations on a single entry into the terminal, the time allocated shall be doubled for those trucks/ trailers/ rakes.

- (i). (a). Truck (Single operation) = 10 min
- (b). Truck (Double operation) = 20 min
- (ii). (a). Rake (Single operation) = 4hrs
- (b). Rake (Double operation) = 8 hrs

3. The NMPT has also furnished the proposed Scale of Rates (SOR), Performance Standards and Feasibility Report for the said project.

4. In accordance with the consultative procedure prescribed, the NMPT proposal dated 3 August 2015 was forwarded to the concerned users/ user organisations/ prospective bidders (as forwarded by NMPT) for their comments. We have received comments from few users/ user organisations. The NMPT vide its email dated 10 September 2015 has furnished its remarks on comments made by users/ user organisations.

5. A joint hearing in this case was held on 31 August 2015 at the NMPT premises. The NMPT made a brief Power Point presentation of its proposal. At the joint hearing, the NMPT and the concerned users/ user organizations / prospective bidders have made their submissions

6.1. As agreed at the joint hearing, the NMPT was requested vide our letter dated 2 September 2015 and with subsequent reminders dated 4 September 2015 and 8 September 2015 to take action on the following points arising out of joint hearing proceedings:

- (i). Furnish comments on the comments of Adani Ports and Special Economic Zone Ltd. already forwarded to NMPT and also furnish comments on comments of Chettinad International Bulk Pvt. Ltd. forwarded under cover of our letter of even number dated 31 August 2015.
- (ii). At the joint hearing, Kanara Chamber of Commerce and Industry (KCCI) had submitted their written submissions to this Authority and also to NMPT. The NMPT to furnish comments on the written submissions of KCCI at the earliest.

6.2. With reference to point of action at para 6.1. (i) above, the NMPT vide its letter dated 10 September 2015 has furnished its comments on comments of users/ prospective bidders.

6.3. With reference to point of action at para 6.1. (ii) above, the NMPT vide its letters dated 10 September 2015 has furnished its comments on the written submissions made by KCCI.

7.1. On preliminary scrutiny of the NMPT proposal dated 03 August 2015, the NMPT was requested vide our letter dated 2 September 2015 to furnish requisite information / revised proposal in view of few information gaps / deficiency observed in the proposal.

7.2. The NMPT vide its emails dated 10 September 2015 has furnished its response to the information / clarification sought by us vide our letter dated 2 September 2015 on the subject proposal and has also filed a revised proposal. A summary of the information / clarification sought by us and reply furnished by NMPT thereon are tabulated below:

Sl. No.	Information / clarifications sought by us	Reply furnished by NMPT
(1).	Forward a copy of Board approval approving the subject proposal.	The NMPT has responded.
(2).	<u>Estimate of optimal capacity:</u>	
(i).	The NMPT has stated in para no.2.2 that 92.5% of the total cargo to be handled at the berth will be coal and the balance 7.5% will be the other cargo. Whereas in estimation of optimal capacity at point 3.8, the NMPT has considered the percentage share of coal vessels at 75% and percentage share of other cargo at 25%. This mismatch in cargo share may be please explained / corrected.	Even though the share of Coal and Other Cargo traffic is about 92.5% and 7.5% respectively of the optimal capacity of the Terminal, the quay capacity calculations are based on 75% for Coal and 25% for Other Cargo since the productivity of Coal per day (35000 TPD) is more than 4 times that of Other cargo (8000 TPD), and hence Other Cargo handling at berth would take more time compared to Coal. Therefore, the ratio of the time taken to handle coal and Other Cargo at 75:25 has been considered in the capacity calculation.
(ii).	<u>Optimal Quay Capacity:</u>	
(a).	The port has not considered handling of capesize vessel while assessing the optimal quay capacity. Bearing in mind that the upfront tariff to be fixed is for a long horizon of 30 years, the port may examine whether handling of capesize vessel need to be considered in the reference tariff fixation if port has plans for increasing the draft during the project period.	The draft requirement to handle capsize ships is 18 m. Capital Dredging in the Western Dock Arm, turning circle and channel beyond the existing depths of (-) 15.4 m CD is not technically and operationally viable owing to presence of very hard rock. Owing to this, the vessel sizes at the proposed Berth 12 have been limited to panamax size (50,000 – 80,000 DWT) and not capesize.

(b).	Calculation of Optimum Quay Capacity for Coal: (i). Furnish the basis of arriving at dry bulk vessel size at 50,000, 60,000, 70,000, 80,000 tonnes.	For EXIM movement of coal, it is uneconomical to deploy vessels less than 50,000 DWT due to reduced economies of scale. On the other hand, capital dredging in the Western Dock Arm, turning circle and channel beyond the existing depths of (-) 15.4 m CD is not technically and operationally viable owing to presence of very hard rock. Hence, vessel sizes beyond 80,000 DWT cannot be accommodated at Berth 12. Therefore vessel sizes have been limited to 50,000 – 80,000 DWT.
	(ii). Justify the additional time of 0.125 days i.e. 3 hours towards berthing / De-berthing.	Berthing has been considered from 'Pilot Boarding at the outer anchorage for inward movement' to 'Pilot Disembarking Time' and Un-berthing from 'Pilot Boarding Time for outward movement' to and to 'Pilot disembarking at the outer anchorage (OA)'. At NMPT, turning the vessel at the turning circle in the inner harbour and berthing at Berth 12 (in the presence of a vessel docked at Berth 9) will be a complex manoeuvring exercise. In view of this, additional time of 0.125 days i.e. 3 hours towards berthing and Unberthing has been considered.
	(iii). The guidelines prescribe ship day output for panamax ship at 35000 tonnes per day for coal handling for an unloading terminal. As against that, the NMPT has in the calculation of optimal quay capacity considered ship day output of 32565 tonnes per day by capturing the effect of berthing/ unberthing time as well. The approach adopted by NMPT of downscaling the handling norms is not in line with the norms prescribed in the tariff guidelines of 2008 and the formula prescribed for assessing the optimal quay capacity. The NMPT, therefore, to reassess the optimal capacity considering the norms prescribed in the tariff guidelines 2008.	NMPT has considered the handling rate of 35000 TPD as per the TAMP guidelines; however Guidelines does provide any norms for berthing and un-berthing. In this case based on the past data available at NMPT, port has considered the additional time of 3 Hr. as berthing and Un-berthing time while calculating the ship day output. Also reference has been taken from other Tariff order passed by the TAMP (i.e. riverine multipurpose jetty at Outer Terminal-I of Kolkata Port Trust, an additional 6 hours had been considered towards service time to cover berthing/ de-berthing, clearance etc. and TAMP order no. TAMP/74/2012COPT dated 15th February 2013 where additional 3 hr. has been considered as berthing/de-berthing time). Due to this additional time consideration, ship day out has reduced to 32565 TPD.
(c).	Calculation of Optimum Quay Capacity for Other cargo: (i). The ship day output prescribed for multipurpose cargo berth is 10,000 T/ day for handling limestone, coal, minerals, etc., and not 7,500 T/ day stated by NMPT which is for handling food grains/ fertilizer of parcel size lower than 30,000 T.	Noted

	(ii). The norm prescribed in the guidelines for multipurpose berth is for deployment of 3 ELL of 20T capacity each. As against that the proposal of NMPT envisages deployment of one mobile hopper and one pay loader for unloading other cargo. The NMPT to confirm that the handling norm for ELL prescribed in 2008 guidelines at 10,000 T/ days for the other cargo to be handled in this project is equally applicable for cargo handling by pay loader/ hopper. If not, the NMPT to furnish the basis/ justification for the handling rate of 8,000 tonnes adopted by it based on similar facility at any other Major Port Trusts or its own port.	In the presence of mechanized coal unloading system at the berth, it is not technically feasible to deploy 3 ELL as per guidelines for multipurpose berth. Further, the cargo mix is chosen keeping in mind the technical feasibility of handling through the proposed unloading mechanism. The mobile hopper and pay loader are proposed for landside movement and evacuation of other cargo. As such, it is confirmed that the operator will be able to achieve the handling rate of 8000 TPD with the proposed arrangement.
	(iii). The approach adopted by NMPT of considering the ship day output at 8,000 T/ day and then scaling it down to 7,714 T/ day by capturing the effect of berthing/ unberthing time is not in line with the norms/ formula prescribed in 2008 guidelines. The NMPT, therefore, to reassess the optimal capacity of other cargo.	NMPT has considered the handling rate of average 8000 TPD against 10000 provided in the 2008 TAMP Guidelines for limestone, coal, minerals and Fertilizer. Since, fertilizer and Limestone, Gypsum, Dolomite is proposed to be handled in this berth and also considering the size of the Ship (Below 30000 DWT) maximum 8000 TPD can be achieved as handling rate. However Guidelines donot provide any norms for berthing and un-berthing. In this case based on the past data available at NMPT, port has considered the additional time of 3 Hr. as berthing and Unberthing time while calculating the ship day output. Also reference has been taken from other Tariff order passed by the TAMP (i.e. riverine multipurpose jetty at Outer Terminal-I of Kolkata Port Trust, an additional 6 hours had been considered towards service time to cover berthing/ deberthing, clearance etc and TAMP order no. TAMP/74/2012COPT dated 15th February 2013 where additional 3 hr. has been considered as berthing/de-berthing time). Due to this additional time consideration, ship day out has reduced to 7714 TPD.
	(iv). Furnish the basis of arriving at average parcel size of vessels of other cargo at 27,000 tonnes.	Normally vessel carrying capacity for dry bulk vessels is of the order of 0.9 times DWT of the vessel. Considering the vessel size of 30,000 DWT, carrying capacity is worked out as 27000 ton (0.9 x 30000). Further, vessels of these sizes are usually deployed for short routes and do not call at multiple ports. As such, parcel size can be considered to be equal to carrying capacity of the vessel (for such small vessel sizes).
	(v). Confirm that unloading rate adopted by NMPT is uniform for all items of other cargo viz. Fertilizer, Limestone, Gypsum, Dolomite in terms of handling these cargo items.	Average handling rate shall be 8000 Tonnes per day
(iii).	<u>Optimal Yard Capacity:</u>	
(a).	Calculation of Optimal Yard Capacity for Coal: (i). As per the norms for assessing the optimal yard capacity for coal terminal, the norm is 70% of total area to be used for stacking coal. Whereas, NMPT has considered only 62% of the total area for	It is precisely the square shape of the area which calls for multiple stockpiles of shorter lengths (300 – 330 m) rather than fewer stockpiles of larger lengths (500 – 600 m). Owing to this, useful area is lost for providing operating area for equipments and conveyors

	stacking citing that the shape of the area does not allow to have long stock piles. The drawings attached to the proposal show that the stacking area is in square shape and not in uneven shape. Hence, the reasons for not considering 70% norm is still not clear. The NMPT to consider the 70% stacking area norm prescribed in 2008 guidelines which is uniformly followed in all the Major Port Trusts.	which could otherwise have been used for coal stacking. The stackyard planning has been carried out on bottom up basis considering available shape and size of the area behind Berth 12 and hence, it cannot be modified to suit the 70% norm of 2008 guidelines.
	(ii). (a). Explain the basis for considering the stacking parameter of 6.44 tonnes/sqm for storage of coal linking it to stack height of around 10 meters.	There are 6 nos. of stockpiles each having length of 330 m. and height of 10 m. Out of six nos. of stockpiles 4 nos. have 50 m width and 2 nos. of stockpile have 40m width. Hence, the total base area of 6 no. of stockpiles works out to 92400 sq. m ($4 \times 50 \times 330 + 2 \times 40 \times 330$). Angle of repose and bulk density have been considered as 37 degree and 0.9 t / m ³ respectively. Hence, volume of stockpile works out to be 209415.04 m ³ and total coal stacked works out to be 595121 tons. Thus, quantity that could be stocked per sq. m of area is 6.44 tons/sq m ($595121 / 92400$).
	(b). It may be carefully reexamined whether the proposed stack height of 6.44 tonnes/sqm is achievable.	It is confirmed that the proposed stack height of 10 m is achievable given the angle of repose for coal, base width provided and specifications of stacker and reclaimer equipments proposed.
	(iii). The turnover prescribed in 2008 guidelines for coal terminal is 12 and free period norm is 25 days. The NMPT has proposed 25 days free period for coal and turnover parameter at 15 and has stated that average dwell time of cargo is expected to be 24 days. This indirectly means entire coal cargo will move out from stacking area within the free period of 25 days. In the light of the above observation, the NMPT to reexamine and confirm the proposed turnover parameter considered in the optimal yard capacity calculation.	NMPT is of the view that the turnover ratio prescribed in TAMP Guidelines, 2008 for coal terminal is less compared to the prevailing market conditions. Other tariff orders (Case no. TAMP/23/2008-MoPT dated 7 th August, 2008 and Case no. TAMP/74/2012-CoPT dated 15 th February, 2013) have been referred, where TAMP has allowed turnover ratio as 20 and 15 respectively. Since this project considers a fully mechanized system, with cargo being evacuated through rail which will certainly reduce the dwell time. Considering the above, NMPT has proposed a turnover ratio of 15, against 12 as prescribed in TAMP Guidelines, 2008
(b).	Calculation of Optimal Yard Capacity for Other Cargo: (i). The Tariff Guidelines 2008 for multipurpose cargo do not envisage calculation of optimal yard capacity. Hence, please furnish reasons for assessing the optimal yard capacity of other cargo adopting the norms prescribed for coal terminal.	NMPT has earmarked a land area of 1 ha for storing other cargo (Limestone, Dolomite, Gypsum). In this regard, it was required to assess the optimal yard capacity for other cargo (Limestone, Dolomite, Gypsum). Since, Guidelines, 2008 do not prescribe any norms for assessing the same, NMPT has proposed to adopt the norms of coal terminal.
	(ii). Confirm the parameters (stacking & turnover) adopted for assessing the yard capacity are common for different items of other cargo viz. limestone, gypsum and dolomite taking into consideration densities of each item of cargo.	Confirmed.
	(iii). (a). Since the NMPT has stated that fertilizer cargo will be stored in storage shed of NMPT or private shed, the reasons for	As envisaged in the project, fertilizer will be stored in NMPT sheds/ private. Determination of yard capacity is not possible to calculate. For

	considering 273200 tonnes as the optimal yard capacity for storing fertilizer cargo in the yard capacity calculation may be furnished. The NMPT may re-examine and make necessary corrections.	optimal yard capacity calculation, the component of fertilizer has been arrived based on the past experience and data available with the port. In the present scenario, the optimal quay capacity is less than the optimal yard capacity, and the same has been considered for further calculations.
	(b). Calculation for arriving at the yard capacity for fertilizer cargo may be furnished.	Determination of yard capacity is not possible to calculate. The component of fertilizer has been arrived based on the past experience and data available with the port.
3.	<u>Estimation of capital cost:</u>	
(i).	Capital Cost for Coal:	
(a).	The guidelines prescribe list of civil works for coal unloading terminal. The civil construction cost estimated by the NMPT does not include capital cost of transfer tower, marshalling yard, water supply and drainage system, berth apron and approach listed in the guidelines. Explain the reasons for not considering these items of capital cost given in the normative list of items prescribed in the guidelines.	Costs related to transfer towers have been included in the CAPEX (refer civil and structural costs related to Junction Houses etc). Cost related to laying an additional rail line has also been included as a separate line item in CAPEX. Cost related to water Supply and drainage has been included in Utilities (refer Chapter 11, DPR). Cost related to Berth Apron has not been included since construction of Berth and approach does not fall under the scope of the BOT operator. Berth apron is under construction by NMPT and CAPEX towards the same cannot be a part of BOT CAPEX for the purpose of upfront tariff calculation.
(b).	The list of coal handling equipment prescribed in the guidelines includes 2 number of reclaimers, 2 number of stackers, 3 numbers of pay loaders and dozers and electrical power and control switch gears, amongst other equipments. As against the above normative list, the proposal of the NMPT envisages 4 numbers of stackers, 3 number of reclaimers, 1 number of pay loader. Further, capital cost estimates do not include cranes-2 nos., electrical power and control switch gears, workshop equipment as prescribed in the normative list. The port may furnish reasons for deviation from the norms prescribed in the guidelines for each equipment.	The higher number of stackers and reclaimers are on account of higher (but smaller in length) number of stockpiles due to the square shape of area available behind Berth 12. The costs towards electrical power and control switch gears, workshop equipments etc have been included in Utilities (refer Chapter 11, and Chapter 14 DPR).
(ii).	Capital Cost for other Cargo:	
(a).	The guidelines prescribe the list of equipment for multipurpose berth which includes level luffing wharf cranes, fork lift truck, pay loaders, power & lighting & communication. The cargo handling equipment considered by the NMPT, however, includes only one Pay loader and one hopper. The port may confirm that normative list of equipment mentioned in the guidelines are not envisaged by the port and reasons for deviation from the norms may also be furnished. Confirm that the equipment proposed are adequate to handle "other cargo".	It is hereby confirmed that the normative list of equipments mentioned in the guidelines are not envisaged for handling of other cargo. The proposed infrastructure of mechanized coal unloading will be used for unloading of other cargo as well. These will be unloaded unto the mobile hopper and transported to storage area and evacuated thereafter through continuous truck movement. Hence, the equipments proposed are adequate to handle other cargo envisaged.
(b).	Please indicate the capacity of Pay loader (in tonnes).	Capacity of pay loader shall be 10 ton.

(iii).	(a). The port has not furnished any documentary support for unit rate adopted in estimation of civil cost. The project report does not contain documents validating the estimates. NMPT to furnish copy of supporting document/ calculation/ rate analysis/ budgetary quotation / market rate to justify estimate of civil items and equipment cost as well.	The capital costs have been worked out based on TCE's accumulated engineering expertise and internal cost database being constantly updated to reflect current market levels of civil and equipment costs. The block costs, suitable at DPR stage, are arrived at based on similar past studies by TCE and other engineering consultants at various major and non major ports.
	(b). Confirm that the capital cost estimate by the NMPT reflects current market position.	Confirmed. The capital costs are estimated as of 01st April 2015.
4.	Operating Cost:	
(i).	It is seen that the entire civil cost and related operating cost and return is apportioned to coal handling. The NMPT may clarify whether none of the civil works is relevant for handling other cargo. If, relevant the NMPT may apportion the capex, opex & ROCE of civil works to "other cargo". Please furnish the detailed working in this regard.	No civil component of Capital Cost has been envisaged for other cargo. Only mechanical equipments have been proposed, which has been used for calculation of handling charges for other cargo.
(ii).	Operating Cost for coal handling:	
(a).	Power Cost: As per two copies of the electricity bill of Mangalore Electricity Supply Company Ltd forwarded by NMPT the unit rate for the power for the month of May 2015 comes to ₹5.82/7.27 per unit as against unit rate of ₹10.4 considered by NMPT. The unit rate of ₹10.4 may be substantiated with the copy of the electricity bill for last 3 months.	Tariff in NMP is charged under category HT-2(b) as per the Mangalore Electricity Supply Company Ltd tariff rates. Demand charges of Rs. 190/ kVA/ month is being levied, along with energy charges of Rs. 7.65/ unit. In addition to this, 6% taxes on the consumption charges is also being levied. Considering the above, NMPT has computed the total power tariff per unit based on the total bill amount corresponding to total energy consumption. The computation of Rs.10.4/ unit is derived from the energy bill for the month of May, 2015, by dividing the total bill amount (Rs. 5452200) by total consumption (524100 units).
(b).	NMPT has not considered the Miscellaneous cost of 5% while calculating operating cost viz. repairs & maintenance and depreciation. The NMPT to recompute these cost items in the light of the above observation.	Has been considered in the revised proposal
(c).	Depreciation: The NMPT may modify Depreciation for the Civil work and Mechanical work as per the depreciation rate applicable under the Companies Act, 2013.	Has been modified in the revised proposal
(d).	License Fees: Confirm the license fee adopted by the NMPT at ₹20.39 per sq mtr/month for land and ₹10.19 per sq mtr/month for waterfront for coal terminal and other cargo is as per its SOR at NMPT. Furnish the calculation to show how the license fees for land & waterfront at ₹20.39 and 10.19 per sq mtr/month respectively is arrived at by applying the annual escalation to the base rate adopted from the SOR of the NMPT.	As per the Scale of rates for NMPT (Case No. TAMP/60/2012-NMPT dated 20 th May, 2014), the lease rent for open areas at Panambur Village is prescribed as Rs. 1921.22 per 100 sqm/ month on 20 th February, 2012. Escalating this figure @ 2% for 3 years, the value of Rs. 20.39 per sqm/ month was derived. The computation of the same is given below: $= \frac{1921.22}{100} \times (1 + 2\%)^3 = 20.39$ For waterfront, the lease rentals will be 50% of the land lease rentals, i.e., Rs. 10.19 per sqm /month.

		In the proposal, the waterfront charges have been calculated based on a Waterfront Area of (325m x 25m). However, the area should be computed as (325m x 50m) and the charges against this has been modified in the revised proposal.														
(iii).	Operating Cost for other Cargo handling:															
(a).	Power Cost: The norms prescribed in 2008 guidelines at 100 units/crane is for Electrical Level Luffing (ELL) crane. While the NMPT has not considered ELL, the NMPT has proposed use of Mobile Hopper for unloading of other cargo. Hence, the power consumption may have to be modified with reference to the equipment proposed for deployment. Also, confirm mobile hopper is power operated and not fuel. The fuel /power consumption to be adopted for this equipment should be justified based on the technical specification or consumption considered for similar equipment in any other major port in reference tariff fixation.	The unloading of other cargo is proposed by the mechanized coal unloading equipments and hence the power consumption. The power requirements for grab type coal unloaders will be higher compared to Electrical Level Luffing cranes. (refer section 16.4, DPR where total power requirements have been considered as 500 units / hr). The power requirement of the mobile hopper has been included in the total power requirements of 500 units / hr.														
(b).	Fuel Cost: (i). The 2008 guidelines prescribe norms at 10 ltrs/hour for 10 T Payloader. From the proposal it is not clear whether payloader proposed by NMPT is of 10T. Please clarify the position. If capacity of pay loader proposed is not of 10T, then the fuel consumption adopted may please be explained and justified.	It is confirmed that pay loader proposed is of 10 T capacity														
	(ii). The unit rate of the fuel consumption at ₹52.59 per litre may be substantiated with the copy of the bill relevant for last 3 months.	Attached														
	(iii). Please furnish detailed working for arriving at ₹0.97 Crores for estimating fuel cost of Payloaders. Indicate the number of hours for which it is estimated.	The detailed computation is given below. <table><tr><td>Unit Cost of Fuel</td><td>52.59 Rs./ litre</td></tr><tr><td>Optimal Capacity for other Cargo</td><td>0.49 MTPA</td></tr><tr><td>Consumption of fuel</td><td>10 Litres/ hr</td></tr><tr><td>Total time of truck operations</td><td>15 Hr/ day</td></tr><tr><td>Number of trucks</td><td>20 Nos.</td></tr><tr><td>Average Unloading Capacity of Payloader</td><td>8000 TPD</td></tr><tr><td>Total Fuel Charges</td><td>=52.59*10*15*20*(0.49/1000000) 8000/1000000 = Rs.0.97Crore</td></tr></table>	Unit Cost of Fuel	52.59 Rs./ litre	Optimal Capacity for other Cargo	0.49 MTPA	Consumption of fuel	10 Litres/ hr	Total time of truck operations	15 Hr/ day	Number of trucks	20 Nos.	Average Unloading Capacity of Payloader	8000 TPD	Total Fuel Charges	=52.59*10*15*20*(0.49/1000000) 8000/1000000 = Rs.0.97Crore
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	(iv). The port has estimated power consumption for Mobile hopper for 4000 hours. Though the guidelines of 2008 prescribe a norm of 4000 hours of working in a year for estimation of power / fuel cost of equipment for multipurpose berth 6132 hours of working are considered by this Authority for a full – fledged berth. The norms of 4000 hours of working is considered for only standalone equipment in other upfront tariff cases.	Has been modified in the revised proposal														

	It is relevant to state that in the instance case the equipment viz. mobile hopper and pay loader are proposed to handle "other cargo" whose cargo share is only 25% of the total optimal capacity. Hence, the NMPT may show with calculation that these equipments will be utilised for 4000 hours as per the norms prescribed in 2008 guidelines for handling other cargo.	
(c).	Truck Lease Cost: The NMPT has proposed 20 trucks on lease. In this regard, following points may be clarified:	
(i).	The 2008 guidelines do not mention about lease of equipment. The 2008 guidelines prescribe normative list of equipment for capital cost to be estimated by Port Trust. Based on capital cost, operating cost, ROCE and Annual Revenue Requirement (ARR) reference tariff is computed for the optimal capacity. Please clarify as to how the approach adopted by NMPT of proposing trucks on lease fits into 2008 guidelines. The NMPT to justify with adequate reasons for deviation from the guidelines in this regard. Cost benefit analysis done for hire vis a vis purchase option of truck to arrive at this proposal of lease of trucks may also be furnished.	The quantum of "other cargo" projections (0.49 MTPA) implies average monthly handling of approx 42000 ton (0.49 / 12) and infrequent vessel calls (1 vessel call every 20 – 30 days). Further, the operator can handle other cargo subject to priority berthing of coal vessels. This implies that other cargo handling will continue only for the first few years of operations during which coal cargo ramp up will take place. Given the small and temporary nature of cargo handling for "other cargo" purchase of trucks is not called for since these will be idling most of the time. Hence leasing of trucks has been proposed to optimize cargo handling costs and de-risk the operations from volatility in vessel calls and cargo realization.
(ii).	When the truck requirement is assessed at 14 nos., providing 6 additional trucks for allowance of breakdown for handling 25% of the optimal cargo share i.e. 4,92,750 tonnes of other cargo may also be justified.	Given that trucks are proposed not to be purchased but to be taken on lease from third party private owners, NMPT or the BOT operator will not be in a position to control the maintenance & repair of these trucks. Hence, the likelihood of breakdown for such third party equipments may be high and therefore 6 additional trucks have been proposed.
(iii).	The basis for considering vessel call at 18.25 in the computation of lease of truck is not clear. Please explain the basis and also give working for the same.	Lease cost for trucks have been worked out as follows: - Rs 10,000 / truck / day x 3.5 days / vessel x 20 trucks = Rs 7,00,000 per vessel. Considering parcel size of 27000 ton, per ton truck lease cost works out to Rs 25.9 per ton. Therefore, Total Truck lease cost works out to Rs 1.28 Cr (Rs 25.9 per ton x 0.5 Mil ton).
(iv).	The total number of hours considered for computation of lease rent of trucks may be indicated. In this regard, our observation at 4(iii)(b)(iv) above may also be addressed. If necessary, suitable modifications may be done in the estimation of lease rent for trucks.	Given the handling rate of 8000 TPD, a 30,000 DWT vessel (parcel size of 27000 tons) will be serviced in approximately 3.5 days (27000/8000 +berthing & Un – Berthing time = 3.375 +0.125) through continuous movement of trucks from jetty to storage area. Hence, 3.5 days have been considered as hire period for each truck per vessel call.
(v).	The basis of considering lease rent of ₹10,000/day/ truck may be justified with documentary support / actual lease rent for trucks at NMPT.	Truck hire charge has been considered as Rs 10,000 per truck per day which is in line with NMPT SOR. As per NMPT SOR: - Hire charge for 10T capacity fork life truck is Rs 530.00 / hr subject to a minimum of Rs.2120.00. Considering 20

		hrs of operation, this works out to Rs 10,600 per day which is comparable to Rs 10,000 per truck per day as considered above.																														
(vi).	534 trucks trips indicated is for per day. Please confirm whether it is for per day. Furnish the working for the same.	<table border="1"> <thead> <tr> <th>Description</th><th></th><th>Unit</th></tr> </thead> <tbody> <tr> <td>Per day cargo evacuation requirement</td><td>8000</td><td>TPD</td></tr> <tr> <td>Carrying Capacity of 1</td><td>15</td><td>ton</td></tr> <tr> <td>Time taken to load one truck</td><td>2</td><td>min</td></tr> <tr> <td>Transit time (assuming lead distance of 2.5 km)</td><td>28</td><td>min</td></tr> <tr> <td>Total Time</td><td>0.5</td><td>Hrs</td></tr> <tr> <td>Number of trucks required</td><td>14</td><td>Nos.</td></tr> <tr> <td>Allowance for break down and peak movement</td><td>6</td><td>Nos.</td></tr> <tr> <td>Total No of Trucks to be provided</td><td>20</td><td>Nos.</td></tr> <tr> <td>Total Truck trips per day</td><td>534</td><td>trips / day</td></tr> </tbody> </table> It is confirmed that number of truck movements between Jetty and storage area will be 534 trips per day. As mentioned above, these will be applicable for 3.5 days per vessel.	Description		Unit	Per day cargo evacuation requirement	8000	TPD	Carrying Capacity of 1	15	ton	Time taken to load one truck	2	min	Transit time (assuming lead distance of 2.5 km)	28	min	Total Time	0.5	Hrs	Number of trucks required	14	Nos.	Allowance for break down and peak movement	6	Nos.	Total No of Trucks to be provided	20	Nos.	Total Truck trips per day	534	trips / day
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(vii).	The basis of considering turnaround time of 3.5 days may be explained with detailed working.	Turnaround Time for Other cargo has been estimated as below. Loading/Unloading Time = Average Parcel Size / Unloading Rate $= 27000 / 8000 = 3.375$ Days Turnaround Time = Loading/Unloading Time + Berthing Time $= 3.375 + 0.125 = 3.5$ days																														
(d).	NMPT has not considered the Miscellaneous cost of 5% while calculating operating cost viz. repairs & maintenance and depreciation. The NMPT to recompute these cost items in the light of the above observation.	Has been considered in the revised proposal.																														
(e).	Depreciation and License Fees: Point raised in this regard for coal is reiterated for other cargo as well.	Has been modified in the revised proposal.																														
5.	Annual Revenue Requirement (ARR) & Proposed Tariff Calculation:																															
(i).	Reference Tariff calculation for handling Coal and other cargo:																															
(a).	Please indicate the share of foreign and coastal cargo for Coal and other cargo. Also, furnish the basis thereof.	Both Coal and Other Cargo proposed to be handled are entirely foreign																														
(b).	The NMPT has arrived at the handling charge by spreading the annual revenue requirement over optimal capacity for handling coal and other cargo. Though the NMPT has proposed concessional rate for coastal cargo at 60% of the rate arrived for foreign cargo, the impact of coastal concession is not captured while arriving at the rate proposed for foreign cargo. If the port anticipates any coastal cargo, then the impact of allowing coastal concession should be considered while arriving at the proposed tariff, taking into account the share of foreign and coastal cargo.	Both Coal and Other Cargo proposed to be handled are entirely foreign. Since the entire cargo is envisaged to be foreign cargo, the NMPT has not proposed any percentage share of coastal cargo for determining the rate for handling charges. Concessional upfront rates for coastal cargo were prescribed to comply with the Government guidelines though it did not have any impact on the revenue realization.																														
(ii).	The basis for considering the percentage share of coal and other cargo moving out within free	The same has been considered based on the port past experience and also reference has																														

	period, and percentage share of cargo attracting storage charge may please be furnished and justified.	been taken from other Tariff order Approved by TAMP
6.	Proposed SOR:	
(i).	(a). The second note below the Schedule 3 Cargo Handling Charges gives the list of services included in the composite handling charge for other cargo viz. Fertiliser, limestone, gypsum and dolomite. Since the Fertilizer cargo is not expected to avail storage facility, the said note may have to be modified suitably to exclude the storage facility for fertilizer by proposing a separate note for fertilizer cargo.	Has been considered in the revised proposal
	(b). From the said note below the cargo handling charge, it is understood that other cargo at the stackyard will be loaded onto trucks / railway wagon. The capital cost proposed for other cargo does not include any capex or opex relating to rail mode of evacuation. The NMPT to examine and clarify the mode of evacuation of other cargo. Also, make necessary modification in the proposed note in line with the evacuation of cargo envisaged by the port.	It is envisaged through only truck movement. Modification has been considered in the revised proposal
	(c). Both the notes under cargo handling charge may include that the composite rate includes all miscellaneous services not specifically included in the SOR.	Modification has been considered in the revised proposal
	(d). The tariff guidelines of 2008 prescribes norm for free at 5 days for import cargo and 15 days for export cargo for multipurpose berth. Whereas, NMPT has proposed only 5 days for other cargo. The NMPT to clarify whether all the items of other cargo are import. If so, explicitly state in the proposed SOR and suitably modify the draft SOR.	It is envisaged to have only imported cargo. Modification has been considered in the revised proposal
(ii).	For the storage of other cargo (fertilizer) NMPT has stated that it will be stored either at NMPT or in private shed. The NMPT has also stated that no capital cost has been considered for development of storage shed for fertilizer. In the light of the above position, the note under the schedule of Cargo Handling Charges in the draft Scale of Rates should be modified to prescribe a separate note for fertilizer stating that service excludes storage at stackyard.	Modification has been considered in the revised proposal
7.	Performance Standards:	
(i).	Gross Berth Day Output. The Performance standard proposed by the NMPT for Gross Berth Day Output states that while determining working days from ship hours, the berth allowance of 5 hours shall be subtracted from the total hours. Please furnish the basis for such a provision and confirm it is in line with the Model Concession Agreement issued by the Ministry of Shipping.	Confirmed, it is in line with the Model Concession Agreement issued by Ministry of Shipping
(ii).	Explain the reasons for proposing the calculation of transit dwell time for cargo in the performance standards. Furnish the basis for	The same has been proposed in line with the Model Concession Agreement issued by Ministry of Shipping

	such a provision and confirm it is in line with the Model Concession Agreement issued by the Ministry of Shipping.	
(iii).	The performance standards proposed by NMPT may have to be revised in light of observation made in the earlier queries to modify the handling rate in the optimal capacity calculation.	Noted

8.1. While furnishing additional information / clarification, the NMPT vide its email dated 10 September 2015 has also filed its revised proposal for fixation of reference tariff for mechanization of Berth No. 12 by providing equipments for handling bulk cargo at NMPT.

8.2. The highlights of the revised proposal submitted by NMPT are summarized below:

(i). The optimal capacity and the estimate of Capital Cost is retained as in its original proposal and hence not reiterated here.

(ii). **Operating cost:**

(a). The estimates of operating cost has been modified by NMPT. The break up of operating cost estimate in the revised proposal is given below:

(i). Calculation of Operating cost for coal handling:

(₹ in crores)			
Sr. No.	Particulars	Amount	Unit
(i).	Power Costs		
(a).	Consumption per ton	1.4	Unit/ tonne
(b).	Cost per Unit (KWH)	10.4	₹ / unit
(c).	Optimal Capacity	6.24	MTPA
(d).	Cost of Electrical energy	9.09	₹ Crore
(ii).	Repair & Maintenance Costs		
(a).	Civil Assets (1% on civil work)	1.34	₹ Crore
(b).	Mechanical & Electrical Equipment including spares (7% on equipment cost)	21.79	₹ Crore
(c).	Miscellaneous (5% on the Miscellaneous Cost)	1.11	₹ Crore
(iii).	Insurance Costs		
(a).	Insurance Costs (1% of Gross Fixed Asset Value)	4.68	₹ Crore
(iv).	Depreciation		
(a).	Civil Work @ 3.34%	4.48	₹ Crore
(b).	Mechanical Work @ 10.34%	32.19	₹ Crore
(c).	Miscellaneous Assets @ 3.34% on civil component and 10% on equipment component	1.78	₹ Crore
(v).	License Fee for Land		
(a).	Area of land available (in sqm)	15.01	Hectare
(b).	Licence Fee per month	20.39	₹ per sqm/ month
(c).	Licence Fee for Land	3.67	₹ Crore
(vi).	License fee for Waterfront		
(a).	Area of Water front (=325 m x 50m)	16250	Sqm
(b).	Licence Fee per month (50% of License fee for Land)	10.19	₹ per sqm/ month

(c).	Percentage of Vessel Cargo	75%	
(d).	Number of months	12	Months
(e).	Licence Fee for Waterfront	0.15	₹ Crore
(vii).	Other Expenses		
(a).	Other Expenses towards salaries and overheads (5% on gross fixed assets)	23.38	₹ Crore
(viii).	Total Operating Costs for coal handling	102.59	₹ Crores

(ii). Calculation of Operating cost for other cargo handling:

(₹ in crores)

Sr. No.	Particulars	Amount	Unit
(i).	Power Costs		
(a).	Norm for consumption of power	500	Units /Hour/Crane
(b).	Cost per Unit (KWH)	10.4	₹ / unit
(c).	Total Hours required	1231.88	Hours
(d).	Total Power Charges	0.64	₹ Crore
(ii).	Fuel Costs		
(a).	Truck operation		
(i).	Unit Cost of Fuel	52.59	₹ / litre
(ii).	Consumption of fuel	10	Litres/ hr
(iii).	Total time of truck operations	15	Hr/ day
(iv).	Number of trucks	20	Nos.
(v).	Average Unloading Capacity of Payloader	8000	TPD
(vi).	Total Fuel Charges	0.97	₹ Crore
(i).	Unit Cost of Fuel	52.59	₹ / litre
(ii).	Consumption of fuel	12	Litres/ hr
(iii).	Hours of operation/day	20	Hr/ day
(iv).	Average Unloading Capacity of Payloader	8000	TPD
(v).	Fuel Charges for Pay loader	0.08	₹ Crore
(iii).	Truck Lease Cost for 20 truck (Note-1)		
(a).	Lease rate per truck per day	10000	₹/day/truck
(b).	Turnaround Time	3.5	Days
(c).	Number of Trucks	20	Nos.
(d).	Vessel Call (=Optimal Capacity/Parcel Size)	18.25	
(e).	Lease Cost for 20 trucks of capacity 15 tonnes	1.28	₹ Crore
(vi).	Repair & Maintenance Costs		
(a).	Civil Assets (1% on civil work)	0.00	₹ Crore
(b).	Mechanical & Electrical Equipment including spares (5% on equipment cost)	0.10	₹ Crore
(c).	Miscellaneous (5% on the Miscellaneous Cost)	0.005	₹ Crore
(vii).	Insurance Costs		
(a).	Insurance Costs (1% of Gross Fixed	0.02	₹ Crore

	Asset Value)		
(viii).	Depreciation		
(a).	Civil Work @ 3.34%	0.00	₹ Crore
(ix).	Mechanical Work @ 10%	0.19	₹ Crore
(a).	Miscellaneous Assets @ 3.34% on civil component and 10% on equipment component	0.01	₹ Crore
(x).	License Fee for Land		
(a).	Area of land available (in sqm)	1	Hectare
(b).	Licence Fee per month	20.39	₹ per sqm/month
(c).	Licence Fee for Land	0.24	₹ Crore
(xi).	License fee for Waterfront		
(a).	Area of Water front (=325 m x 50m)	16250	Sqm
(b).	Licence Fee per month (50% of License fee for Land)	10.19	₹ per sqm/month
(c).	Percentage of Vessel Cargo	25%	
(d).	Licence Fee for Waterfront	0.05	₹ Crore
(xii).	Other Expenses		
(a).	Other Expenses towards salaries and overheads (5% on gross fixed assets)	0.10	₹ Crore
(xiii).	Total Operating Costs at Optimal Capacity	3.68	₹ Crores

(iii). Accordingly, the revised annual revenue requirement estimated by NMPT is as follows:

(a). Annual Revenue Requirement:

(₹ in crores)

Sl. No.	Particulars	Amount
1.	For coal	
(i).	ROCE @ 16% (₹ 467.56 crores * 16%)	74.81
(ii).	Operating cost	102.59
(iii).	Total Revenue Requirement	177.40
2.	For other cargo	
(i).	ROCE @ 16% (₹ 2 crores * 16%)	0.32
(ii).	Operating cost	3.68
(iii).	Total Revenue Requirement	4.00

(b).
)

Apportionment of Revenue Requirement:

(₹ in crores)

Particulars	For Coal		For Other Cargo	
Total Revenue Requirement	177.40		4.00	
Revenue apportionment for				
Cargo Handling + Miscellaneous Charges	175.63	99%	3.80	95%
Storage Charges	1.77	1%	0.20	5%

(iv). The revised reference tariff proposed to meet the estimated revenue requirement is as follows:

(a). Cargo Handling Charges:

Sl. No.	Commodity	Rate per in MT (in Indian Rupees)	
		Foreign	Coastal
1	Thermal Coal	281.45	281.45
2	Other Coal	281.45	168.87
3	Other Cargo (Fertilizer, Limestone, Gypsum, Dolomite)	77.12	46.27

(b). Storage Charges:

Sl. No.	Commodity	Rate per in MT (in Indian Rupees)	
		Coal	Other cargo
1	Free period	25 days	5days
2	First five days after expiry of free period	1.06	0.82
3	6 th day to 10 th day after expiry of free period	1.59	1.24
4	From 11 th day onwards	2.13	1.65

(v). **Performance standard:**

The Performance Standards are proposed to be retained as in the original proposal and hence not reiterated here.

9.1. The NMPT vide its email dated 14 September 2015 has stated that a copy of revised proposal dated 10 September 2015 was forwarded to the users/ prospective bidders with request to furnish their comments, if any.

9.2. With reference to revised proposal filed by the NMPT, M/s.KCCI vide its letter dated 14 September 2015 has furnished its comments to this Authority and to NMPT reiterating the written submissions made by them at the joint hearing on which the NMPT has already furnished its comments.

10. Subsequently, the NMPT vide its email dated 21 September 2015, furnished revised calculation modifying a few items which are summarised below:

- (i). The NMPT has now included Power cost for general illumination based on the comments of Adani Ports and Special Economic Zone Ltd.
- (ii). Accordingly, the revised annual revenue requirement estimated by NMPT is as follows:

(a). Annual Revenue Requirement:

(₹ in crores)

Sl. No.	Particulars	Amount
1.	For coal	
(i).	ROCE @ 16% (₹ 467.56 crores * 16%)	74.81
(ii).	Operating cost	106.34
(iii).	Total Revenue Requirement	181.15
2.	For other cargo	
(i).	ROCE @ 16% (₹ 2 crores * 16%)	0.32
(ii).	Operating cost	3.93
(iii).	Total Revenue Requirement	4.25

(b). Apportionment of Revenue Requirement:

(₹ in crores)

Particulars	For Coal		For Other Cargo	
Total Revenue Requirement	181.15		4.25	
Revenue apportionment for				
Cargo Handling + Miscellaneous Charges	179.34	99%	4.04	95%
Storage Charges	1.81	1%	0.21	5%

- (iii). The revised reference tariff proposed to meet the estimated revenue requirement is as follows:

(a). Cargo Handling Charges:

Sl. No.	Commodity	Rate per in MT (in Indian Rupees)	
		Foreign	Coastal
1	Thermal Coal	287.39	287.39
2	Other Coal	287.39	172.43
3	Other Cargo (Fertilizer, Limestone, Gypsum, Dolomite)	81.93	49.16

(b). Storage Charges:

Sl. No.	Commodity	Rate per in MT (in Indian Rupees)	
		Coal	Other cargo
1	Free period	25 days	5days
2	First five days after expiry of free period	1.09	0.88
3	6 th day to 10 th day after expiry of free period	1.63	1.31
4	From 11 th day onwards	2.17	1.75

(iv). **Performance standards:**

The Performance Standards are proposed to be retained as in the original proposal and hence not reiterated here.

11. The proceedings relating to consultation in this case are available on records at the office of this Authority. An excerpt of the comments received and arguments made by the concerned parties will be sent separately to the relevant parties. These details will also be made available at our website <http://tariffauthority.gov.in>.

12. With reference to totality of the information collected during the processing of this case, the following position emerges:

- (i). The proposal of the New Mangalore Port Trust (NMPT) is to fix reference tariff for mechanization of Berth No.12 by providing equipments for handling bulk cargo at NMPT through Public Private Partnership (PPP) mode. The port has stated that construction of Berth No.12 has already been undertaken by the NMPT and the work is underway. Hence, the project does not envisage berth construction by the BOT operator.
- (ii). Clause 2.4 of the Revised Guidelines for Determination of Tariff for Projects at Major Ports, 2013, stipulates that if in the view of the Major Port Trust, the tariff determined for a particular commodity under 2008 guidelines at that Major Port Trust or any other Major Port Trust is not a representative Reference Tariff for that commodity, then the Major Port is free to approach this Authority with a proposal to re-fix Reference Tariff under 2008 guidelines for the project giving detailed and sufficient justification. The NMPT has stated that there is no upfront tariff available in any other Major Port Trusts which is similar to the proposed project for adoption of the upfront tariff. Hence, the Port has filed the proposal following the principles of 2008 guidelines.
- (iii). As brought out in the earlier paragraphs bringing out the factual position of the case, the original proposal filed by NMPT dated 3 August 2015 has been revised by the NMPT under cover of its letter dated 10 September 2015 while furnishing information / clarification to a few points sought by us. The said revised proposal was also forwarded by NMPT to all the concerned for their comments. Subsequently, the NMPT vide its letter dated 21 September 2015 has further furnished revised calculation capturing the power cost for general illumination in light of the observation made by the APSEZL. In the revised calculation, the port

apart from considering power cost for general illumination has also modified estimates for few items. The other parameters like optimal capacity, capital costs and performance standard are retained as in its original proposal. The revised proposal of the NMPT dated 21 September 2015 along with the information/clarifications furnished by NMPT during the processing of the case in reference is considered in this analysis.

- (iv). The proposed facility envisages handling of two different cargo groups i.e. Coal and Other cargo [Fertilizer, Limestone, Gypsum and Dolomite]. The port has stated that out of total volume of cargo, 92.5% will be coal cargo and 7.5% will be other cargo. For coal, the NMPT proposes mechanised handling system to enable to achieve higher productivity. Hence for coal, the NMPT has adopted the norms prescribed in 2008 guidelines for coal terminal. For other cargo, the port has adopted the norms prescribed for multipurpose berth. The port has stated that by adopting aforesaid two set of norms, the NMPT would achieve better productivity for coal and other cargo.

For reasons cited by the port and recognising that coal handling is envisaged by mechanised means and other cargo by non mechanized means the approach adopted by the NMPT for adopting norms prescribed for handling coal and norms prescribed for handling other cargo appears to be reasonable and logical and hence is accepted. The NMPT has generally followed the norms prescribed in the 2008 guidelines. Deviation from the norms on a few items are discussed in the subsequent paragraphs.

- (v). Optimal Terminal Capacity:

- (a). Optimal Quay capacity:

- (i). Coal cargo:

- (a). The average parcel size of vessel considered by NMPT is 58500 tonnes. M/s.Kanara Chamber of Commerce & Industry (KCCI) has stated that the proposal of NMPT does not cover Kamsarmax vessel of 89000 which is popular. The KCCI has requested NMPT that the Berth Dimension should be made to accommodate a Kamsar size Vessel or a Cape size Vessel after lightering operations either at Goa or Mangalore Anchorages. The NMPT has categorically stated that capital dredging in the western dock arm is not technically and operationally viable beyond the depth of (-) 15.4 m CD owing to presence of very hard rock and hence vessel sizes will be limited to panamax size of 50,000 to 80,000 DWT only which is considered in arriving at the average parcel size of the vessel. Since, the NMPT does not envisage to handle vessels above 80,000 DWT, the question of handling Kamsar size vessel or cape size vessel does not arise.

- (b). The NMPT has considered the ship day out put at 35000T / days for panamax vessel as per the norms prescribed in the 2008 guidelines for coal terminal. Considering the average parcel size of coal vessels at 58,500 tonnes and considering the ship day output of 35000 tonnes per day, the NMPT has arrived at the unloading time of 1.6714 days. To this, the NMPT has considered additional 0.125 days towards berthing/ de-berthing, thus translating into a ship day output of 32,565 tonnes per day [(58500 tonnes/

1.7964 days) (i.e. $1.6714 + 0.125$ days)]. It is seen in the optimal quay capacity calculation for coal handling, the NMPT has considered ship day output at 32,565 T/day after capturing the effect of berthing and unberthing time as well in the ship day output. When pointed out that the ship day output of 32,565 T/day considered by the NMPT is not in line with norms prescribed in the 2008 guidelines, the NMPT has clarified that the ship day output norms of 35000 T/day does not provide for berthing / unberthing time.

The NMPT has considered an additional time of 0.125 days i.e. 3 hours towards berthing/ de-berthing based on the past data available with the port towards the time taken for berthing / de-berthing i.e. from the time pilot boards a vessel at outer anchorage for inward movement to his disembarking and de-berthing at the outer anchorage. In this regard, the NMPT has referred that it is in line with the approach followed in fixation of upfront tariff for the riverine multipurpose jetty at Outer Terminal-I of Kolkata Port Trust where additional 6 hours had been considered towards service time to cover berthing/ de-berthing, clearance, waiting time for tide. In another Order no.TAMP/74/2012-COPT dated 15 February 2013 approved by this Authority for fixation of upfront tariff for multipurpose berth at Cochin Port Trust (COPT) 3 hrs. additional time has been considered for berthing/de-berthing time while determining the optimal capacity. At COPT, it did not envisage additional waiting time for tide hence 3 hours additional was considered by the port as against 6 hours at KOPT. Based on the explanation furnished by the NMPT and recognising that it is in line with the approach adopted in the COPT and KOPT upfront tariff cases referred above, the ship day output of 32,565 T/day for coal terminal as considered by the NMPT is considered.

- (c). As stated earlier, the NMPT has envisaged Coal handling to the tune of around 92.5% and other cargo at 7.5% at the proposed facility. However, while assessing the optimal quay capacity the NMPT has considered the percentage share of coal at 75% and other cargo at 25%. When pointed out the mismatch in the percentage share of coal and other cargo in the optimal quay capacity calculation, the NMPT has clarified that the productivity of coal is 35000 T/day which is four times more than the productivity of other cargo considered at 8000 T/day. Hence, capturing the effect of the time taken to handle coal and other cargo, the percentage share of coal and other cargo is considered at 75% and 25% in the optimal quay capacity calculation. The percentage share of coal and other cargo considered by the NMPT is relied upon in this analysis.
- (d). Considering the ship day output of coal unloading terminal at 32565 tonnes per day, percentage share of coal at 75% and at 70% utilisation, the optimal quay capacity for coal is assessed at 62,40,194 Tonne [i.e. 6.24 Million Tonnes Per Annum (MTPA)] by the port. In our analysis, adopting the parameters considered by

NMPT optimal quay capacity works out to 62,40,268 Tonne/annum (i.e. 6.24 MTPA). This marginally varies from the optimal quay capacity assessed by the NMPT in view of arithmetical accuracy.

(ii). Other cargo:

- (a). The average parcel size of vessels carrying other cargo considered by the NMPT at 27000 tonnes which is relied upon. .
- (b). The norms for ship day output prescribed in the 2008 guidelines for multipurpose cargo berth is 10,000 T/day for coal, limestone, minerals, etc. and 7500 T/day for food grains and fertilizers for parcel size of vessel below 30,000 T. The above norms prescribed in 2008 guidelines is by use of 3 nos. of Electrical Level Luffing (ELL) cranes. As against the above handling norms, the NMPT has considered handling rate of 8000 T/day for handling other cargo viz. fertilizer, limestone, gypsum and dolomite. When NMPT was requested to reassess the optimal quay capacity for other cargo as per the handling norms prescribed, the port has clarified that since coal is proposed to be handled by mechanical means at berth no.12, it is not technically feasible to deploy 3 ELL cranes at the berth to handle other cargo. The port envisages deployment of mobile hoppers and payloaders only for unloading other cargo. Further, since fertiliser and limestone, gypsum and dolomite are proposed to be handled and considering the parcel size of vessel to be handled is below 30,000 tonnes, the port has categorically stated that 8000 T/ day is the maximum productivity that is achievable and possible. For fertiliser cargo, the handling rate norm is 7,500 for parcel size below 30,000 T/day. Since other cargo proposed to be handled by NMPT includes fertiliser alongwith other cargo and for reasons cited by the NMPT, the handling rate of 8000 T/day considered by the NMPT is accepted.
- (c). Considering the average parcel size of vessel at 27,000 T/day and considering the productivity of 8,000 T/ day, the NMPT has arrived at unloading time of 3.375 days. As explained earlier for assessment of optimal quay capacity for coal handling, the NMPT has considered 3 hours i.e. 0.125 days towards berthing/ de-berthing which is accepted for reasons cited earlier. After capturing the impact of 0.125 days, the NMPT has arrived at the handling rate of other cargo at 7714 T/ day [i.e. $8000 \text{ T/day} / (3.375 \text{ days} + 0.125 \text{ days} = 3.5 \text{ days})$]. The approach adopted by the NMPT is accepted for reasons explained in the earlier paragraphs for considering berthing / unberthing time for calculation of optimal quay capacity for coal.
- (d). For the reasons stated earlier, the percentage share of other cargo at 25% considered by the NMPT in the capacity calculation is considered in the analysis.
- (f). Considering the ship day output at 7714 tonnes percentage share of other cargo at 25%, and at 70% utilisation for 365 days, the optimal quay capacity for

other cargo works out to 4,92,732 tonnes as against 4,92,750 assessed by the NMPT.

- (iii). Thus, the total quay capacity of Coal and other cargo put together works out to 67,33,000 Tonnes (62,40,268 Tonnes of coal and 4,92,732 Tonnes of other cargo) i.e. 6.73 MTPA which is considered in the analysis as against 67,32,944 (i.e. 6.73 MTPA) assessed by the NMPT.

(b). Optimal yard capacity:

(i). Coal:

- (a). The optimal yard capacity is to be assessed for the area of the yard made available by the port for development. The NMPT has stated that the total area available is 16.01 hectares of which the back up area for Coal Storage is 15.01 hectares and 1 hectare is proposed to be used for stacking other cargo (excluding fertiliser). The NMPT has also confirmed that the proposed allotment is in line with the Land use plan of the Port. The judgment of the port for the total area requirement for handling coal and other cargo is relied upon in the analysis.

- (b). The 2008 guidelines prescribe a norm of 70% of total area to be considered for stacking area for assessing the optimal quay capacity for a coal terminal. As against that the NMPT has considered 61.55% citing that the shape of stacking area does not allow the port to have long stockpiles. When the port was requested to apply the norm of 70% to assess the stacking area, the NMPT has clarified that the stacking area for coal under this project is square shape which calls for multiple stockpiles of shorter lengths instead of fewer stockpiles of larger lengths. Owing to these factors the useful area is lost in providing equipment and conveyors which would otherwise be used for coal stacking. Further, the customers expected to avail this facility are fragmented. Hence, the NMPT has categorically stated that for this project 70% of the stacking area norm for stacking coal is not feasible. The deviation proposed by the NMPT from the norm is accepted solely relying on the submissions made by the NMPT in exercise of powers available to this Authority under clause 3.2. of the 2008 guidelines.

- (c). The upfront guidelines for the coal terminal prescribe the stacking factor norm at 3 tonnes per square metre. The NMPT has proposed the stacking factor at 6.44 tonnes per square metre. The APSEZL has opined that stacking factor of 6.44 T/ sq. mtr. is high and is not achievable and has recommended stacking factor of 4 T/ sq.mtr. APSEZL has not furnished any working in support of its suggestion to consider stacking factor of 4 T/ sq.mtr. The NMPT has, however, confirmed with workings that stacking factor of 6.44 tonnes / sq.m. for coal is achievable. Thus, the stacking factor of 6.44 T/sq.mtr. as considered by the NMPT is considered for calculation of Optimal Yard Capacity. Incidentally, a stacking factor 6 tonnes per Sq. metre was considered by this Authority while fixing upfront tariff for coal terminal at VPT based on the parameters adopted by VPT.

- (d). The upfront tariff guidelines for the coal terminal prescribe the plot turnover norm at 12. As against this norm, the NMPT has considered plot turnover norm of 15. The NMPT is of the view that the plot turnover norm prescribed in 2008 guidelines is conservative compared to the prevailing market conditions. According to NMPT, the estimated dwell time for coal is expected to be 24 days for the proposed terminal with mechanized coal handling system. The NMPT has stated that since this project considers a fully mechanized system, with coal cargo evacuated through rail will certainly reduce the dwell time, it has proposed a turnover ratio of 15 as against turnover norm of 12 prescribed in Tariff Guidelines of 2008. Based on the clarification furnished by the NMPT, the plot turnover ratio of 15 is relied upon and considered in the analysis. It is relevant to state that as rightly brought out by the NMPT this Authority has, based on the proposal of the concerned port trust, allowed the turnover parameter higher than the norm of the 2008 guidelines. This Authority has, for coal terminal at Mormugao Port Trust (MOPT) vide Order No.TAMP/23/2008-MOPT dated 7 August, 2008, considered turnover ratio of 20 and for a coal terminal at Cochin Port Trust (COPT) vide Order No.TAMP/74/2012-COPT dated 15 February, 2013 plot turnover of 24 was considered based on the proposal filed by the Port.
- (e). The optimal yard capacity for handling coal, based on area of stack yard, the stacking factor and the turnover parameter considered as explained above and applying the formula prescribed in the upfront guidelines comes to 62,47,179 (i.e. 6.24 MTPA) as against 62,48,088 Tonnes/ annum assessed by the NMPT.
- (ii). Other cargo:
- (a). The NMPT has assessed optimal yard capacity for other cargo (excluding fertiliser) at 2,26,800 tonnes/ annum adopting the stacking factor of 3 Tonnes/ sq.mtr. and turnover of 12 prescribed for coal terminal in 2008 guidelines. For fertiliser, the NMPT has considered the optimal yard capacity at 2,73,200 T/ annum based on past experience. The 2008 guidelines do not prescribe any norm for assessing optimal yard capacity for multipurpose berth. The NMPT has not explained how the norms for assessing yard capacity prescribed for a coal terminal which is for mechanised handling is relevant for handling multipurpose cargo. As regards fertilizers, the NMPT does not envisage to provide any storage facility in this project as this cargo is expected to avail storage facility at NMPT / private sheds. The port has also admitted that it is, therefore, not possible to assess yard capacity for fertilizer. In view of the above observations and recognising that the 2008 guidelines does not envisage assessing optimal yard capacity for multipurpose cargo berth, this Authority is not inclined to go by the optimal yard capacity for other cargo assessed by the NMPT. In any case, the optimal quay capacity is the constraint for handling of other cargo as assessed by the NMPT.

(iii). Optimal capacity:

- (a). For coal handling, the optimal capacity is considered at 62,40,268 tonnes/ annum being the lower of the optimal quay and yard capacities as against 62,40,194 tonnes/ annum considered by the NMPT.
- (b). Based on the above analysis, the optimal capacity for other cargo is considered at 4,92,732 tonnes/ annum as against 4,92,750 tonnes/ annum considered by the NMPT at the level of the optimal quay capacity.
- (c). The aggregate optimal capacity of berth no.12 is thus 67,33,000 Tonnes (6.73 MTPA) as against 67,32,944 Tonnes (6.73 MTPA) considered by the NMPT based on the optimal quay capacity for both the cargo groups.

(vi). Capital Cost:

The capital cost for the handling activity estimated by the NMPT is ₹469.56 crores of which ₹134.00 crores is estimated towards civil works and ₹313.20 crores is estimated for equipment cost and ₹22.36 crores is miscellaneous capital cost.

(a). Civil Cost:

(i). Coal:

The upfront tariff guidelines broadly indicate the civil works for the coal terminal and require the port to estimate civil cost. The nature of the civil works proposed to be undertaken at the facility generally adheres to normative list of items stipulated in the guidelines for the coal terminal. The NMPT has estimated the civil costs relating to handling of coal to the tune of ₹134.00 crores for coal handling. The estimates of pertain to civil works, structure works, civil and structural cost of conveyor, control room/ substation/ buildings, additional Rail siding at existing railway yard for wagon loading, stackyard boundary wall and road pavement. The NMPT has stated that capital cost related to transfer tower is included in the civil and structural works. The NMPT has not furnished any documentary evidence in support of the estimates of civil work. It has, however, clarified that the estimate of civil works are based on Detailed Project Report (DPR) of the Consultants who have expertise and the database which is updated to reflect the current market rates. The port has also confirmed that the estimates reflect the market rates as on 1 April 2015.

The 2008 guidelines require this Authority to consider the civil cost estimates as furnished by the concerned port trust. Since the capital cost estimates for civil works are based on the DPR the same are relied upon and considered in the analysis.

(ii). Other cargo:

The port has not estimated any civil works for other cargo. Incidentally, none of the users/ prospective bidders have made any adverse remarks on non-consideration of Civil work. It is noteworthy that Berth no.12 would remain primarily a mechanized coal handling berth.

(b). Equipment Cost:

(i). Coal:

- (a). For handling coal, the NMPT has envisaged the deployment of 2 nos. of 2000 TPH Grab Unloaders, 2 nos. of 4000 TPH Jetty Conveyors at Jetty and Stackyard, 4 nos. of Stackers, 3 nos. of Reclaimers, Rapid Loading System, 1 no. of Pay loader of 10T, Truck loading system and Utilities. The list of equipment proposed to be deployed at the facility is generally seen to adhere to the normative list of equipment prescribed in the guidelines for the coal terminal except for a few equipment. The list of coal handling equipment prescribed in the guidelines includes 2 numbers of reclaimers, 2 number of stackers, 3 numbers of pay loaders and dozers and electrical power and control switch gears, amongst other equipments. As against the above normative list, the proposal of the NMPT envisages 4 numbers of stackers, 3 number of reclaimers, 1 number of pay loader. Further, capital cost estimates do not include cranes-2 nos., electrical power and control switch gears, workshop equipment as prescribed in the normative list. When sought clarification for deviation from the normative list, the NMPT has clarified that the higher number of stackers and reclaimers are on account of higher (but smaller in length) number of stockpiles due to the square shape of area available behind Berth 12. The port has stated that capital costs towards electrical power and control switch gears, workshop equipments, etc. have been included in Utilities.

For the reasons cited by the NMPT and recognising that the deployment of the equipment is as per the Detailed Project Report (DPR), this Authority is inclined to consider the equipping plan as envisaged by the NMPT for handling Coal.

(ii). Other cargo:

For other cargo, the guidelines prescribe the list of equipment for multipurpose berth which includes level luffing wharf cranes, fork lift truck, pay loaders, power & lighting & communication. The cargo handling equipment considered by the NMPT, however, are only one Pay loader and one hopper. The Chettinad International Bulk Pvt. Ltd (CIBTPL) has requested to consider few additional equipment for handling other cargo. The NMPT has clarified that given the small vessel sizes (of the below 30,000 DWT), only one ship unloader will be used for cargo handling. Accordingly, one mobile hopper has been provided. Adequate number of trucks are proposed to ensure continuous movement of cargo from jetty to the storage area during vessel unloading. Given the low optimal capacity for other cargo, infrequent vessel calls and large dwell times for such cargo at the storage area, 1 pay loader has been provided for evacuation to be largely through road from the storage area. In view of the above, the NMPT has clarified that the normative list of equipments mentioned in the guidelines are not envisaged for handling of other cargo and that the equipments proposed are adequate to handle optimal capacity assessed for other cargo.

Relying on the clarification furnished by the NMPT, the equipment plan proposed for handling other cargo is considered at the level envisaged by the NMPT.

- (c). The miscellaneous capital cost is estimated at 5% on civil and equipment cost which is as per the norms prescribed in the guidelines for coal terminal as well as for the multipurpose berth.
- (vii). Return on capital employed is calculated at 16% of the estimated revised capital cost as per the norms prescribed in the guidelines.
- (viii). Operating Cost:
 - (a). Coal:
 - (i). Power cost:
 - (a). The upfront guidelines for the coal terminal prescribe the norm for calculating the power cost at 1.4 units per tonne. The NMPT has considered the power consumption of 1.4 units per tonne for coal handling which is proposed to be fully mechanized. The consumption of power at 1.4 units per tonne as per norms as prescribed in the guidelines for coal terminal is considered.
 - (b). The APSEZL has pointed out that the power cost considered is for handling equipment for handling coal. It does not include power cost for general illumination of the backup area and hence has requested to consider the power consumption norm of 2.4 lakhs units/ hectare as prescribed for liquid terminal for the current project. The NMPT has conceded the suggestion of the APSEZL and in the revised proposal considered power consumption of 2.4 lakhs units/ hectare for 15.01 hectare for stackyard proposed for coal and also for 1 hectare of land for other cargo. As rightly stated by APSEZL, the upfront tariff guidelines for the coal and multipurpose berth do not prescribe norms towards consumption of power for illumination. Nevertheless, illumination of the yard is essential. Hence, power consumption of 2,40,000 units per hectare per annum considered by NMPT by borrowing the norm prescribed in the upfront tariff guidelines for the liquid bulk terminal is, therefore, considered in the analysis. Such an approach has been adopted in other upfront tariff cases where such cases were other than liquid cargo terminal.
 - (c). The cost of power at ₹10.4 per unit is supported by documentary evidence and hence, considered in the analysis.
 - (ii). As per the norms prescribed in the guidelines for coal terminal, the repairs and maintenance cost on civil work is considered at 1% on the civil cost and 7% on mechanical equipment. While calculating repairs and maintenance cost, the miscellaneous capital cost are considered as part of civil and equipment cost and instead of separately computing repairs and maintenance cost on miscellaneous capital cost by the NMPT. This is found to be in

line with the approach followed in the other upfront tariff cases and hence is accepted.

- (iii). Insurance cost is estimated at 1% and other expenses are estimated at 5% of the gross fixed assets relevant for the coal handling activity, which is in line with the norms prescribed in the guidelines.
- (iv). The NMPT has computed depreciation @ 3.34% on civil cost, 10.34% on equipment as per the rates prescribed in the Companies Act, 1956 under the SLM for the relevant group of assets. Subsequently on being pointed out about the Companies Act, 2013, the NMPT has recomputed depreciation on equipment at 10% stating that it is as per the Companies Act, 2013. The NMPT has not made any modification in the depreciation of civil works.

The depreciation as per the Companies Act, 2013 for civil works is 3.17%. Depreciation on civil works is, therefore, modified in line with the depreciation rate applicable as per the Companies Act, 2013. Depreciation on Plant and Machinery as per the Companies Act, 2013 under Straight Line Method (SLM) is 6.33% for single shift. For two shift operations, the depreciation is 9.5%. The depreciation rate of 10% considered by NMPT is closer to 9.5% applicable as per the Companies Act, 2013. For the purpose of the analysis, depreciation on equipment is modified as 9.5% instead of 10% considered by the NMPT.

While calculating depreciation, the miscellaneous capital cost are considered as part of civil and equipment cost and depreciated instead of separately considering depreciation on miscellaneous capital cost by the NMPT. This is found to be in line with the approach followed in the other upfront tariff cases and hence is accepted.

- (v). (a). The guidelines for upfront tariff stipulate that lease rent for port land is to be estimated based on the rates prescribed in the Scale of Rates of the respective Major Port Trusts.

Licence fee for land has been estimated by the NMPT for 15.01 hectares (ha) for land to be allotted for Coal handling activity and 1 ha area for Other cargo activity aggregating to 16.01 ha.

- (b). The port has confirmed that unit rate of the license fee at ₹20.39/ sq. mtr./ month considered by it is as per the lease rent applicable for Panambur village prescribed in its Scale of Rates and after considering the applicable annual escalation factor. The license fee for land estimated by the NMPT is, therefore, considered. Apart from estimating license fee for land area, the NMPT has estimated license fee for water area of 16250 sq. mtr. and apportioned 75% thereof to coal handling activity. The unit rate of license fee for water area is considered at ₹10.19/ sq.mtr./ month being 50% of the license fee for land. The estimate of license fee for water area is thus considered as estimated by the NMPT.

- (b). Other cargo:

(i). Power cost:

- (a). The norms prescribed in 2008 guidelines at 100 units/ crane is for Electrical Level Luffing (ELL) crane. The NMPT has not proposed ELL cranes. The unloading of other cargo is proposed by the mechanized coal unloading equipments and hence the NMPT has proposed power consumption. The port has clarified that power requirements for grab type coal unloaders will be higher compared to Electrical Level Luffing cranes. The port has confirmed that power requirement of unloading equipment and mobile hopper together considered at 500 units/ hr is based on the DPR.

In view of above clarification furnished by the NMPT and recognising that none of the users/ prospective bidders have made any adverse remarks on the power consumption considered by the NMPT and recognising that it is as per the DPR, the same is considered relying on the position reported by the port.

- (b). Power consumption of general illumination considered by NMPT at 2.4 lakh units/ hectare/ annum for 1 hectare of land to be allotted for other cargo is considered for reasons explained in earlier paragraph.
- (c). The guidelines of 2008 prescribe a norm of 4000 hours of working in a year for estimation of power / fuel cost of equipment for multipurpose berth. The norms of 4000 hours of working is considered by this Authority for standalone equipment. For a full-fledged terminal 6132 hours of working is considered by this Authority.

It is relevant to state that in the instant case the equipment viz. mobile hopper and pay loader are proposed to handle "other cargo" whose cargo share is only 25% of the total optimal capacity. Hence, as against the prescribed norm of 4000 working hours, the NMPT has considered 1231.88 working hours for estimation of power and for fuel cost of mobile hopper, payloader and trucks. Working hours of 1231.88 is arrived by the NMPT considering the optimal capacity of other cargo for 20 hours / day [i.e.(492750 / 8000)* 20 hours/ day.]. In our calculation, the hours per day is considered at 16.8 hours applying 70% utilisation factor on 24 working hours. The modified working hours comes to 1034.78 hours.

- (d). As stated earlier, the unit rate of power at ₹10.4 per unit is supported by documentary evidence and hence, considered in the analysis.

(ii). Lease of trucks:

The NMPT has proposed hire of 20 trucks on lease for handling other cargo. The 2008 guidelines do not mention about taking equipment on hire for tariff fixation on upfront basis. The 2008 guidelines prescribe normative list of equipment for capital cost to be estimated by Port Trust. Based on capital cost, operating cost, ROCE and Annual Revenue Requirement (ARR), the reference tariff is computed for the optimal capacity. Since the approach

adopted by the NMPT was not found to be in line with the 2008 guidelines, the NMPT was requested to justify with adequate reasons for deviation from the guidelines and also furnish the cost benefit analysis done by it for hire vis-à-vis purchase option of truck to arrive at this proposal of lease of trucks. The NMPT has clarified that of the total optimal capacity of 6.73 MTPA, optimal cargo capacity of other cargo is envisaged at 0.49 MTPA only. This implies average monthly handling of approximately 42000 tonnes (0.49/ 12) and 1 vessel call every 20 to 30 days. Further, the NMPT has viewed that the BOT operator can handle other cargo subject to priority berthing of coal vessels. The port is of the view that other cargo handling will continue only for the first few years of operations during which coal cargo ramp up will take place. Given the small and temporary nature of cargo handling of other cargo the NMPT does not envisage purchase of trucks since it will be idling for most of the time. Hence, leasing of trucks has been proposed to optimize cargo handling costs and de-risk the operations from volatility in vessel calls and revenue realization. Relying on the clarification furnished by the NMPT and recognising that even the DPR has recommended hire of trucks for this project the proposal of the port to consider hire of truck is considered in exercise of the powers conferred on this Authority under clause 3.2. of the 2008 guidelines.

The port has furnished detailed working for arriving at number of trucks which shows that 14 nos. of trucks are required and port has estimated 6 more trucks towards break down and peak movement. The total trucks considered by the NMPT for estimation of hire charge of trucks and fuel cost comes to 20 nos. Following the methodology given by the NMPT except for considering working hours of 16.8 hours (i.e. 24 hours * 70% utilisation) instead of 20 hours working, number of trucks comes to 16 trucks instead of 14. In our working, number of trucks is considered at 16 for estimating hire cost and for fuel consumption. For the reasons stated by the NMPT that the share of this cargo is meagre in the total optimal capacity and that it does not want the trucks to remain idle, allowance of 6 trucks additionally proposed by the port for break down and peak movement is not considered.

The NMPT has estimated unit rate of hire charge at ₹10,000 per truck per day stating that it is based on the hire charge for fork lift truck prescribed in the SOR the NMPT. It is relevant to state that even in the DPR the hire charges for truck is estimated at ₹10,000 per truck per day. The hire charge for truck considered by the NMPT is ,therefore, relied upon. Based on the above analysis, the hire charges for trucks comes to ₹1.02 crores as against ₹1.28 crores estimated by the NMPT.

(iii). Fuel costs:

- (a). The port has estimated fuel cost for 1 number of 10T Pay loader proposed for deployment in this project and for 20 trucks proposed to be taken on hire. The fuel consumption of 12 ltrs./ hour per 10T payloader is found to be as per norms prescribed in the 2008 guidelines and hence is accepted.
- (b). For trucks on lease, the NMPT has considered fuel consumption of 10 ltrs./ hour/ truck. It is relevant to mention that there are no norms prescribed in 2008

guidelines for fuel consumption of truck. In the absence of any norms for items, recognising that the fuel consumption considered by the NMPT for trucks is based on the DPR the same is relied upon in this analysis. As stated earlier, the number of trucks considered by us is 16 instead of 20 by the NMPT.

- (c). The fuel cost for mobile hopper and trucks is estimated for 1034.78 working hours for reasons explained in earlier paragraphs as against 1231.88 working hours considered by the NMPT.
- (d). The unit rate of fuel of ₹52.59 per litre is supported with copies of the recent electricity bills and hence is relied upon.
- (iv). No repairs and maintenance cost on civil work is estimated by NMPT as there is no civil works envisaged by the port for other cargo. As per the norms prescribed in the guidelines for multipurpose berth, NMPT has considered repairs and maintenance cost @ 5% on mechanical equipment.
- (v). Insurance cost is estimated at 1% and other expenses are estimated at 5% of the gross fixed assets, which is in line with the norms prescribed in the guidelines.
- (vi). The rate depreciation on equipment is modified and considered at 9.5% on equipment as against 10% considered by NMPT for reasons explained earlier.
- (vii). The lease rent for land area estimated for 1 hectare of land for other cargo following the approach adopted for license fee of land for coal is accepted. The license fee on water area of 16250 sq. mtrs. and 25% thereof apportioned to other cargo is also accepted for reasons explained earlier for coal cargo.
- (ix). The statement for fixing upfront tariff submitted by the NMPT has been modified in line with the above analysis. A copy of the modified statement is attached as **Annex - I**.
 - (a). Coal:
 - (i). The annual revenue requirement for handling coal which is the sum of the operating cost and return on capital employed is estimated at ₹179.33 crores as against ₹181.15 crores estimated by the port.
 - (ii). The 2008 guidelines prescribe norm of apportionment of ARR in the ratio of 98%, 1% and 1% towards handling charge, storage charge and miscellaneous charge. As against the above norm, the NMPT has proposed to apportion 99% of the estimated annual revenue requirement towards handling charges and 1% from storage charges. The NMPT has not proposed miscellaneous charges citing that it is difficult to list down services under miscellaneous services. This Authority has, in few other upfront tariff cases, based on the proposal of the concerned port trust allowed such deviation in the apportionment of ARR. Accordingly, ₹ 177.54 crores is apportioned to handling activity and ₹ 1.79 crores towards storage as against ₹ 179.34 crores and

₹ 1.81 crores apportioned by the NMPT for the corresponding activities.

- (iii). Considering the revenue requirement to be realised from handling coal and the optimal capacity of the berth for coal handling, the per tonne rate for handling coal works out to ₹284.50 per tonne, as against ₹287.39 per tonne proposed by the port. The NMPT has clarified that both Coal and Other Cargo proposed to be handled are entirely foreign. Since the entire cargo is envisaged to be foreign cargo, the NMPT has not proposed any percentage share of coastal cargo for determining the rate for handling charges. Concessional rates for coastal cargo other than thermal coal (which is not eligible for coastal concession) is prescribed to comply with the Government guidelines though it does not have any impact on the revenue realization.
- (iv). The port has considered 25% of the coal cargo will attract storage charge beyond the proposed free period of 25 days. The port has proposed differential rates for different slabs for storage of coal and has furnished detailed workings thereof. Following the approach adopted by the NMPT, the storage charge for the first slab of 5 days after the expiry of free days is calculated at ₹1.07 per tonne per day, ₹1.61/ tonne/ day for the second slab and ₹2.14/ tonne/ day for the third slab.

(b). Other cargo:

- (i). The annual revenue requirement for handling other cargo which is the sum of the operating cost and return on capital employed is estimated at ₹3.78 crores as against ₹4.25 crores estimated by the port.
- (ii). The NMPT has proposed to apportion 95% of the estimated revenue requirement towards handling charges and 5% from storage charges as against apportionment norm of 90%, 5% and 5% from handling charges, storage charges and miscellaneous charge respectively prescribed in the guidelines for multipurpose cargo berth. For reasons cited by the NMPT for not proposing miscellaneous charge as brought out earlier, the ratio of apportionment of ARR by the NMPT is accepted. Accordingly, ₹ 3.58 crores is apportioned to cargo handling activity and ₹ 0.19 crores to storage activity.
- (iii). Considering the revenue requirement to be realised from handling other cargo and the capacity of other cargo, the per tonne rate for handling other cargo works out to ₹72.64/ tonne as against ₹82.13 per tonne proposed by the port. The port has stated that the entire cargo is envisaged to be foreign cargo hence the NMPT has not proposed any percentage share of coastal cargo for determining the rate for handling charges. Concessional rates for coastal cargo is prescribed to comply with the Government guidelines though it does not have any impact on the revenue realization.
- (iv). The port has considered 100% of the other cargo will attract storage charge beyond the proposed free period of 5 days. The port has proposed differential rates for different slabs for storage of other cargo viz. gypsum, dolomite and limestone and has furnished detailed workings thereof. Following the approach adopted by the NMPT, the storage charge for the first slab of 5 days after the expiry of free days is calculated at ₹0.78 per tonne

per day, ₹1.17/ tonne/ day for the second slab and ₹1.56 / tonne/ day for the third slab.

- (v). The NMPT has proposed the suitable conditionalities listing out the services included in composite handling charge which are incorporated in the Scale of Rates as proposed by the port.
- (vi). As stated earlier, the berth is constructed by the NMPT. This project does not envisage the BOT operator to construct the berth. Hence, no berth hire charges have been proposed by the Port.
- (vii). In the proposed upfront schedule, the NMPT has proposed penal interest on delayed payment / refunds at 16.75% p.a. It is relevant to state that the PPP project is for long horizon of 30 years. Hence, instead of prescribing specific penal rate of interest for delayed payments by the users or for delayed refund by the operator, the proposed note is partially modified to state that the penal interest will be levied at 2% above the Prime Lending Rate of the State Bank of India. This is in line with the prescription in other upfront and reference tariff cases.
- (viii). In the proposed tariff schedule, the NMPT has proposed some conditionalities like conditionalities governing rounding off the bills, conditionalities governing the flexibility provided to the terminal operator to levy charges lower than ceiling rates, non-levy of charges for delay beyond a reasonable level attributable to the terminal etc., which are found to be in line with the general conditionalities prescribed in the Scale of Rates.
- (ix). Clause 2.2 of the revised tariff guidelines of 2013 requires this Authority to prescribe the Reference Tariff along with the Performance Standards. Though the revised guidelines of 2013 do not require this Authority to go into the Performance Standards proposed by the port it is not unreasonable to assume that the ports would propose reasonable and achievable Performance Standards. It may be relevant to mention that a letter has been addressed to the Ministry of Shipping requesting to advise all the Major Port Trusts to propose reasonable and achievable Performance Standards which should not be lower than the output (handling) rate considered in the optimal quay capacity calculation of the PPP project.

The NMPT has proposed for performance standards in terms of Gross Berth Output amongst other performance standards. The Performance Standards proposed in terms of Gross Berth Output is 35000 T/day for thermal coal and for other coal it is 8000 T/day based on the handling rate considered by the NMPT. The Performance Standards proposed by the port are based on the handling rate for these cargo groups considered by the NMPT before considering the adjustment done by it for berthing/ de-berthing time. Apart from this performance standard, the NMPT has proposed performance standards for transit storage dwell time of cargo and turnaround time for receipt/ delivery operations. The performance standards as proposed by the NMPT are notified along with the reference tariff schedule as required by the tariff guidelines of 2013.

12.1. As per clause 2.8 of the Guidelines, the tariff caps will be indexed to inflation but only to an extent of 60% of the variation in Wholesale Price Index (WPI) occurring between 1

January 2008 and 1 January of the relevant year. Such automatic adjustment of tariff caps will be made every year and the adjusted tariff caps will come into force from 1 April of the relevant year to 31 March of the following year. In the instant case, since the estimation of capital cost and unit rate of operating cost considered in the upfront tariff calculation are as of the year 2015 as reported by the NMPT, it is found appropriate and relevant to prescribe the base WPI to be considered for automatic adjustment every year as 1 January 2015. The NMPT has also proposed 1 January 2015 as the base WPI for such automatic adjustment every year, which is approved.

12.2. As specified in clauses 2.9.1. and 2.9.2. of the guidelines, before commencement of commercial operations, the private operator shall approach this Authority for notification of Scale of Rates containing the approved ceiling rates and the statement of conditions, as required under Section 48 of the Major Port Trusts Act, 1963.

12.3. Subject to above, the Reference Tariff Schedule along with conditionalities governing the Reference Tariff has been modified.

12.4. The modified Reference Tariff Schedule is attached as **Annex - II** and the Performance Standards for handling coal and other cargo at the New Mangalore Port Trust is attached as **Annex - III**.

12.5. In the result, and for the reasons given above, and based on collective application of mind, this Authority approves the Reference Tariff Schedule for providing equipments for handling of bulk cargo at the berth no 12 at NMPT.

12.6. As per clause 2.5 of the Revised Tariff Guidelines 2013, the Reference Tariff and Performance Standards notified by this Authority shall be mentioned in the bid document and subsequently in the Concession Agreement in respect of PPP Projects. Accordingly, the NMPT is advised to incorporate the Reference Tariff and Performance Standards, in the bid document and subsequently in the Concession Agreement in respect of PPP Projects as agreed by the port.

13.1. From the date of Commercial Operation (CoD) till 31st March of the same financial year, the tariff would be limited to the indexed Reference Tariff relevant to that year, which would be the ceiling. The aforesaid Reference Tariff shall be automatically revised every year based on an indexation as provided in para 2.2 of the tariff guidelines of 2013 which will be applicable for the entire concession period.

However, the PPP operator would be free to propose a tariff along with Performance Standards (the "Performance Linked Tariff") from the second year of operation onwards, over and above the indexed Reference Tariff for the relevant financial year, at least 90 days before the 1st April of the ensuing financial year. Such Performance Linked Tariff shall not be higher than 15% over and above the indexed Reference Tariff for that relevant financial year (and this will be the Tariff Cap). The Performance Linked Tariff would come into force from the first day of the following financial year and would be applicable for the entire financial year.

13.2. The proposal shall be submitted to TAMP along with a certificate from the independent engineer appointed under the Concession Agreement of the Project indicating the achievement of Performance Standards in the previous 12 months as incorporated in the Concession Agreement or for the actual number of months of operation in the first year of operation as the case may be.

13.3. On receipt of the proposal, TAMP will seek the views of the Major Port Trust on the achievement of Performance Standards as outlined in para 5 of the tariff guidelines of 2013, within 7 days of receipt.

13.4. In the event of Operator not achieving the Performance Standards as incorporated in the Concession Agreement in previous 12 months, this Authority will not consider the proposal for notifying the Performance Linked Tariff for the ensuing financial year and the Operator shall be entitled to only the indexed Reference Tariff applicable for the ensuing financial year.

13.5. After considering the views of the Major Port Trust, if TAMP is satisfied that the Performance Standards as incorporated in the Concession Agreement have been achieved, it shall notify the performance linked tariff by 15th of March to be effective from 1st of April of the ensuing financial year.

13.6. While considering the proposal for Performance Linked Tariff, this Authority will look into the Performance Standards and its adherence by the Operator. TAMP will decide on the acceptance or rejection of the Performance Linked Tariff proposal based on the achievement or otherwise of the Performance Standards by the operator. Determination of indexed Reference Tariff and Performance Linked Tariff will follow the illustration shown in the Appendix attached to the tariff guidelines of 2013.

13.7. From the third year of operation, the Performance Linked Tariff proposal from the PPP operator shall be automatically notified by this Authority subject to the achievement of Performance Standards in the previous 12 months period as certified by the Independent Engineer. The PPP operator, for the Performance Linked Tariff from the third year onwards, will submit the Performance Linked Tariff proposal along with the achievement certificate from the independent engineer by 1st March and this Authority shall notify by 20th March, the Performance Linked Tariff to be effective from the ensuing financial year.

13.8. In the event any user has any grievance regarding non-achievement by the PPP operator of the Performance Standards as notified by this Authority, he may prefer a representation to this Authority which, thereafter, shall conduct an inquiry into the representation and give its finding to the concerned Major Port Trust. The Major Port Trust will be bound to take necessary action on the findings as per the provisions of the respective Concession Agreement.

13.9. Within 15 (fifteen) days of the signing of the Concession Agreement, the concerned operator will forward the Concession Agreement to this Authority which will host it on its website.

13.10. The PPP operator shall furnish to this Authority quarterly reports on cargo traffic, ship berth day output, average turnaround time of ships, average pre-berthing waiting time as well as the tariff realized for each berth. The quarterly reports shall be submitted by the PPP operator within a month following the end of each quarter. Any other information which is required by this Authority shall also be furnished to them from time to time.

13.11. This Authority shall publish on its website all such information received from PPP operator. However, this Authority shall consider a request from any PPP operator about not publishing certain data/ information furnished which is commercially sensitive. Such requests should be accompanied by detailed justification regarding the commercial sensitiveness of the data/information in question and the likely adverse impact on their revenue/ operation of upon publication. This Authority's decision in this regard would be final.

(T.S. Balasubramanian)
Member (Finance)

COST STATEMENT FOR FIXATION OF REFERENCE TARIFF FOR MECHANISATION OF BERTH NO.12 FOR PROVIDING EQUIPEMENTS FOR HANDLING BULK CARGO AT NEW MANGLORE PORT TRUST

(₹ In Crores)

Sr. No.	Particulars	Estimates by NMPT in its original proposal dated 3.8.2015	Estimates by NMPT in its final revised proposal dated 21.9.2015	As considered by TAMP
I	Optimal capacity			
(i)	Optimal Quay Capacity			
(a).	Coal:			
(i).	Parcel size per Panamax Vessel (in tonnes) (S1)	45,000	45,000	45,000
(ii).	Parcel size per Panamax Vessel (in tonnes) (S2)	54,000	54,000	54,000
(iii).	Parcel size per Panamax Vessel (in tonnes) (S3)	63,000	63,000	63,000
(iv).	Parcel size per Panamax Vessel (in tonnes) (S4)	72,000	72,000	72,000
(v).	Percentage share of Panamax Vessel (P1)	20.00%	20.00%	20.00%
(vi).	Percentage share of Panamax Vessel (P2)	30.00%	30.00%	30.00%
(vii).	Percentage share of Panamax Vessel (P3)	30.00%	30.00%	30.00%
(viii).	Percentage share of Panamax Vessel (P4)	20.00%	20.00%	20.00%
(ix).	Average cargo capacity of the Vessel (S1 * P1) + (S2 * P2) + (S3 * P3) + (S4 * P4)	58,500	58,500	58,500
(x).	Unloading rate (as per norms) (Tonnes/day)	35,000	35,000	35,000
(xi).	Average loading/ unloading time for a vessel (no. of days) ((ix)/(x))	1.6714	1.6714	1.6714
(xii).	Berthing/ De-berthing time (no. of days)	0.1250	0.1250	0.1250
(xiii).	Turnaround time (no. of days)	1.7964	1.7964	1.7964
(xiv).	Unloading rate considered in the optimal quay capacity calculation (Tonnes/day) ((ix)/(xiii))	32,565	32,565	32,565
(xv).	Optimal Quay Capacity of coal (Unloading rate per day * 365 days * 70% * 75% share of coal) (A)	6,240,194 (32,565 / day * 365 days * 70% * 75%)	6,240,194 (32,565 / day * 365 days * 70% * 75%)	6,240,268 (32,565 / day * 365 days * 70% * 75%)
(b).	Other Cargo:			
(i).	Parcel size per Vessel (in tonnes) (S1)	27,000	27,000	27,000
(ii).	Unloading rate (Tonnes/day)	8,000	8,000	8,000
(iii).	Average loading/ unloading time for a vessel (no. of days) ((i)/(ii))	3.375	3.375	3.375
(iv).	Berthing/ De-berthing time (no. of days)	0.125	0.125	0.125
(v).	Turnaround time (no. of days)	3.500	3.500	3.500
(vi).	Unloading rate considered in the optimal quay capacity calculation (Tonnes/day) ((i)/(v))	7,714	7,714	7,714
(vii).	Optimal Quay Capacity of Other Cargo (Unloading rate per day * 365 days * 70% * 25% share of Other Cargo) (B)	492,750 (7,714 / day * 365days * 70% * 25%)	492,750 (7,714 / day * 365days * 70% * 25%)	492,732 (7,714 / day * 365days * 70% * 25%)
(viii).	Total optimal quay capacity (in tonnes) [(i) + (ii)]	6732944	6732944	6733000
(ii).	Optimal yard capacity			
(a).	Coal:			
(i).	Area of land available (in sq. metres) (A)	150100	150100	150100
(ii).	Percentage of yard area to be used for stacking (Q)	61.55%	61.55%	61.55%
(iii).	Stacking factor (tonnes per sq. metre) (B)	6.44	6.44	6.44
(iv).	Turnover ratio (C)	15.00	15.00	15.00
(v).	Optimal Yard Capacity of coal (A * B * C * Q * 70%)	6248088	6248088	6247179
(b).	Other Cargo:			
	For Limestone, Gypsum, Dolomite			
(i).	Area of land available (in sq. metres) (A)	10000.00	10000.00	Not computed as no norms for assessing optimal yard capacity for multipurpose cargo are prescribed.
(ii).	Percentage of yard area to be used for stacking (Q)	90.00%	90.00%	
(iii).	Stacking factor (tonnes per sq. metre) (B)	3	3	
(iv).	Turnover ratio (C)	12	12	
(v).	Optimal Yard Capacity of other cargo (excluding fertilizer) (A * B * C * Q * 70%)	226,800	226,800	
(vi).	Optimal Yard Capacity for fertilizer (No storage envisaged for fertilizer. No working by NMPT)	273,200	273,200	
(vii).	Total Capacity for other Cargo (a) + (b)	500,000	500,000	
(viii).	Total optimal yard capacity (in tonnes) [(ii) (a) + (ii) (b)]	6748088	6748088	6247179
(iii).	Total Optimal capacity of the facility (in tonnes) (lower of optimal quay capacity and optimal yard capacity)			
(a).	For Coal	6,240,194	6,240,194	6,240,268
(b).	For other cargo	492,750	492,750	492,732
(c).	Total Optimal capacity (in tonnes)	6,732,944	6,732,944	6,733,000
(d).	Optimal capacity of the facility (in MTPA)	6.73	6.73	6.73

Sr. No.	Particulars	Estimates by NMPT in its original proposal dated 3.8.2015	Estimates by NMPT in its final revised proposal dated 21.9.2015	As considered by TAMP
II	Capital Cost			
A.	Cargo Handling Activity			
(i)	Civil Cost			
(a).	Coal			
(i).	Civil Works	2.74	2.74	2.74
(ii).	Structural Works	21.03	21.03	21.03
(iii).	Civil & structural cost of Conveyor	77.09	77.09	77.09
(iv).	Control Room/ Substation/buildings	3.30	3.30	3.30
(v).	Additional Rail siding at existing railway yard for wagon loading (1850m)	8.33	8.33	8.33
(vi).	Stockyard Boundary Wall	3.00	3.00	3.00
(vii).	Road pavement	18.52	18.52	18.52
(b).	Other Cargo :	0.00	0.00	0.00
(c).	Total Civil costs (a + b)	134.00	134.00	134.00
(ii).	Equipment Cost			
(a).	Coal			
(i).	Grab Unloaders – 2000 TPH – 2 Nos	90.00	90.00	90.00
(ii).	Jetty Conveyor (4000 TPH) – 2 Rows	12.15	12.15	12.15
(iii).	In between conveyors upto RLS (11 nos.)	37.95	37.95	37.95
(iv).	Conveyor for Stockyard (4000 TPH) – 2 Rows	40.80	40.80	40.80
(v).	Stacker Equipment (Norm - 2 stackers, Proposal-4 stackers)	48.00	48.00	48.00
(vi).	Reclaimer Equipment (Norm- 2 reclaimer, Proposal - 3 reclaimers)	39.00	39.00	39.00
(vii).	Rapid Loading system (RLS)(2000-4000TPH)	30.00	30.00	30.00
(viii).	Pay loaders- 10T - (Norm - 3 nos., Proposal - 1 no.)	0.40	0.40	0.40
(ix).	Truck loading system	3.50	3.50	3.50
(x).	Utilities	9.50	9.50	9.50
	Total equipment costs for Coal	311.30	311.30	311.30
(b).	Other Cargo			
(i).	Mobile Hopper (30 m3) - 1 no.	1.50	1.50	1.50
(ii).	Pay loaders- 4.5 cum – 1 no.	0.40	0.40	0.40
	Total equipment costs for Other cargo	1.90	1.90	1.90
(c).	Total equipment costs (a + b)	313.20	313.20	313.20
(iii).	Miscellaneous			
(a).	- 5% on Civil Cost and Equipment Cost for Coal	22.26	22.26	22.26
(b).	- 5% on Equipment Cost for Other cargo	0.10	0.10	0.10
	Total Miscellaneous cost (a + b)	22.36	22.36	22.36
(iv).	Total Capital Cost (i + ii + iii)	469.56	469.56	469.56
III	Operating Cost			
(i)	Coal:			
	(a). Power cost	9.09 (1.4 units/tonne * 6.24MMTPA * ₹10.4/unit)	9.09 (1.4 units/tonne * 6.24MMTPA * ₹10.4/unit)	9.09 (1.4 units/tonne * 6.24MMTPA * ₹10.4/unit)
	(b). Power illumination cost	--	3.75 (2.4 lakh units per annum * 15.01hectares * ₹10.4/unit)	3.75 (2.4 lakh units per annum * 15.01hectares * ₹10.4/unit)
	(b). Repair & Maintenance			
	- Civil Assets	1.34 (1% * ₹134 crores)	1.34 (1% * ₹134 crores)	1.41 (1% * ₹140.71 crores including on misc. cost)
	- Mechanical & Electrical Equipment	21.79 (7% * ₹311.30 crores)	21.79 (7% * ₹311.30 crores)	22.88 (7% * ₹326.87 crores including on misc. cost)
	- Miscellaneous Assets [TAMP - included in civil / mechanical cost]	--	1.11 (5% * ₹22.26 crores)	--
	(c). Insurance	4.68 (1% * ₹467.57 crores)	4.68 (1% * ₹467.57 crores)	4.68 (1% * ₹467.57 crores)
	(d). Depreciation			
	- Civil Work	4.48 (3.34% * ₹134 crores)	4.48 (3.34% * ₹134 crores)	4.46 (3.17% * ₹140.71 crores including on misc. cost)
	- Mechanical Work	32.19 (10.34% * ₹311.30 crores)	31.13 (10% * ₹311.30 crores)	31.05 (9.50% * ₹326.87 crores including on misc. cost))
	- Miscellaneous Assets [TAMP - included in civil / mechanical cost]	1.83 ((3.34% * 5% * ₹134 crores) + (10.34% * 5% * ₹311.30 crores))	1.78 ((3.34% * 5% * ₹134 crores) + (10.34% * 5% * ₹311.30 crores))	--
	(e). License Fee			
	Land Area	3.67 (15.01hectare * ₹ 20.39/sq.m/month *12m)	3.67 (15.01hectare * ₹ 20.39/sq.m/month *12m)	3.67 (15.01hectare * ₹ 20.39/sq.m/month *12m)
	Water Front	0.01 (8125sq.m* ₹ 10.19/sq.m/month *12m *75%)	0.15 (16250sq.m* ₹ 10.19/sq.m/month *12m *75%)	0.15 (16250sq.m* ₹ 10.19/sq.m/month *12m *75%)
	(f). Other Expenses towards salaries and overheads	23.38 (5% * ₹467.57 crores)	23.38 (5% * ₹467.57 crores)	23.38 (5% * ₹467.57 crores)
	Operating Cost for Coal	102.45	106.34	104.52
(ii)	Other Cargo:			
	(a). Power cost	0.42	0.64	0.54

Sr. No.	Particulars	Estimates by NMPT in its original proposal dated 3.8.2015	Estimates by NMPT in its final revised proposal dated 21.9.2015	As considered by TAMP
		(100 units / hr * 10.4 ₹/ unit * 4000 hrs)	(500 units / hr * 10.4 ₹/ unit * 1231.88 hrs#)	(500 units / hr * 10.4 ₹/ unit * 1034.78 hrs#)
	(b). Power General illumination cost	--	0.25	0.25
			(2.4 lakh units per annum * 1hactares * ₹10.4/unit)	(2.4 lakh units per annum * 1hactares * ₹10.4/unit)
	(b). Fuel Cost			
	- Trucks	0.97 (₹ 52.59/ ltr * 10 lts / hr * 15 hr / day * 20 trucks *1231.88 hrs /20 hrs/day)	0.97 (₹ 52.59/ ltr * 10 lts / hr * 15 hr / day * 20 trucks *1231.88 hrs /20 hrs/day)	0.87 (₹ 52.59/ ltr * 10 lts / hr * 16.8 hr / day * 16 trucks *1034.78 hrs / 16.8 hrs/day **)
	- Pay loader	--	0.08 (₹ 52.59/ ltr * 12 lts / hr *1231.88 hrs)	0.07 (₹ 52.59/ ltr * 12 lts / hr * *1034.78hrs)
	(c) Lease Cost for 20 nos trucks of capacity 15 tonnes [TAMP - 16 Trucks]	1.28 (₹ 10000/day/ truck * 3.5 days * 20 trucks *18.25 vessel call)	1.28 (₹ 10000/day/ truck * 3.5 days * 20 trucks *18.25 vessel call)	1.02 (₹ 10000/day/ truck * 3.5 days * 16trucks *18.25 vessel call)
	(d). Repair & Maintenance			
	- Civil Assets	--	--	--
	- Mechanical & Electrical Equipment	0.10 (5% * ₹1.90 crores)	0.10 (5% * ₹1.90 crores)	0.10 (5% * ₹2 crores including on misc. cost)
	(d). Insurance	0.02 (1% * ₹2 crores)	0.02 (1% * ₹2 crores)	0.02 (1% * ₹2 crores)
	(e). Depreciation			
	- Civil Work	--	--	--
	- Mechanical equipment	0.20 (10.34% * ₹1.90 crores)	0.19 (10% * ₹1.90 crores)	0.19 (9.50% * ₹2 crores including on misc. cost)
	- Miscellaneous Assets [TAMP - included in civil / mechanical cost]	0.01 [(3.34% * ₹0.00crores) + (10.34% * ₹0.10 crores)]	0.01 [(3.34% * ₹0.00crores) + (10% * ₹0.10 crores)]	--
	(f). License Fee			
	Land Area	0.24 (1ha/ ₹ 20.39 /sq.m /month *12m)	0.24 (1ha/ ₹ 20.39 /sq.m /month *12m)	0.24 (1ha/ ₹ 20.39 /sq.m /month *12m)
	Water Front	0.002 --	0.05 (16250sq.m/ ₹ 10.19 /sq.m /month *12m *25%)	0.05 (16250sq.m/ ₹ 10.19 /sq.m /month *12m *25%)
	(g). Other Expenses towards salaries and overheads	0.10 (5% * ₹2 crores)	0.10 (5% * ₹2 crores)	0.10 (5% * ₹2 crores)
	Operating Cost for Other Cargo	3.33	3.93	3.45
(iii).	Total Operating cost	105.78	110.27	107.97
IV	Estimated Revenue Requirement & upfront tariff for Cargo Handling Activity			
A.	Coal			
(i).	Estimated Revenue Requirement			
	(a). Total Operating Cost	102.45	106.34	104.52
	(b). Return on capital Employed @ 16%	74.81	74.81	74.81
	(c). Total Revenue requirement from cargo handling activity	177.26	181.15	179.33
B.	Other Cargo			
(i).	Estimated Revenue Requirement			
	(a). Total Operating Cost	3.33	3.93	3.45
	(b). Return on capital Employed @ 16%	0.32	0.32	0.32
	(c). Total Revenue requirement from cargo handling activity	3.65	4.25	3.78
A.	Coal			
(i).	Apportionment of Revenue Requirement			
	(a). Cargo Handling Charges (99% of ARR)	175.49	179.34	177.54
	(b). Storage Charges (1% of ARR)	1.77	1.81	1.79
	(c). Miscellaneous Charge (0% of ARR)	0.00	0.00	0.00
	(d).Total Revenue requirement from cargo handling activity	177.26	181.15	179.33
B.	Other Cargo			
(i).	Apportionment of Revenue Requirement			
	(a). Cargo Handling Charges (95% of ARR)	3.47	4.05	3.58
	(b). Storage Charges (5% of ARR)	0.18	0.21	0.19
	(c). Miscellaneous Charge (0% of ARR)	0.00	0.00	0.00
	(d).Total Revenue requirement from cargo handling activity	3.65	4.26	3.78
A.	Coal			
(i).	Cargo Handling charge			
	(a). Cargo Handling Charge			
	- Revenue Requirement (₹ in crores)	175.49	179.34	177.54
	- Capacity (Million Metric Tonnes per annum)	6.24	6.24	6.24
	- Per Tonne rate for handling of cargo	281.24	287.39	284.50
	(b). Storage Charge			
	- Revenue Requirement (₹ in crores)	1.77	1.81	1.79
	- % of Cargo to attract storage charge	25.00%	25.00%	25.00%
	- Capacity of cargo to attract storage charge (million metric tonnes)	1.56	1.56	1.56

Sr. No.	Particulars	Estimates by NMPT in its original proposal dated 3.8.2015	Estimates by NMPT in its final revised proposal dated 21.9.2015	As considered by TAMP
	(i) Storage Charge (beyond the free period)(₹ /tonne / day)			
	-Free period	25 days	25 days	25 days
	-First five days	1.06	1.09	1.07
	-6th day to 10th day	1.59	1.63	1.61
	-11th day onwards	2.12	2.17	2.14
B.	Other Cargo			
(i).	Cargo Handling charge			
	(a). Cargo Handling Charge			
	- Revenue Requirement (₹ in crores)	3.47	4.05	3.58
	- Capacity (Million Metric Tonnes per annum)	0.49	0.49	0.49
	- Per Tonne rate for handling of cargo	70.41	82.13	72.64
	(b). Storage Charge (other that fertilizer cargo)			
	- Revenue Requirement (₹ in crores)	0.18	0.21	0.19
	- % of Cargo to attract storage charge	100.00%	100.00%	100.00%
	- Capacity of cargo to attract storage charge (considered by NMPT in storage calculation) (in tonnes)	226800.00	226800.00	226800.00
	(i) Storage Charge (beyond the free period)(₹ /tonne / day)			
	-Free period	5 days	5 days	5 days
	-First five days	0.75	0.88	0.78
	-6th day to 10th day	1.13	1.31	1.17
	-11th day onwards	1.50	1.75	1.56

Note:
NMPT: Total Hours required for other cargo arrived on Optimal capacity of other cargo / handling rate * 20 hrs/ day i.e. 492,750 / 8000TPD *20 hrs = 1231.88
TAMP: 492,750 / 8000 TPD * 16.8 hrs = 1034.78 hrs

**** Working for No. of trucks :**

Sr. No.	Particulars	Unit	As given by NMPT	As considered by TAMP
(i).	Per day cargo evacuation requirement	TPD	8000.00	8000.00
(ii).	Carrying Capacity of 1 Truck	ton	15.00	15.00
(iii).	Total Truck trips per day ((i) / (ii))	trips / day	533.33	533.33
(iv).	Time taken to load one truck	min	2.00	2.00
(v).	Transit time (assuming lead distance of 2.5 km)	min	28.00	28.00
(vi).	Total Time ((iv) + (v))	Hrs	0.50	0.50
(vii).	Number of trucks required [NMPT- (iii) / 20 hrs / day / 2 trip /hr] [TAMP - (iii) / 16.8 hrs / day / 2 trip /hr]	nos.	14.00	16.00
(viii).	Allowance for break down and peak movement	nos. of trucks	6.00	--
(ix).	Total No of Trucks	nos.	20.00	16.00

Calculation for storage charge as furnished by NMPT

Workings to arrive at the per tonne per day storage charge for Coal and Other Cargo:

(a) Coal				
Total optimal capacity of coal (in tonnes)	6240194			
	Free days	1st slab	2nd slab	3rd slab
No. of days under each slab		5	5	3
Percentage of Cargo falling under each slab	75%	10%	10%	5%
Cargo falling under each slab	4680145	624019	624019	312010
Cargo falling under each slab with cumulative effect		1560048	936029	312010
Let Storage charge per tonne per day in first slab be x	0.00	x	1.5x	2x
Revenue Requirement (Rs.)		18114788.12		
Sum of x		16692518.51		x
Rate of storage per tonne per day		1.09	1.63	2.17
(b) Other Cargo				
Total optimal capacity of Other Cargo (in tonnes)	226800			
	Free days	1st slab	2nd slab	3rd slab
No. of days under each slab		5	5	3
Percentage of Cargo falling under each slab	0%	40%	40%	20%
Cargo falling under each slab	0	90720	90720	45360
Cargo falling under each slab with cumulative effect		226800	136080	45360
Let Storage charge per tonne per day in first slab be x	0.00	x	1.5x	2x
Revenue Requirement (Rs.)		2124842.27		
Sum of x		2426760.00		x
Rate of storage per tonne per day		0.88	1.31	1.75

Calculation for storage charge as considered by TAMP

Workings to arrive at the per tonne per day storage charge for Coal and Other Cargo:

(a) Coal				
Total optimal capacity of coal (in tonnes)	6240268			
	Free days	1st slab	2nd slab	3rd slab
No. of days under each slab		5	5	3
Percentage of Cargo falling under each slab	75%	10%	10%	5%
Cargo falling under each slab	4680201	624027	624027	312013
Cargo falling under each slab with cumulative effect		1560067	936040	312013
Let Storage charge per tonne per day in first slab be x	0.00	x	1.5x	2x
Revenue Requirement (Rs.)		17933101.69		
Sum of x		16692717.23		x
Rate of storage per tonne per day		1.07	1.61	2.15
(b) Other Cargo				
Total optimal capacity of Other Cargo (in tonnes)	226800			
	Free days	1st slab	2nd slab	3rd slab
No. of days under each slab		5	5	3
Percentage of Cargo falling under each slab	0%	40%	40%	20%
Cargo falling under each slab	0	90720	90720	45360
Cargo falling under each slab with cumulative effect		226800	136080	45360
Let Storage charge per tonne per day in first slab be x	0.00	x	1.5x	2x
Revenue Requirement (Rs.)		1889112.51		
Sum of x		2426760.00		x
Rate of storage per tonne per day		0.78	1.17	1.56

NEW MANGLORE PORT TRUST

**REFERENCE TARIFF SCHEDULE FOR HANDLING COAL AND OTHER CARGO AT BERTH
NO.12 AT NEW MANGALORE PORT TRUST**

CHAPTER 1 – DEFINITIONS & GENERAL TERMS & CONDITIONS

1.1. Definitions – General

In this Scale of Rates, unless context otherwise requires, the following definitions shall apply:

- (i). **“Coastal Vessel”** shall mean any vessel exclusively employed in trading between any port or place in India to any other port or place in India having a valid coastal licence issued by the Competent Authority / Director General of Shipping.
- (ii). **“Foreign - going vessel”** shall mean any vessel other than coastal vessel.
- (iii). **“Per Day”** shall mean per calendar day unless otherwise stated.

1.2. General Terms and Conditions:

- (i). The status of a vessel as borne out by its certification by the Customs or the Director General of Shipping, shall be the deciding factor for its classification as ‘coastal’ or ‘foreign-going’ for the purpose of levy of vessel related charges; and, the nature of cargo or its origin will not be of any relevance for this purpose.
- (ii).
 - (a). The cargo related charges for all coastal cargo other than thermal coal, POL including crude, iron ore and iron ore pellets should not exceed 60% of the normal cargo related charges.
 - (b). In case of cargo related charges, the concessional rates should be levied on all the relevant handling charges for ship-shore transfer and transfer from/ to quay to/ from storage yard including wharfage.
 - (c). Cargo from a foreign port, which reaches an Indian Port ‘A’ for subsequent transshipment to Indian Port ‘B’ will be, levied the concessional charges relevant for its coastal voyage. In other words, cargo from / to Indian ports carried by vessel permitted to undertake coastal voyage will qualify for the concession.
- (iii). Interest on delayed payments/ refunds.
 - (a). The user shall pay interest at the rate of 2% above the Prime Lending Rate of State Bank of India (SBI), on the delayed payments of any charge under the Scale of Rates.
 - (b). Likewise, the Port Trust shall pay penal interest at the rate of 2% above the Prime Lending Rate of State Bank of India (SBI), on delayed refunds.
 - (c). The delay in refunds will be counted beyond twenty days from the date of completion of services or on production of all the documents required from the User whichever is later.
 - (d). Delay in payments by user will be counted only 10 days after the date of raising the bills by Terminal Operator. This provision will, however, not apply to the cases where payment is to be made before availing the services where payment of charges in advance is prescribed as a condition in the Scale of Rates.

- (iv). All charges worked out shall be rounded off to the next higher rupee on the grand total of the bill.
- (v).
 - (a). The rates prescribed in the Scale of Rates are ceiling levels, likewise, rebates and discounts are floor levels. The operator may, if they so desire, charge lower rates and/or allow higher rebates and discounts.
 - (b). The operator may also, if he so desire, rationalize the prescribed conditionalities governing the application of rates prescribed in the Scale of Rates if such rationalization gives relief to the users in the rate per unit and the unit rates prescribed in the Scale of Rates does not exceed the ceiling level.
 - (c). The operator should notify the public such lower rates and/ or rationalization of the conditionalities governing the application of such rates and continue to notify the public any further charges in such lower rates and/or in the conditionalities governing the application of such rates provided the new rates fixed shall not exceed the rate notified by the Authority.
- (vi). Users will not be required to pay charges for delays beyond reasonable level attributable to the operator.
- (vii). No claim for refund shall be entertained unless the amount refundable is ₹100/- or more. Likewise, terminal operator shall not raise any supplementary or under charge bills, if the amount due to the operator is less than ₹100/-.

2. Cargo Handling Charges

Sr. No.	Particulars	Rate in ₹ per metric tonne	
		Foreign	Coastal
(i).	Thermal Coal	284.50	284.50
(ii).	Other Coal	284.50	170.70
(iii).	Other Cargo (Fertilizer, Limestone, Gypsum, Dolomite)	72.64	43.58

- (i). The handling charges for coal (thermal and other coal) prescribed above is a composite charge for unloading of the cargo from the vessel and transfer of the same up to the point of storage, storage at the stackyard upto a free period of 25 days, reclaiming from stackyard and loading onto trucks/ railway wagon, sweeping of cargo on the wharf, dust suppression services and all other miscellaneous services not specifically included in SOR.
- (ii). The handling charges for other cargo (Limestone, Gypsum, Dolomite) prescribed above is a composite charge for unloading of the cargo from the vessel and transfer of the same up to the point of storage, storage at the stackyard upto a free period of 5 days, reclaiming from stackyard and loading onto trucks, sweeping of cargo on the wharf, dust suppression services and all other miscellaneous services not specifically included in SOR.
- (iii). The handling charges for other cargo (Fertilizer) prescribed above is a charge only for unloading of the cargo from the vessel and transfer of the same up to the Port storage sheds. The handling charges also cover other miscellaneous services not specifically included in SOR. Storage of Fertilizer is not envisaged in this project and handling charges shall not include the charges against storage.

3. Storage Charges

The storage charge for the coal and other cargo (Limestone, Gypsum, Dolomite) stored in the yard beyond a free period (25 days for coal and 5 days for other cargo) after complete discharge of vessel's cargo, shall be as below:

Sr. No.	Description	Rate in ₹ per MT per Day or part thereof	
		For Coal Import	For Other Cargo Import (Limestone, Gypsum, Dolomite)
(i).	Free period	25 Days	5 Days
(ii).	First five days after expiry of free period	1.07	0.78
(iii).	6th day to 10th day after expiry of free period	1.61	1.17
(iii).	From 11 th day onwards	2.14	1.56

Notes:

- (i). (a) For the purpose of calculation of free period, Customs notified holidays and Terminal's non-working days shall be excluded.
- (b) Free period shall be calculated from the day following the date of complete discharge of goods from the vessel on to the berth.
- (ii). Storage charges on cargo shall not accrue for the period when the Terminal Operator is not in a position to deliver the cargo when requested by the User due to reasons attributable to the Terminal operator.
- (iii). Storage charges shall be payable for all days including Terminal's non- working days and Customs notified holidays for stay of cargo beyond the prescribed free days.

4.

GENERAL NOTES:

- (i). The tariff caps will be indexed to inflation but only to an extent of 60% of the variation in Wholesale Price Index (WPI) occurring between 1 January 2015 and 1 January of the relevant year. Such automatic adjustment of tariff caps will be made every year and the adjusted tariff caps will come into force from 1 April of the relevant year to 31 March of the following year.
- (ii). From the date of Commercial Operation (CoD) till 31st March of the same financial year, the tariff would be limited to the indexed Reference Tariff relevant to that year, which would be the ceiling. The aforesaid Reference Tariff shall be automatically revised every year based on an indexation as provided in para 2.2 of the tariff guidelines of 2013 which will be applicable for the entire licence period.

However, the Licensee would be free to propose a tariff along with Performance Standards (the "Performance Linked Tariff") from the second year of operation onwards, over and above the indexed Reference Tariff for the relevant financial year, at least 90 days before the 1st April of the ensuing financial year. Such Performance Linked Tariff shall not be higher than 15% over and above the indexed Reference Tariff for that relevant financial year (and this will be the Tariff Cap). The Performance Linked Tariff would come into force from the first day of the following financial year and would be applicable for the entire financial year.

- (iii). The proposal shall be submitted to TAMP along with a certificate from the independent engineer appointed under the Concession Agreement of the Project indicating the achievement of Performance Standards in the previous 12 months as incorporated in the Licence Agreement or for the actual number of months of operation in the first year of operation as the case may be.

- (iv). On receipt of the proposal, TAMP will seek the views of the Major Port Trust on the achievement of Performance Standards as outlined in para 5 of the tariff guidelines of 2013, within 7 days of receipt.
- (v). In the event of Licensee not achieving the Performance Standards as incorporated in the Licence Agreement in previous 12 months, TAMP will not consider the proposal for notifying the Performance Linked Tariff for the ensuing financial year and the Licensee shall be entitled to only the indexed Reference Tariff applicable for the ensuing financial year.
- (vi). After considering the views of the Major Port Trust, if TAMP is satisfied that the Performance Standards as incorporated in the Concession Agreement have been achieved, it shall notify the performance linked tariff by 15th of March to be effective from 1st of April of the ensuing financial year.
- (vii). While considering the proposal for Performance Linked Tariff, TAMP will look into the Performance Standards and its adherence by the Licensee. TAMP will decide on the acceptance or rejection of the Performance Linked Tariff proposal based on the achievement or otherwise of the Performance Standards by the Licensee. Determination of indexed Reference Tariff and Performance Linked Tariff will follow the illustration shown in the Appendix attached to the tariff guidelines of 2013
- (viii). From the third year of operation, the Performance Linked Tariff proposal from the Licensee shall be automatically notified by TAMP subject to the achievement of Performance Standards in the previous 12 months period as certified by the Independent Engineer. The Licensee, for the Performance Linked Tariff from the third year onwards, will submit the Performance Linked Tariff proposal along with the achievement certificate from the independent engineer by 1st March and TAMP shall notify by 20th March, the Performance Linked Tariff to be effective from the ensuing financial year.

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PERFORMANCE STANDARDS**A. Gross Berth Output:**

- (i). The parameter deals with the productivity of the terminal (Gross Berth Output) for Coal. In case of dry and break-bulk cargo, the capability of the terminal (mechanization, method of handling) and parcel size will determine the Gross Berth Output. Higher terminal capability and greater parcel size will lead to high productivity.
- (ii). The Gross Berth Output shall be calculated as the total cargo handled from the ship during a month divided by the time spent by the ship at the terminal expressed in number of working days of ships in that month at that terminal. **While determining the number of working days from the ship hours, the berth allowance of 5 (five) hours shall be subtracted from the total hours.**
- (iii). The norms for Gross Berth Output for different categories of cargo are as follows:

Cargo Category	Norms
Thermal Coal	35,000 T/day
Other Coal	35,000 T/day
Other Cargo (Fertilizer, Limestone, Gypsum, Dolomite)	8,000 T/day

B. Transit Storage Dwell Time:

Bulk Cargo:

The Transit Storage Dwell Time for coal shall be calculated, as half of average parcel size of above cargo vessels in a month divided by average disposal of cargo from the port per day as per the following methodology:

Average disposal of Cargo per day (A) = $\frac{OB + Received}{Despatched - CB}$ No. of days

OB = Opening Balance, CB = Closing Balance.

Average Parcel Sizes (B) = $\frac{P_1 + P_2 + \dots + P_n}{N}$ (no. of parcels)

P₁, P₂ ... P_n are parcel size of each vessel in a month.

Transit Storage Time for Bulk Cargo = $0.5(B/A)$.

C. Transit Storage Dwell Time- Import:

Coal (at stackyard) 15 days on completion of vessel.

D. Turnaround Time for receipt/delivery operation:

The Turnaround Time for receipt/delivery operation shall be the sum of time taken for loading/unloading of cargo divided by the number of trucks/trailers/rakes deployed, as the case may be, in a month. Further, in case the truck/trailer/rake does both unloading and loading operations on a single entry into the terminal, the time allocated shall be doubled for those trucks/ trailers/ rakes.

- (i). (a). Truck (Single operation) = 10 min
- (b). Truck (Double operation) = 20 min
- (ii). (a). Rake (Single operation) = 4hrs
- (b). Rake (Double operation) = 8 hrs

SUMMARY OF THE COMMENTS RECEIVED FROM THE PORT USERS / DIFFERENT USER ORGANISATIONS AND ARGUMENTS MADE IN THIS CASE DURING THE JOINT HEARING BEFORE THE AUTHORITY.

TAMP/60/2015-NMPT	:	Proposal received from New Mangalore Port Trust (NMPT) for reference tariff fixation for mechanization of Berth No. 12 for providing equipments for handling bulk cargo at NMPT.
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The summary of the comments received from the users/ user organisations and reply furnished by NMPT thereon are summarised below:

Sl. No.	Comments of the users / user organisations	Reply received from NMPT
1.	Adani Ports and Special Economic Zone Limited.	
(i).	<u>Fixation of Tariffs as Reference Tariff:</u> APSEZL understand that the tariffs are to be proposed by following the TAMP Guidelines 2008 norms. However, the proposal should be under TAMP Guidelines 2013 in view of not having referable representative tariffs. Present proposal refers tariffs as Upfront Tariffs. However, it should clearly reflect in the proposal that Reference Tariffs are proposed under TAMP Guidelines 2013 by following the principles of TAMP Guidelines 2008. This is suggested in view of flexibility of levying 15% higher tariffs if Concessionaire wishes so, in case, need arise.	The proposal already mentions that the tariff has been proposed under TAMP Guidelines 2008 considering that no other reference tariff is available, as per the TAMP Guidelines 2013. In this case also, the PPP Operator would be free to propose tariff along with the performance linked tariff from the second year of operations, as per the TAMP Guidelines 2013.
(ii).	<u>Estimated Cost:</u> APSEZL are of the view that Estimated Project Cost for tariff calculation should also include the lease rentals payable during the construction phase of 2 years since the same is not covered within the pre-operative cost included in Miscellaneous component.	The Estimation of the Project Cost used in this proposal is based on the TAMP Guidelines 2008. The cost towards Lease Rentals has been included while estimating the Operating Cost
(iii).	<u>Opex for project :</u> Operating Cost considered the power cost for handling equipments for coal and other cargo. However, it does not include the power cost for the illumination of the backup area. Though the norm for this is not prescribed in the guidelines for coal terminal or multipurpose berths, it is included in the guidelines for liquid bulk terminal within Tariff Guidelines 2008 only. It prescribes consumption of 240000 units / Ha. The same can be adopted here also. This norm has been accepted and approved by TAMP in many previous cases since the norm is area based and can be adopted commonly for all types of terminals.	The Estimation of the Operating Cost in this proposal is based on the TAMP Guidelines 2008. The norm specified by TAMP for power cost (1.4 unit/tonne) includes the power cost for illumination of the backup area.
(iv)	<u>Optimal Yard Capacity:</u> (a). Optimal Yard Capacity calculations have not correctly considered the formula given in TAMP Guidelines 2008. Applied formula misses out to consider optimization factor of 70%. Further, norm for share of yard area possible to use for stacking is 70% as per TAMP Guidelines. 2008 while coal stockyard capacity working has been made considering 61.55%.	With respect to the optimization factor, the calculations already include an optimization factor of 70%. Further, with respect to the area used for stacking, given the assorted / fragmented customer base of coal users, more equipments have been planned in the

	The reasons for the deviation may please be clarified. More importantly, the parameters like dwell time and area requirement for stacking etc. are also not practical from market point of view. APSEZL would like to point out that stacking at 6.44 MT/ Sqm is grossly high and impossible to achieve. Ideal and achievable level for the same would be 4 MT/ Sqm. Further, dwell time for other cargo has been considered at 30 days (i.e. Turnover of 12Times) but the same is also not achievable. Correct assumptions would be 40 days i.e. Turnover of 9 Times. APSEZL request to consider working given below that is based on prevailing market conditions.	stackyard (4 stackers, 3 reclaimers) to ensure independent operations of stacking and reclaiming and faster cargo circulation / evacuation. In addition, the shape of the available area does not allow for having long stockpiles and hence multiple medium sized stockpiles have been planned. Owing to this, the stacking area works out to 61.55% of the total area. For detailed calculations, please refer to page 68 of the proposal.																														
	(b). <u>For Coal Back Up Area:</u> Dwell Time Assumptions based on practical market conditions: <table><tr><th>Cargo</th><th>Share in</th><th>Dwell Time</th><th>Weighted</th></tr><tr><td>User</td><td>65%</td><td>15</td><td>9.75</td></tr><tr><td>Trader</td><td>35%</td><td>40</td><td>14</td></tr><tr><td colspan="3">Weighted Average Dwell Time in Days</td><td>23.75</td></tr><tr><td colspan="3">Turnover Ratio</td><td>15.16</td></tr></table>	Cargo	Share in	Dwell Time	Weighted	User	65%	15	9.75	Trader	35%	40	14	Weighted Average Dwell Time in Days			23.75	Turnover Ratio			15.16	For the proposed setup with mechanized cargo handling systems for handling, transfer, storage and evacuation; a stack height of around 10 m is envisaged. For this stack height, a coal storage factor of 6.44 tonnes/ sqm is achievable.										
Cargo	Share in	Dwell Time	Weighted																													
User	65%	15	9.75																													
Trader	35%	40	14																													
Weighted Average Dwell Time in Days			23.75																													
Turnover Ratio			15.16																													
	(c). <u>Optimal Yard Capacity for Coal:</u> <table><tr><th>Particulars</th><th>Units</th><th>Values</th></tr><tr><td>Area</td><td>Sqm</td><td>200000</td></tr><tr><td>Percentage of Yard to be used for Stacking</td><td>%</td><td>70%</td></tr><tr><td>Quantity to be stacked</td><td>MT/Sqm</td><td>4.01</td></tr><tr><td>Turnover Ratio</td><td>Times/year</td><td>15.16</td></tr><tr><td>Optimization Factor</td><td>%</td><td>70%</td></tr><tr><td>Optimal Capacity</td><td>MTPA</td><td>5.95</td></tr></table> <u>For Other Cargo:</u> Dwell Time Assumption Dwell Time Assumption for Other Cargo should be taken as 40 Day which translates to Turnover Ratio of 9 Times a year. <u>Optimal Yard Capacity for Other Cargo</u> <table><tr><th>Particulars</th><th>Units</th><th>Values</th></tr><tr><td>Area</td><td>Sqm</td><td>10000</td></tr><tr><td>Percentage of Yard to be used for Stacking</td><td>%</td><td>70%</td></tr></table>	Particulars	Units	Values	Area	Sqm	200000	Percentage of Yard to be used for Stacking	%	70%	Quantity to be stacked	MT/Sqm	4.01	Turnover Ratio	Times/year	15.16	Optimization Factor	%	70%	Optimal Capacity	MTPA	5.95	Particulars	Units	Values	Area	Sqm	10000	Percentage of Yard to be used for Stacking	%	70%	For Other Cargo, specific norms are not available in the guidelines for estimating the quantity that could be stacked per sqm of area and the turnover ratio of the plot in a year. NMPT, expect that the current dwell time for other cargo shall be at least 30 days. In view of the same the turnover ratio of the plot in a year for other cargo is considered as 12.
Particulars	Units	Values																														
Area	Sqm	200000																														
Percentage of Yard to be used for Stacking	%	70%																														
Quantity to be stacked	MT/Sqm	4.01																														
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Particulars	Units	Values																														
Area	Sqm	10000																														
Percentage of Yard to be used for Stacking	%	70%																														

	<table><tr><td>Quantity to be stacked per Sqm.</td><td>MT/Sqm</td><td>3.00</td></tr><tr><td>Turnover Ratio</td><td>Times/year</td><td>9.00</td></tr><tr><td>Optimization Factor</td><td>%</td><td>70%</td></tr><tr><td>Optimal Capacity in MMTPA</td><td>MMTPA</td><td>0.13</td></tr></table> Thus, APSEZL are of the view that back up area requirement for coal and other cargo would be 21 Ha, instead of 16 Ha proposed.	Quantity to be stacked per Sqm.	MT/Sqm	3.00	Turnover Ratio	Times/year	9.00	Optimization Factor	%	70%	Optimal Capacity in MMTPA	MMTPA	0.13																															
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Optimization Factor	%	70%																																										
Optimal Capacity in MMTPA	MMTPA	0.13																																										
	(d). Optimal Capacity for Each Commodity: NMPT has proposed optimal quay capacity for coal and other cargo at 6.24 MMTPA and 0.49 MMTPA. Optimal Capacity considered for tariff fixation is lower of quay capacity and yard capacity. In line with this principle, Optimal Capacity for Coal is to be considered at 5.95 MMTPA and for Other Cargo at 0.13 MMTPA.	The optimal capacity has been arrived at based on the TAMP Guidelines 2008.																																										
	(e). Free Period and Evacuation Pattern - Coal: Free period proposed by NMPT for Coal cargo at 25 days is in line with dwell time requirements observed in prevailing market conditions. In our view, neither TAMP Guidelines nor any previous tariff orders suggest commodity wise storage charges. Hence, the storage tariffs should be single for both the types of cargoes. Moreover, dwell time limits for both the cargo can be safely assumed at 40 days Evacuation pattern assumed should be in line with that is considered for optimal yard capacity calculations. APSEZL suggest considering following working for storage tariff calculation. Storage Charges (₹/MT/Day) for Coal and Other cargo both <table><tr><th>Time Period</th><th>%of evacuation</th><th>% of Cargo Stored</th><th>Quantity stored</th><th>Rate/M T/Day</th><th>Slab Days</th><th>₹ Crores</th></tr><tr><td>Free Period of 25 days</td><td>65%</td><td>67.50%</td><td>4.11</td><td>0</td><td>25</td><td>0</td></tr><tr><td>First 5 days after Free Period</td><td>0%</td><td>35.00%</td><td>2.13</td><td>0.70</td><td>5</td><td>0.74</td></tr><tr><td>6th to 10th Day after Free Period</td><td>15%</td><td>27.50%</td><td>1.67</td><td>1.05</td><td>5</td><td>0.87</td></tr><tr><td>11th day onwards after Free Period (5 day assumed)</td><td>20%</td><td>10.00%</td><td>0.61</td><td>1.39</td><td>5</td><td>0.42</td></tr><tr><td>Total</td><td>100%</td><td colspan="4">Total Storage Revenue Required</td><td>2.04</td></tr></table> * % of cargo stored for particular slab = cargo evacuated in subsequent slabs+ half of% of cargo evacuated in particular slab. APSEZL would like to bring to notice that above worked out tariffs are suggested with free period allowance of 25 Days for Coal as well as Other Cargo. Free period of 25 day has been proposed in line with TAMP Guidelines 2008. However, for Other Cargo, free period of only 5 days has been proposed. Practically none	Time Period	%of evacuation	% of Cargo Stored	Quantity stored	Rate/M T/Day	Slab Days	₹ Crores	Free Period of 25 days	65%	67.50%	4.11	0	25	0	First 5 days after Free Period	0%	35.00%	2.13	0.70	5	0.74	6th to 10th Day after Free Period	15%	27.50%	1.67	1.05	5	0.87	11th day onwards after Free Period (5 day assumed)	20%	10.00%	0.61	1.39	5	0.42	Total	100%	Total Storage Revenue Required				2.04	Since, the Capital Cost and Operation Cost for Coal and Other Cargo are different, and based on the TAMP Guidelines 2008, the apportionment of the same is also different. In this regard, the storage charges have been calculated commodity wise. Further, as per the TAMP Guidelines 2008, “the Storage Charges are the charges levied for storage of cargoes at the transit area beyond allowable period of 5 days for import cargo and 15 days for export cargo.”
Time Period	%of evacuation	% of Cargo Stored	Quantity stored	Rate/M T/Day	Slab Days	₹ Crores																																						
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Total	100%	Total Storage Revenue Required				2.04																																						

	of the other cargo commodities gets evacuated in 5 days; not even marginal also. If free period of only 5 days is provided, it takes the cost of storage to the tune of ₹40/MT over the envisaged dwell time. Even based on the abovementioned lower rates worked out. This is quite high as compared to NMPT Scale of Rates which may cost ₹27/MT based on demurrage charges for transit sheds. NMPT SOR cost may be even further lower for rental storage plots. If free period of storage charges is proposed at 25 days, above suggested storage tariffs would be limit the storage cost of other cargo also around ₹15/MT for 40 days' dwell time. Hence, APSEZL suggest that Free period of 25 days should be allowed to keep the storage tariffs competitive enough.	
(v).	<u>Tariff Fixation for Foreign and Coastal Rates:</u> It has been observed from the proposal that single tariffs have been worked out without reference to ratio of foreign cargo and coastal cargo. However, single tariffs derived have been applied with 60% (as Concession for coastal cargo) to arrive at tariffs for coastal cargo. This is not correct methodology to arrive at coastal cargo rates because in this case. If there coastal cargo handling, there will be revenue loss to the extent of concession given. Hence, with an assumption of share of foreign cargo and coastal cargo, a working should be carried out to arrive at foreign rate which is higher than the single tariff (compensating for concession given for coastal cargo) arrived in a way that revenue requirement is fully achieved. Formula which can be used for this purpose is suggested below: Annual Revenue Requirement= $TF \times QF + 0.6 \times TF \times c$, Wherein, TF= Tariff for Foreign Cargo QF = Quantity for Foreign Cargo Qc= Quantity for Coastal Cargo Tariff for Foreign Cargo can be arrived at based on above formula. The same, then can be applied with 60% to arrive at concessional rate for Coastal Cargo. For the working foreign and coastal cargo shares may be assumed at 90% and 10% respectively, keeping in mind minimal scope for coastal cargo in the expected traffic.	In this project NMPT do not envisage any coastal movement of cargo, hence no share of Coastal has been proposed. Also, with reference to other tariff orders issued by TAMP, NMPT has calculated the Handling charges for coal (other than thermal) as detailed out in the proposal.

(vi).	Tariffs: APSEZL would like to state that if the above comments and suggestions are incorporated in the tariff calculations, tariffs for composite cargo handling charges and storage charges are worked out as described below. In our view, tariffs worked out remains in the reasonable range with slight improvement over the proposed ones. Tariff Proposed <table><tr><th colspan="2">Composite e cargo Handling Charges, (₹/MT)</th></tr><tr><td>Foreign</td><td>₹/MT</td></tr><tr><td>Coal</td><td>319.69</td></tr><tr><td>Other Cargo</td><td>293.61</td></tr><tr><td colspan="2"></td></tr><tr><td colspan="2">Coastal</td></tr><tr><td>Coal</td><td>191.82</td></tr><tr><td>Other Cargo</td><td>176.16</td></tr><tr><td colspan="2">Coastal Rate of Coal will be applicable for only Non-Thermal Coal. Coastal Tariff for Thermal Coal would be similar to Foreign Tariff</td></tr><tr><td>Storage charges (₹/MT/Day) for coal and other cargo berth</td><td>₹/MT/Day</td></tr><tr><td>Time Period</td><td></td></tr><tr><td>Free Period of 25 days</td><td>0</td></tr><tr><td>First 5 days after Free Period</td><td>0.70</td></tr><tr><td>6th to 10th Day after Free Period</td><td>1.05</td></tr><tr><td>11th day onwards after Free Period (5 day assumed)</td><td>1.39</td></tr></table>	Composite e cargo Handling Charges, (₹/MT)		Foreign	₹/MT	Coal	319.69	Other Cargo	293.61			Coastal		Coal	191.82	Other Cargo	176.16	Coastal Rate of Coal will be applicable for only Non-Thermal Coal. Coastal Tariff for Thermal Coal would be similar to Foreign Tariff		Storage charges (₹/MT/Day) for coal and other cargo berth	₹/MT/Day	Time Period		Free Period of 25 days	0	First 5 days after Free Period	0.70	6th to 10th Day after Free Period	1.05	11th day onwards after Free Period (5 day assumed)	1.39	As detailed out in the Proposal
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(vii).	Performance Standards: (a). Gross Berth Output for Coal Performance Standard for Gross Berth Output for coal has been proposed as 35000 MT/Day. However, the same would be difficult to achieve keeping in mind following reasons: Tariff proposal considers handling rate of 35000 MT/Day for all types of vessels with DWT of 50000. 60000, 70000 and 80000. TAMP norm of 35000 MT is applicable for only Panamax Vessels i.e. 70000 MT and 80000 MT. However, handling rates for 50000 DWT and 60000 DWT vessels are not prescribed by TAMP. Instead, TAMP norms provides for Handysize and Handymax i.e. 15000 MT/Day. Thus, an average of 25000 MT/Day can be adopted for the vessels with 50000 DWT and 60000 DWT. Further, moisture content of imported steam coal is range 15-25%. This leads to lower productivity for handling coal from vessel to stockyard. APSEZL are of the view that for coal, performance standard of 30000 MT/Day can be considered as shown in the following working.	In view of standard industry norms, Panamax size dry bulk vessel size ranges from 60000 ~ 80000 DWT with larger vessels in this category achieving unloading rates higher than 35000 TPD. Accordingly, for the present purpose, 50,000 DWT vessels can also be accommodated within the Panamax category for an overall average unloading rate of 35,000 TPD. This is well achievable within the proposed rated capacity set of cargo handling equipments. Hence 35000 TPD has been considered as the average handling rate for calculation of optimal quay capacity. Gross Berth Output for other cargo: Handling rate has been considered as 8000 MT/ day, against the TAMP Norms of 10000 MT/day. This is achievable and practically possible. A Gross Berth Output of 7714 MT/ day has been arrived at by considering the berthing/ deberthing time of 0.125 days, and the same has been put as a Performance Standard.																														

	Performance Standards						
	Particulars	Unit	Vessel types				
	Vessel Sizes	DWT	50000	60000	70000	80000	
	Unloading Rate	MT/Day	25000	25000	35000	35000	
	Share of Vessels	% of Total	20%	30%	30%	20%	
	Weighted average handling rate	MT/day	30000				
	(b). Gross Berth Output for Other Cargo: Gross Berth output for Other Cargo has been proposed at 7714 MT/Day. However, as per TAMP norms for multipurpose cargo berth. The prescribed handling rate is at 7500 MT/Day for parcel size less than 30000 MT. Since, tariff proposal assumes parcel size of 27000 MT, handling rate of 7500 MT/Day should be proposed as gross berth output for other cargo						
	(c). Average Dwell Time for Transit Storage: Similarly, while prescribing dwell time for transit storage also, the dwell time should be considered based on that is used for yard capacity framing. APSEZL have already explained the optimal yard capacity in previous sections. Based on the same, APSEZL are of the view that average transit storage dwell time should be 40 days including free period of 25 days.						
(viii).	Conclusion: Overall, in view of above suggestions. APSEZL have carried out the revised working of tariffs and attached herewith. APSEZL request you to consider the suggestions positively for optimal and competitive tariff fixation for the successful project implementation.						
2.	Chettinad International Bulk Terminal Pvt. Ltd.						
1.	Capital Cost:						
(i).	The Capital cost used for the calculation of the tariff is not correct. The Capital cost estimated in the DPR as per Table 15.3 is more realistic in taking all Cost. Hence the Capital cost should be Rs.600.13crores (which excludes Jetty Construction and Capital Dredging costs) as against Rs. 474.7 crores.						The project cost considered in Table 15.3 of the DPR is for detailed financial analysis. And the capital cost considered in the Proposal is as per the TAMP norms.
2.	Coal Cargo:						
(i)	The angle of repose considered in the DPR is 37°, however in reality the Coal cargo has an angle of repose between 30 - 32° only. Hence the calculation should be based on that.						The angle of repose of 37° has been considered based on engineering best practices for developing countries. These norms have also been substantiated in India at various locations and as such do not call for any revision.
(ii)	The bulk density of Coal is assumed as 0.9 in the DPR, however the density varies between 0.8 to 0.9. Hence it would be better to consider as 0.85						The bulk density of coal has been considered as 0.9 t / m ³ as per the specifications of coal likely to be handled at NMPT.
3.	Other Cargo:						
(i)	Limestone, Dolomite, Gypsum (Dry Bulk):						

(a)	Activity involved in Dry Bulk cargo operation: • Cargo discharged from Vessel using vessel's gear through Hopper into Dumpers • Cargo is intercarted from berth area to the open storage yard and offloaded • Offloaded Cargo is scooped and high heaped using Front End Loaders (FEL) and Excavators	Given the small vessel sizes (of the order of 30,000 DWT), only one ship unloader will be used for cargo handling. Accordingly, one mobile hopper has been provided. Adequate numbers of 15 T trucks have been provided to ensure continuous movement of cargo from jetty to the storage area during vessel unloading. Given the low projected traffic for other cargo, infrequent vessel calls and large dwell times for such cargo at the storage area, 1 pay loader has been provided for evacuation from the storage area. The evacuation is proposed to be largely through road and hence additional equipments are not envisaged.
(b)	Cargo dispatch by Road: • Trucks arrive at the storage yard for Cargo • Cargo is loaded into trucks using Front End Loader (FEL)	
(c)	Cargo dispatch by Rail: • Cargo is intercarted to the Railway siding and offloaded through Dumpers prior to the Rake arrival. • On arrival of the Rake, cargo is loaded using Front End Loaders (FEL) The total number of equipment considered for arriving at the operating cost is not sufficient for the above activities. To accomplish the above activity successfully, we need the following equipments as below. • Excavators - 4 nos. • Hopper - 4 nos. • Dumpers - 26 • Front End Loaders (FEL) - 6	
(ii)	Fertilizer Cargo:	
	The sequence of activity for handling this cargo is mentioned below • Receipt of cargo in bulk • Discharging cargo into hoppers by leased cranes or ship gears • Inter carting the cargo to the warehouses • Bagging of fertilizer inside the warehouse • Dispatch the bagged cargo through trucks to the destination or wagon loading area • If the cargo to be dispatched through rail, load the cargo into wagons and dispatch. The current market cost for handling this cargo is between Rs.375 to 425 per ton. Hence the same may be considered for the tariff proposal.	For fertilizer cargo, the Tariff calculation is based on TAMP norms where TAMP decides the Tariff based on the cost of the equipments to be provided. As per the requirement, certain equipments are proposed which are sufficient for handling fertilizer cargo and the corresponding tariff has been proposed to TAMP. (For details, refer DPR)
4.	Vessel Berthing and De- Berthing:	
	Berthing: • From Pilot boarding to all fast at berth -1.5 hrs • Initial Draft survey, Customs boarding & ready for discharge - 2 hrs • TOTAL - 3.5 Hrs De-berthing: • Draft Survey & Customs boarding -1 hrs • Last line out, Pilot on board to Pilot station - 1.5 hrs • TOTAL- 2.5 Hrs Hence Chettinad International Bulk Terminal Pvt. Ltd. should consider 6 hours for Berthing, De-Berthing in place of 3 hours as mentioned in Page	With respect to relevant past data at NMPT, 3 hours has been considered for berthing and de-berthing, which is considered as sufficient.

	7 (3.IOC & 3.IIC).	
	Chettinad International Bulk Terminal Pvt. Ltd. would request that cost implications due to c.:11 the factors mentioned above is considered for arriving at the Tariff for handling of cargo in Berth No.17 as per the Tender.	
3.	APM Terminals India Pvt. Ltd.	
(i).	As a general, Tariff for cargo coal handling seems to be at lower level.	The cargo handling tariff for coal as well as other cargo has been calculated on the basis of TAMP Guidelines, 2008.
(ii).	Tariff has been calculated based on 20% revenue share (page 95 of 140), and considering 80% of the full capacity cargo available from first year. Both the assumptions seem very optimistic. Please suggest the logical reasoning of these assumptions.	These assumptions have been considered for a detailed financial analysis. For calculations of cargo handling tariff for coal and other cargo, please refer to the Tariff Proposal as sent to TAMP (Page 4)
(iii).	OPEX value taken seems at lower side. OPEX growth rate is 3-5% for different component is also low.	This assumption has been considered for a detailed financial analysis. For calculations of cargo handling tariff for coal and other cargo, please refer to the Upfront Tariff Proposal as sent to TAMP (Page 4)
(iv).	The turnover ratio has been increased to 15 from the stipulated 12. Please suggest the reasoning behind this higher turnover ratio. How much is the experiential dwell time achieved at NMPT at present or at any mechanized import coal import terminal nearby?	The TAMP guidelines stipulates plot turnover ratio of 12 based on the dwell time of 30 days. This appears to be very conservative. The estimated dwell time for coal is expected to be 24 days for the proposed terminal with mechanized coal handling systems. In view of the same, the plot turnover ratio of 15 is considered for coal.
(v).	Miscellaneous provision of 5% is low as it includes the cost of Pollution control, firefighting equipment, upfront payment, IDC, working capital margin, miscellaneous equipment, power supply, lighting etc.	These assumptions have been considered for a detailed financial analysis. For calculations of cargo handling tariff for coal and other cargo, please refer to the Upfront Tariff Proposal as sent to TAMP (Page 4)
(vi).	Contingency rate at 5% is lower than normally experienced in infrastructure projects.	The Estimation of the Project Cost used in the proposal is based on the TAMP Guidelines 2008, in which miscellaneous charges have been considered as 5%.
(vii).	Please include annual inflation rate in CAPEX and OPEX calculations	Annual inflation rate in accordance with Wholesale Price Index (WPI) have been considered for a detailed financial analysis. However, the TAMP Proposal calculations do not have any provision for inflation. However, the approved tariff

		shall be escalated at inflation rate based on TAMP Guidelines 2008.
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2. A joint hearing in this case was held on 31 August 2015 at the NMPT premises. The NMPT made a brief Power Point presentation of its proposal. At the joint hearing, the NMPT and the concerned users/ user organizations / prospective bidders have made the following submissions:

New Mangalore Port Trust (NMPT)

- (i). Makes power point presentation. Hard copy is given.
- (ii). Construction of berth no.12 is already undertaken by NMPT and is underway. We have decided to undertake the mechanization of berth no.12 on BOT basis for 30 years through PPP made.
- (iii). Major commodity to be handled is coal. Other cargo like Fertilizer, Limestone, Gypsum and Dolomite will also be handled.
- (iv). There is no upfront tariff available for similar project. Hence reference tariff is proposed under 2013 guidelines following principles of 2008 guidelines.
- (v). With draft of 14 mtrs, coal cargo in panamax size vessels upto 80,000 DWT is expected. For other cargo, vessels of upto 30,000 DWT would be handled at the berth.
- (vi). As per 2008 norms prescribed for coal terminal, handling rate for Panamax size vessels is 35,000 Tonnes Per Day (TPD) with two unloaders. The same is proposed.
- (vii). Other cargo would be handled in the Handymax vessels. We have considered an average handling rate of 8,000 TPD for other cargo.
- (viii). We have considered, the percentage share of coal vessels and other cargo vessels of around 75%:25%.
- (ix). For assessing the optimal quay capacity, we are proposing to capture impact of 3 hours berthing/ unberthing time in the ship day output. Accordingly, we have arrived at ship day output at 32,565 TPD for coal, and 7,714 TPD for other cargo. Optimal quay capacity for coal is assessed at 6.24 MTPA and for other cargo at 0.49 MTPA.
- (x). We have explained in the proposal the reasons for adopting the stacking and turnover parameter for coal cargo higher than the norms prescribed in 2008 guidelines. Optimal yard capacity is assessed at 6.24 MTPA for coal and 5.00 MTPA for other cargo.
- (xi). Lower of quay and yard capacities is considered as the optimal capacity i.e. 6.24 MTPA of coal and 0.49 MTPA of other cargo aggregating to 6.73 MTPA.
- (xii). We have estimated the total capital cost for the project ₹469.46 crores.
- (xiii). Total operating cost is estimated at ₹102.45 crores for coal following norms prescribed in 2008 guidelines. For other cargo the total operating cost is estimated at ₹3.33 crores.
- (xiv). Total ARR is ₹177.26 crores for coal handling and ₹3.65 crores for other cargo.
- (xv). We are not proposing tariff for miscellaneous services since it is difficult to list down miscellaneous services. We are proposing to include miscellaneous services as part of handling charges. 99% of ARR for coal cargo and 95% of ARR for other cargo is apportioned to arrive at the proposed handling charge. Balance 1% and 5% of ARR is apportioned for storage charge.
- (xvi). No investment is envisaged on the berth construction by the Developer, hence no berth hire charges would accrue to the Developer.

- (xvii). We have proposed performance standards for BOT operator to avail Performance Linked Tariff on achievement of performance standards as per 2013 guidelines.

Adani Ports and SEZ Ltd. (APASL)

- (i). The proposal should come under 2013 guidelines as reference tariff and not as upfront tariff as proposed by the port.
- (ii). Include cost of construction also in the capex.
- (iii). Power will be required for illumination at back up area. There is norm of 2.4 lakh/ hectare available for liquid terminal. This may be considered for this project also.
- (iv). We request to consider 4 tonnes / sq. mtr. as stacking parameter for coal based on our experience.
- (v). NMPT has reduced utilization of stacking area at 62% as against norm of 70%. 70% norm may be considered in the capacity calculation as per norm.
- (vi). We agree to turn over parameter of 15. Taking the above parameters, the yard capacity will be around 5.95 MTPA. Area to be allotted for coal stacking may be increased to 20 acres instead of 15 acres. Otherwise yard capacity will go down and quay capacity will remain under utilised.
- (vii). Free period for other cargo may be increased to 25 days at par with coal. None of the other cargo can be evacuated within 5 days free period. At the proposed free period, the storage cost will work out to ₹40/ tonne which is very high.
- (viii). There is correction required in calculation of handling charge. The impact of coastal concession should be considered while arriving at the handling charge.
- (ix). We request dwell time of 25 days for coal and 40 days for other cargo.
- (x). Ship day output of 30,000T/day of coal can be achieved as against norm of 35,000T/day. Imported steam coal contains moisture. If weighted average ship day output is considered, it will be 30,000T/day. This may be considered as performance standards for coal.

Bothra Shipping Services Pvt. Ltd. (BSSPL)

- (i). Tariff arrived is based on today's rates/ estimates. The cost estimates will go up by the time the terminal commences operations. Hence proposed rates may be increased by ₹20/ tonne.

Kanara Chamber of Commerce and Industry (KCCI)

- (i). NMPT has competition from Mormugao Port Trust and Cochin Port. Port should also examine whether capesize vessels can be handled at the port. This can give better edge over the neighboring ports.
- (ii). The proposal of NMPT does not cover one major classification of vessel i.e. Kamsar max vessel of 80,000 – 1,10,000 DWT which is one of the most popular vessel size in the present market. Port should explore the possibility to handle capsize/ Kamsarmax vessels which may be handled at the terminal after lightering either at NMPT or Goa port.
- (iii). Technicality of grab such as, size of the grab, grab hoist speed, etc., is not covered in the DPR. Port should go for the best mechanization facilities.
- (iv). Handling of coal will release suspended particles which get deposited on high rise building. The port area is very sensitive to environmental issues. We are very much concerned about environmental issues. The port should take care of this matter.

- (v). The present working and DPR lacks foresight and is not in tandem with the market forces.

3. The summary of the written submission and further comments made by M/s. KCCI and reply furnished by NMPT thereon is tabulated below:

Sl. No.	Written submission and further comments made by M/s. Kanara Chamber OF Commerce & Industry	Reply furnished by NMPT														
1.	Written submission dated 31 August															
(i).	Proposal Guidelines Vs. Market Realities:															
	Market Emphasis has been given for guidelines for competitive Determination of Tariff for projects at Major Ports 2013 and the application to the principles of 2008 Guidelines. The DPR in its Introduction Mentions, NMPT is located at 170 Nautical Miles South of Mormugoa and 191 Nautical Miles North of Cochin Port. The former being a natural harbour suitable for lighterage operations while the latter going in for outer harbour can offer competition and this NMPT proposal will not be able to compete on Economics of scale factor when cape size vessels can call closer Ports within 200 NM North and South of it.	The projected traffic has been worked out conservatively considering NMPT's immediate hinterland and the likely competition from the above mentioned competing ports given the advantages they have with respect to NMPT. Hence, the port is optimistic that the stated traffic projections will be realized. However, bidders are advised to carry out their own due technical and commercial diligence prior to bidding.														
(ii).	Market Forces - Ship Types:															
	Presently dry bulk Ships are categorized by size and purpose and the size and classification as under: <table><tr><th>Size (dead weight tonnes)</th><th>Classification</th></tr><tr><td>35000- 49, 999</td><td>Handymax</td></tr><tr><td>50000-65,000</td><td>Supra max</td></tr><tr><td>65000-79,999</td><td>Pana max</td></tr><tr><td>80000-110, 000</td><td>Kamsarmax</td></tr><tr><td>110000 +</td><td>Cape size</td></tr><tr><td>300000 +</td><td>VLOC</td></tr></table> With the expansion of Panama Canal locks which is underway and the already completed Suez Canal 2nd transit, the old standard of Panamax class will get phased out in design. Today, the 89000 MT Kamsarmax is the trendiest standard type vessel which is popular. The Berth Dimension should be made to accommodate full displacement of a Kamsar size Vessel or a Cape size Vessel after lighterage operations either at Goa or Mangalore Anchorages.	Size (dead weight tonnes)	Classification	35000- 49, 999	Handymax	50000-65,000	Supra max	65000-79,999	Pana max	80000-110, 000	Kamsarmax	110000 +	Cape size	300000 +	VLOC	The berth, which is already under construction and is expected to be completed shortly, shall be 325 m long and as such, can accommodate larger vessels. However, capital dredging in the western dock arm is not technically and operationally viable beyond the depth of (-) 15.4 m CD owing to presence of very hard rock and hence vessel sizes will be limited to 80,000 DWT due to lack of requisite under keel clearance for larger vessels. Further, the turning circle of 570 m dia has also limits vessel LOA to 285 m (570 / 2 = 285 m).
Size (dead weight tonnes)	Classification															
35000- 49, 999	Handymax															
50000-65,000	Supra max															
65000-79,999	Pana max															
80000-110, 000	Kamsarmax															
110000 +	Cape size															
300000 +	VLOC															
(iii).	Handling operations indicators / storage operation indicators:															
	There is definite scope for improvement to the performance standards indicated. Grab unloading 2000 TPH - 2 Nos. at a cost of 90 crores is debatable. The DPR does not cover issuers like size of the grab, the actual grab hoist speed, the skill of the operator, depth of hold/shape of hatch opening, tidal height, travel distance from Ships side to the shore hopper and stowage factor of the cargo being	The proposed system of grab unloading and mechanized handling at 6 nos of stock piles has been provided taking into consideration the annual coal throughput, constraints related to the square shape of the area available behind Berth 12 and good engineering practices for coal handling in Indian scenario. The bidders are encouraged to come out with innovative solutions in coal handling equipments at the berth and the yard so long as performance standards and														

	discharged. The entire costing factor will emerge from the size of grabs used. The DPR does not indicate the aspects with respect to open dry bulk storage. KCCI recommends that plans be made for double wind rows storage pile configurations instead of radial pile, conical pile or single wind row practices	number of equipments proposed in the concession agreement are complied with.
(iv).	Environmental Aspects: As per page 69 of 104 of TCS - DPR report, Page 107 of this document the clearance accorded for Berth No. 12 (18) was to develop it as a container terminal with a quay length of 300 metres. The Environmental Clearance obtained for Berth No. 12 (18) by the Port vide MOEF Letter No. F No- 11 - 2/2010- 1A 111 Dated 19.09.2011 said to be attached as Annexure 2 not made available in the Document Copy to KCCI. The handling of Coal will bring in additional suspended particles in the atmosphere which get deposited on to high rise buildings in Mangalore City. KCCI advocates that this Environmental Clearance issue is implemented in a transparent manner lest the citizens of Dakshina Kannada make it into a political issue.	The port has already applied to MoEF for change in cargo profile proposed to be handled at Berth 12. Mechanized coal handling facility, with effective dust suppression system at the stackyard and rapid rail loading system at the rail yard, has been provided to ensure compliance with environmental norms related to handling of coal at the berth, stackyard and during evacuation.
(v).	Queuing Theory and the problem of Berth Assignment and Port Capacity: KCCI highlight this problem anticipated as the proposal has been ambitious to handle two classes of vessels Panamax and Handymax with cargo type 1 and cargo type 2. 70% optimal quay capacity taken into consideration but the major factors to this problem are 1. The random pattern of Ships arriving in Port. 2. Port capacity gets limited to Berth No. 12. DPR does not reflect on ships waiting time cost while Port capital investment and handling costs of Berth No. 12 are made known.	It has been clarified that priority berthing will be provided to coal vessels at Berth 12. The "other cargo" vessels will be accommodated at Berth 12 only when the berth is not servicing coal vessels. This is likely to happen during the initial few years of coal traffic ramp up at Berth 12. During coal unloading operations at Berth 12, the "other cargo" vessels will be handled at other general cargo berths at NMP and hence costs related to ship waiting time will be minimized.
(vi).	Prayer: The KCCI prays the TAMP that directs NMPT to address the issues raised as the present working and DPR supporting the calculations lack foresight and not in tandem with market forces. KCCI wants NMPT to be the real market leader in the West Coast of India.	

4. With reference to revised proposal filed by the NMPT, M/s.KCCI vide its letter dated 14 September 2015 has furnished its comments to TAMP and to KPT. The NMPT has not furnished its response on the comments of M/s.KCCI. A summary comments made by the KCCI is tabulated below:

Sl. No.	Comments received from M/s.Kanara Chamber of Commerce and Industry (KCCI)
1.	M/s.KCCI
(i).	In KCCI's representation dated 31 st August, the KCCI had mentioned that in the present era New Mangalore Port Trust should abandon the idea of giving in for a Panamax dimension mechanized berth instead explore the feasibility to accommodate Kamsar size Vessel of 89000/ 90000 MT and accommodating lightened Capsize Vessels from anchorage at the proposed berth No. 12 with the expansion of Panama Canal operational from 2015 in view a new class of vessels being underway called 'New Panamax'. These Vessels will be in the market trading for the next fifty years. The old work horse Panamax class will get phased out in due course like the SD 14 of the world war II era. Incidentally the present Berth Nos. 2 and 3 of NMPT were designed and built for SD 14 specs in 1968/ 75.
(ii).	KCCI strongly recommends New Mangalore Port Trust goes in for Berth No. 12 Mechanized

	Berth keeping the following dimensions in mind: The Panama Canal new locks will be able to take vessels of 366 Mtrs LOA, 49 Mtrs beam and 15.2 Mtrs draught. These dimensions are known as 'New Panamax'. They will be capable of taking container ships to about 13000 TEU or Capsize bulk carriers on a part cargo of about 130000 tonnes. Improvement in ship design need to go hand in hand with improvement in ports and vice versa. The cost per tonne mile of Cargo will be the key factor when the competition between ports is fierce specially Modern Private Ports for example Vizhinjam and Jaigarh. A modern Capsize bulk carrier is about 180000 DWT with an LOA of 290 M and a beam of 45 M. This size of Vessel will easily transit the New Panama Canal drawing 15.2 Mtrs draught with a part cargo of 130000 tonnes.
(iii).	These will be ships of the future under 'New Panamax' class. A wrong decision taken now will have far reaching consequences in the life and economy of this Port and region. Who will be responsible for this act of omission and commission if an investment puts NMPT backwards?
(iv).	Prayer.
	KCCI prays the Mechanised berth at Berth no. 12 should look at accommodating 'New Panamax' design and class of Vessels and not the 70000DWT presently proposed by NMPT.
