



## **Berthing Policy**

In Chennai port, cargo vessels calling at the port were being berthed generally on the principle of first cum first served basis subject to the berthing guidelines/priorities set out by the Government of India from time to time. Though this arrangement was working fine, different restrictions(draft beam etc and availability of shore cranes, pipeline facilities etc) at certain berths required specified guidelines to be spelled out from time to time for taking berthing decisions on different berths located at the 3 docks.

This necessitated the introduction of a group berthing scheme effective from 18.12.95. Subsequently over the years the berthing requirements of the trade also evolved mainly due to the stoppage of handling of iron ore and coal in Chennai port from 1.10.2011. Meanwhile the ministry of shipping has also brought out guidelines on priority berthing of coastal vessels at Major ports which also require the major ports to incorporate the above provisions in their respective berthing policies and Scales of Rate.

Therefore the following berthing policy for Chennai Port is issued.

### **General**

The vessels shall be generally berthed on first cum first served basis. However taking into consideration the various requirements and guidelines issued by the government the following priorities shall be adopted:-

### **Priority Berthing for Coastal vessels**

One coastal dry bulk/general cargo coastal vessel shall be accorded priority berthing at a time. The Coastal vessels which are thus accorded priority berthing shall not be liable to priority berthing charges.

Coastal container vessel operators shall tie up with the private terminal operators who will accord priority berthing through specific window to coastal container vessels.

There will be no restrictions on berthing of coastal vessel, in addition to the coastal vessel berthed on priority as above, if the same is eligible under the other clauses of this policy.

## **Other Priority**

### **Vessel arriving for both Import & Export of cargo**

When the vessel is programmed for carrying out both import and export cargo handling (subsequently / simultaneously) the arrival seniority shall be considered provided the export programme / schedule is declared before berthing of vessel for discharge operation.

Vessels completing import cargo handling inside the dock and intended for back loading of export cargoes shall be deemed as ready when the import has been completed and upon readiness of export cargo/documents which ever is later and as per the other condition for export vessels already mentioned.

### **Lightening/ part-cargo vessels within one shift**

Such vessels shall be given certain priority considering the limited requirement of the port's resources for the vessel. The initial time of arrival to the outer anchorage shall be considered for determining the seniority.

### **Repair vessels**

For vessels which come for repair at berth and subsequently for cargo loading the time of readiness as declared by the agent after completion of readiness shall be reckoned for the purpose of seniority for allotment of berth for cargo handling purpose.

### **Sequence of Berthing:**

The following priority shall be adopted in bringing vessels to berths.

- Vessel in distress
- Passenger / Cruise vessels
- Vessels arriving/sailing with explosives.
- Coastal vessels
- Vessels calling under priority on payment of charges as per Scale of Rates (other than vessels carrying explosives)
- Containers & Pure Car Carrier Vessels
- Vessels berthed that can complete cargo handling operations within 8 hrs
- All other vessels which does not fall under the above categories.

The vessels carrying explosive cargo shall be given priority for sailing also.

## **Cargo Readiness for Berthing a vessel**

All export cargo for which berth is allotted should have 80% of cargo aggregated inside the port and should be physically available before berthing the vessel for loading and customs and port documentation for a minimum 50% of the cargo should be made ready before berthing the vessel and balance document should be made available after berthing without any delay in vessel operation. If the vessel fails to bring the documents the port may shift the vessel to accommodate another vessel to safeguard ports productivity parameters.

For liquid bulk cargo meant for exports wherein the cargo is fed from outside the port, customs and port documentation for a minimum of 80% of the cargo should be ready for berthing the vessel.

For all agricultural produce (wheat, maize & sugar) meant for exports a minimum of 50% of the total Shipping Bill quantity should be available within the port ready with port and customs documents for berthing the vessel.

In the case of Export of liquid bulk cargoes like Molasses, Edible oil etc where the tanks are located within the port, 100% cargo should be physically available with full customs and port documentation completed.

## **Seniority of the Vessel**

### **Arrival registration for seniority of a vessel.**

Arrival date and time of a vessel shall be reckoned as the time and date of her entering the Port limits as reported by the Master communicating to VTMS which shall be verified based on the radar recording wherever possible.

In cases when the order of arrival of 2 or more vessels is the same, the deciding factor will then be the order of anchoring as recorded by the Port control.

Anchoring time shall be declared by the Master and that becomes the basis for deciding the seniority of the vessel in cases where 2 or more vessels arrive at the same time. However, the master shall declare the anchoring time within a maximum limit of 30 minutes from the time of anchoring, however, vessels will be considered for berthing as per seniority / priority after they are ready in all respects.

The order for sailing will be on the order of calling for Pilot by the ship master subject to other priority and operational requirements for ensuring quick dispatch of ships.

### **Berthing of Vessels at BD1 and BD 3**

BD-1 & 3 - Dedicated for vessels on account of CPCL/IOC and hence shall be as required by CPCL/IOC. The CPCL/IOC shall indicate their berth requirement in writing to the traffic department in advance along with a written request from the Steamer Agent of the vessel indicating the berthing requirement.

BD-2 -Dedicated for other Liquid bulks and also for topping-up of bulk cargo for want of draft at JD and other general cargo vessels.

Priority for Berthing at BD2 shall be given for those vessels which have pipeline connectivity there. If no such vessels are available other vessels shall be berthed at BD2 on arrival seniority.

### **Berthing of Vessels at the 2 Container terminals viz. CCTPL and CITPL**

Berthing of the vessels on account of 4 berths of BD for container handling ie., CTB- 1 to CTB-4 has been licensed to M/s.CCTPL for a period of 30 years and the berthing shall be based on the licensee's request. Similarly the berthing of vessels at the 3 berths at EQ licenced to M/s CITPL shall be done based on their request.

For berthing of CPCL vessels at BD, agents have to give a request in writing supported by berthing request of CPCL.

### **Shifting of vessels to Anchorage**

Any vessel performing less than 80% of the output norms as published by the port shall be shifted to anchorage with a notice of 8 hours.

In case the vessel is shifted out from berth due to poor performance or any other reason the seniority of the vessel will be lost and shall be considered as fresh from the date /time of shifting to outer anchorage.

In case of vessel being shifted to outer anchorage to accommodate vessels enjoying overriding priority like ousting priority etc. the seniority of the vessel will be protected as already given at the time of its first berthing.

### **Discretion of the port to shift vessels on port convenience**

Notwithstanding any provisions in the above policy, the port shall have the discretion to shift any working vessel if required from berth to berth to accommodate other vessels as per berthing policy or for port convenience or in the larger interest of the trade.

### **Government of India directions on berthing**

Government guidelines regarding berthing of vessels and priorities issued from time to time shall be reckoned as part of this Policy and in case of any conflict with the provisions therein, government guidelines shall prevail.



**BERTHING POLICY**  
**FOR DRY BULK CARGO**

## **1. INTRODUCTION**

The present policy paper lays down standardized guidelines for all major ports to compute performance norms for different dry bulk commodities, taking into account the infrastructure available at ports. It also recommends penalties & incentive structures to be instituted by all major ports based on the performance norms calculated. All major ports are required to adapt these guidelines for their own specific ports and institute penalties & incentives tied to the performance norms as part of the overall berthing policy. In addition, the paper also describes a method for re-rating capacity of berths as well as guidelines for levying anchorage charges to reduce turn-around times.

## **2. BACKGROUND**

Dry bulk cargo currently makes up >26% of the cargo handled at the 12 major ports. Furthermore growth in coastal shipping is expected to add ~100-150 MMTPA of additional dry bulk cargo at ports by 2020-25. Recent benchmarking of ports' performance across key dry bulk commodities has identified significant scope for improvement of productivities in-comparison to best-in-class peers. The low productivity has contributed to high turn-around times in addition to resulting in higher berth occupancy levels across major ports. Furthermore, low productivity prevents ports from being able to utilize the full capacity of existing assets, thereby directly diminishing return on investment for ports. Significant productivity improvements are therefore necessary at major ports not only to ensure additional dry bulk cargo throughput, but also for avoidance of CAPEX in additional capacity creation.

## **3. OBJECTIVE**

The berthing policy is drafted to regulate performance of vessels at berth with an intention to meet the objectives as stated below:

- Provide a standardized framework for calculation of norms, specific to the commodity handled and the infrastructure available on the berth
- Design norms with the objective of driving higher productivity and achieving near-design capacity of the available equipments/infrastructure in order to:
  - Reduce berthing time & overall turn-around time of ships; drive higher cargo throughput using the available infrastructure in the Major Ports
  - Improve utilization of port assets and create additional capacity without any significant capital investment.
  - Increase competitiveness of the Major Port by creating value for the trade through reduced logistics cost
- Re-assess the capacity of the berths based on the expected performance of the berth equipments and vessels derived from the performance norms
- Standardize anchorage charges across major ports to reduce turnaround time

## **4. GUIDELINES FOR CALCULATION OF PERFORMANCE NORMS**

### **4.1 Performance norms calculation for unloading of dry bulk cargo**

**4.1.1** A method for calculation of normative unloading performance for different kinds of dry bulk cargo (coal, fertilizers, iron-ore, minerals, food-grains etc.) is described in detail below and in Annexure-I. All the ports are required to use the same approach for calculation of productivity norms for dry bulk unloading at their respective ports.

**4.1.2** The approach, computes the normative productivity of unloading operations of dry bulk cargo (defined as tonnes of cargo unloaded per berth day) at a commodity specific level. The model calculates the normative productivity level for each dry bulk commodity by taking into the following variables:

- Density of commodity
- Size of grab available (in cbm)
- Picking factor for the particular commodity
- Number of cycles per hour: This value depends on the size and type of crane (ship/shore/HMC) and stage of operation (full-load vs. partial-load)
- Non-working time per shift
- % of total cargo that is covered by full-load or partial-load operation
- Vessel profile i.e. Size of the vessel, geared vs. gearless

### **4.1.3 Stepwise illustration of commodity specific performance norms calculation:**

- i. First, tonnes per grab lift is calculated for each commodity based on the density of commodity, grab-size and picking factor.

$$\text{Quantity/lift} = \text{Grab size (cbm)} * \text{Commodity density (tonnes/m}^3\text{)} (* \text{ Grab pick \%})$$

- ii. Second, tonnes moved per hour of crane operation is calculated by multiplying # of cycles for crane per hour and the quantity per lift. The cycles per hour of crane operation will vary based on whether the crane is working at full-load or partial load.

$$\text{Quantity per hour} = \text{Cycles/hour} * \text{Quantity per cycle}$$

- iii. Tonnes moved per hour of crane operation is next extrapolated to tonnes moved by crane per day by multiplying tonnes per hour calculated above with the number of working hours. It is assumed that typically 0.5 hr per shift will be idle translating to number of working hours of 22.5 per day.

$$\text{Quantity per day} = \text{Quantity per hour} * \text{\# of hours per day}$$

iv. Ship-specific performance norms for each commodity are calculate by taking into account the % of cargo used in full-load vs. half-load operations. This will depend on the size of ships, the nature of infrastructure at port i.e. availability of payloaders etc. and the type of cargo that is being unloaded. For example for Panamax vessels carrying coking coal, 70% of cargo is assumed to be used in full-load operations and balance in partial-load operations. For this, the number of hours used up in both partial-load and full-load operations are calculated as:

$$\# \text{ of hours (full-load)} = \% \text{ of full-load} * \text{Parcel size/Tonnes per day for full-load}$$

$$\# \text{ of hours (partial-load)} = \% \text{ of partial-load} * \text{Parcel size/Tonnes per day for partial-load}$$

$$\text{Productivity} = \text{Parcel size} / (\# \text{ of full-load hrs} + \# \text{ of partial-load hours})$$

Averaging of full load (top cargo) and half load (bottom cargo) is done to incorporate lower productivity at the time of half load. The % of cargo to be used for half-load and full-load operation as per size of vessel is specified below.

Class of vessel	% of cargo for full- load	% of cargo for half- load
Panamax & above	70%	30%
Supramax	60%	40%
Handymax	55%	45%

v. Finally, norms are calculated by taking into account the best infrastructure that is available at the berth to determine commodity-wise productivity norms. This is to ensure that ports are able to maximize berth productivity, reduce TAT for customers and improve RoCE for ports assets. Furthermore, ports are directed to ensure that berth productivity is not reduced because of in-efficiency of ships discharging with ship-cranes through mandated use of HMCs wherever available. For berths across several ports, 2 HMCs per ship are routinely used whereas in the case of ship-cranes 4 cranes are used in conjunction.

The performance norms thus calculated and rounded off are furnished in the ANNEXURE.

#### 4.2 Performance norms calculation for loading of dry bulk cargo

The normative productivity of mechanized loading operations of dry bulk cargo (defined as tonnes of cargo loaded per berth day) based on:

- Existing berth infrastructure (loading rate possible)
- Actual loading rate during working time at berth (depending on ship-size)
- Non-working time for loading (hatch-changes, draught surveys & pre- /post-loading)

The gross productivity is then calculated as

$$\text{Productivity} = \text{Parcel size} / (\# \text{ of working hours} + \# \text{ of non working hours})$$

Where:

*# of working hours = Parcel size/ Loading rate requested*

*# of non-working hours is defined as the sum of time spent in hatch changes, draught surveys and pre/post commencement delays.*

## **6. GUIDELINES FOR LEVYING ANCHORAGE CHARGES**

**6.1** Anchorage charges are to be levied across all major ports for the purpose of reducing pre-berthing delay and hence the overall turn-around time for vessels. This will help streamline vessel scheduling for customers and lead to efficient usage of port anchorage

**6.2** Ports are to create multiple slab rates for anchorage charges based on the time of waiting of the vessel in the anchorage. The slabs and the respective anchorage charges applicable in those slabs will adhere to the following guidelines

- i. Ports are to provide a free waiting period for vessels during which no anchorage charges will be levied. The free waiting period should not exceed 48 hours of waiting in the anchorage.
- ii. Post the free waiting period, a normal anchorage charge ranging from 10% to 25% of the berth hire charges is to be levied on the vessel for a period of 48-96 hours post expiry of the free period. Berth hire charges as per SoR are to be considered for the same.
- iii. Post a waiting period of 96-144 hours, ports are to charge a high anchorage charge comparable to the daily charter rates of the vessel.
- iv. Anchorage charges should not be higher than 50% of the berth hire charges at any point of time.
- v. Anchorage charges will be higher for foreign vessels mirroring the berth hire charges for foreign vessels in the port

**6.3** Port can exempt vessels from paying anchorage charges in exceptional circumstances including but not limited to lapses in port provided services (e.g. crane or equipment failure, unavailability of pilot etc.) causing waiting of vessels. Chairman of the Port Trust or an equivalent authority will require approving of any waivers in anchorage charges

## **7. GUIDELINES FOR ROLLING OUT PERFORMANCE NORMS**

7.1 All major ports will have to use the approach detailed above adapting it based on their existing infrastructure to calculate performance norms for different dry bulk cargo commodities.

7.2 During the first year, ports are encouraged to roll out performance norms in a phased manner to reach the target levels achievable for each commodity given infrastructure available at berths. To this end, performance norms for different commodities along with anchorage charges will have to be computed every quarter by all ports in the first year until target norms are reached. Subsequently, the norms can be calculated every year or upon upgradation of infrastructure at berth, whichever is earlier. It is expected that in the case of ideal norms, most of ships will be able to achieve the norms with some ships performing better than norms. As a guideline, if more than 70% of ships are achieving the set-norms then the port should increase the norms. Ports are required to share target norms (1 yr targets) with end customers & agents at the beginning of the first quarter to allow them time to incorporate them into charter parties.

7.3. Performance norms have to be calculated as per the approach detailed above. In the exception that more than 70% of ships cannot meet norms, the Chairman in consultation with Board can relax the performance norms.

7.4. Performance norms calculated above will have to be notified by ports to each of the stevedores & shore handling agents at the respective ports wherever such parties are engaged in loading/unloading operations. The stevedores & shore handling agents will, as part of the daily performance report, track adherence to the performance norms as per the guidelines set in the Stevedoring & Shore Handling Policy (2016)

7.5. Ports will update the customers with performance norms for different commodity-crane combination upon every revision of the norm

7.6 In cases where performance norms are not met, ports are to explore scope for sharing of berth facilities (pipelines, cranes, storage facilities etc.) owned by the port or private operators among multiple users to improve performance or utilization of facilities

## **8. LINKING INCENTIVES AND PENALTIES WITH NORMS**

8.1 The performance norms calculated by each port will be used to create a productivity linked incentive/dis-incentive structure for end-customers. The objective of the performance linked incentive/ dis-incentive structure is to continuously drive productivity improvements across ports and reward the vessels/customers that are exceeding the norms, thus creating value for the port in addition to allowing customers and trade to bring down the cost of logistics.

**8.2** The performance norm calculated for any particular commodity-infrastructure combination will be used as the base for the performance linked incentive/dis-incentive scheme. For each arrival ship, the actual berth stay is calculated based on the time between "end of inward pilotage" to sailing time. This berth stay is then compared to the stipulated berth stay for that ship-commodity combination (based on commodity specific productivity norm and parcel size of vessel).

- i. If a ship stays within 5% (higher or lower) of the stipulated time for that commodity, then no penalty/incentive will be levied/paid.
- ii. In cases where actual berth stay is more than 5% **higher** than the stipulated time, number of additional hours spent at berth will be penalized at 3X berth hire.
- iii. In cases where actual berth stay is more than 5% **lower** than the stipulated time, number of additional hours saved will be incentivized at 1X berth hire

As a guideline, ports should maintain penalty of at least 5% of the total cost per metric tonne to customer to ensure adherence to norms.

For vessels employing **dual loading**, the performance norms shall be calculated assuming two loaders are simultaneously loading a single vessel as described in Figure 3. The incentives/ penalties will be levied as below.

- i. If a ship stays within 5% (higher or lower) of the stipulated time for dual loading, then no penalty/incentive will be levied/paid.
- ii. In cases where actual berth stay is more than 5 % **higher** than the stipulated time, number of additional hours spent at berth will be penalized at 1X berth hire.
- iii. In cases where actual berth stay is more than 5% **lower** than the stipulated time, number of additional hours saved will be incentivized at 2X berth hire.

**8.3** The Traffic manager of each major Port Trust will be responsible for setting up data recording and analysis mechanisms to identify adherence to norms and variations from norms. In addition, the Traffic department is responsible for co-coordinating collection of penalties and provision of incentives as per the policy designed at their respective ports.

**8.4** In computing actual performance achieved by each ship for the purpose of calculating penalty/incentive, any stoppage of operations on account of port- related or weather- related issues will be discounted. Such exclusions will be limited to:

- Break-down/ non-availability of port provided equipment at berth
- Weather related stoppages
- Foreign material in manual shifting of cargo

- Shifting of ships between berths on account of port. Port is required to maintain a record of a historical data of the frequency of such cases.
- Any delays in sailing post vessel readiness to sail on account of port i.e. pilot/tug unavailability, tidal conditions
- Draft surveys within the prescribed norms for ships.

As a guideline, maximum 30 mins per party for interim draft survey should be allowed. Any additional time incurred in draft surveys will be considered in berth stay. Ports should also make all attempts to ensure that in case of multi-party consignments, common surveyors are appointed so as to reduce time lost during interim draft surveys.

Any stoppages because of other reasons are not to be excluded for calculation of performance norms, unless specifically approved by Board of the Port.

**8.5** Performance norms will be revised every quarter during the first year till target norms for commodity are reached. Subsequent revisions will be done yearly or upon upgradation of berth infrastructure. Ports are required to send a yearly update to IPA on status of performance norms & linked penalty/incentive structure in place including # of revisions to performance norms in year, % of ships paying penalties and total amount of penalties levied & collected.

**8.6** All major ports are directed to roll-out a performance norms linked penalty/incentive structure as described above. However, in the exceptional case that the Chairman and Board of a major port trust feel that introduction of the penalty/incentive structure will adversely affect ability of the port to retain business, then the Port, can be given a temporary relaxation from the penalty/incentive structure. Ports are expected to create a clear argument of the rationale for norms relaxation covering the following points:

- Illustrating the potential impact of suggested incentive structure vis-à-vis the recommended structure on ₹/MT for end –customer
- Demonstrating expected effect on competitiveness of the major port vis-à-vis private competitors for suggested penalty/incentive structure over recommended structure
- Highlighting the specific steps to be taken by port to ensure roll-out of incentives/penalties within 6 months

**8.7** Port Trusts are responsible for sharing with the Ministry, on a monthly basis, summary of the ships under-performing and over-performing the stipulated norms in addition to total amount of penalties and incentives

## **9. SCOPE OF BERTHING POLICY**

**9.1** As described, one of the primary purposes of the berthing policy paper is to improve productivity of dry bulk loading/ un-loading operations at ports. To that effect, performance norms calculated here for different commodities will be used to design a productivity linked penalty & incentive structure for each port.

**9.2** In addition, performance norms calculated as per approach detailed in section 4 will also be used for other productivity improvement measures including priority berthing, forced de-berthing, berthing denial to repeat offenders etc. For instance, in the case of loading of dry bulk, priority berthing can be accorded to vessels promising a load rate that is closer to the best-available equipment productivity available at berth. Similarly, in case of unloading operations, vessels not meeting a particular productivity target can be de-berthed or denied visits to ports as has been observed in other private ports in India and outside.

**9.3** Furthermore, ports are required to use performance norms calculated as per approach detailed in section 4 for calculating productivity norms for stevedoring & shore handling policy as detailed in Stevedoring & Shore Handling Policy (2016).

**9.4** Ports are also asked to use the approach for performance norms detailed above for stipulating performance norms in future concession agreements for PPP/BOT projects.

**9.5** Ports are to compute berth capacity for new BoT and PPP (captive) projects as per the performance norms. The capacity would also be considered for calculation of minimum guaranteed cargo for the BOT and PPP projects.

## ANNEXURE

<b>NORMS FOR UNLOADING DRY BULK CARGO</b>								
Commodity	#Density	Grab CBM	Supermax	Handymax	Supermax	Handymax	Supermax	Handymax
			Rounded of figures					
			PER HMC		PER SHIP CRANE		PER SHORE CRANE	
DOLOMITE	0.7	22.5	8000	7500	4200	4000	3200	3000
LIMESTONE	2.3	22.5	26000	25000	14000	13500	10500	10000
FERTILIZER - UREA	1.32	22.5	15000	14000	8000	7500	6700	6500
FERTILIZER - MOP	1.12	22.5	12700	12000	7000	6500	5700	5500
FERTILIZER - DAP	1.619	22.5	18500	18000	10000	9500	8200	8000
FERTILIZER (R) - RP	1.762	22.5	20000	19500	10700	10400	9000	8700
FERTILIZER (R) - SULPHUR	0.72	22.5	8200	8000	4500	4200	3700	3500
SHREDDED SCRAP	1.12	22.5	12700	12000	4600	4400	3000	2700
HEAVY MELTING SCRAP	0.7	22.5	8000	7500	3000	2700	1700	1500
GYPSUM	0.8	22.5	9000	8500	4000	3800	3000	2700
SILICA SAND	1.56	22.5	17700	17000	8000	7500	5500	5300
MANGANESE ORE	1.762	22.5	20000	19500	9000	8500	6200	6000
FOOD GRAINS	0.6	22.5	6500	6000	3700	3500	3000	2800