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Table of Contents

[Abbreviations v](#_Toc318383563)

[Executive Summary vii](#_Toc318383564)

[Methodology vii](#_Toc318383565)

[Approach to the Development of New Guidelines vii](#_Toc318383566)

[Implications of the Proposed GL x](#_Toc318383567)

[1. Introduction 1](#_Toc318383568)

[Terms of Reference 1](#_Toc318383569)

[Methodology 2](#_Toc318383570)

[2. Stakeholder Consultation 3](#_Toc318383571)

[3. Tariff Regulation (National & International Experience) 5](#_Toc318383572)

[Electricity Sector 5](#_Toc318383573)

[Civil Aviation 6](#_Toc318383574)

[4. Development of new guidelines 9](#_Toc318383575)

[Issues in 2005 GL 9](#_Toc318383576)

[Approach in 2008 GL 9](#_Toc318383577)

[Approach to the development of New Guidelines 9](#_Toc318383578)

[Issues addressed in the new GL 11](#_Toc318383579)

[5. Development of Norms 17](#_Toc318383580)

[1. Container Terminal 17](#_Toc318383581)

[2. Coal Terminal 21](#_Toc318383582)

[3. Multipurpose berth/terminal 25](#_Toc318383583)

[4. Iron Ore Terminal 27](#_Toc318383584)

[5. Liquid Bulk Terminal 27](#_Toc318383585)

[6. Berth Hire 27](#_Toc318383586)

[6. Implications of the Proposed Guidelines 29](#_Toc318383587)

[7. Way Forward 31](#_Toc318383588)

[8. Proposed Guidelines for Regulation of Tariff 33](#_Toc318383589)

[General 33](#_Toc318383590)

[Annexure A: Norms for fixation of tariff for services rendered at Container terminal 41](#_Toc318383591)

[Annexure B: Norms for fixation of tariff for services rendered at Coal terminal 47](#_Toc318383592)

[Annexure C: Norms for fixation of tariff for services rendered at Multipurpose Cargo Berth 53](#_Toc318383593)

[Annexure D: Norms for fixation of tariff for services rendered at Iron Ore Terminal 59](#_Toc318383594)

[Annexure E: Norms for fixation of tariff for services rendered at Liquid Bulk Terminal 63](#_Toc318383595)

[Annexure F: List of Stakeholders from whom written submissions were received 67](#_Toc318383596)

Abbreviations

|  |  |
| --- | --- |
| AERA | Airports Economic Regulatory Authority |
| ARR | Annual Revenue Requirement |
| BPCL | Bharat Petroleum Corporation Ltd |
| CAPM | Capital Asset Pricing Model |
| FICCI | Federation of Indian Chambers of Commerce and Industry |
| GL | Guidelines |
| GFA | Gross Fixed Assets |
| IPPTA | Indian Private Ports & Terminals Association |
| JNPT | Jawaharlal Nehru Port Trust |
| MANSA | Mumbai and Nhava-Sheva Ship-Agents Association |
| MoS | Ministry of Shipping |
| MYT | Multi Year Tariff |
| RoCE | Return on Capital Employed |
| RR | Revenue Requirement |
| SERCs | State Electricity Regulatory Commissions |
| SoR | Scale of Rates |
| TAMP | Tariff Authority for Major Ports |

Executive Summary

In the Indian port sector, there are different regimes followed for determination of tariffs. The first tariff guidelines for the port sector were introduced in 1998 under which tariff caps were set on the basis of a cost plus approach for services provided by the ports and the private terminals. The cost plus approach was continued in the subsequent guidelines introduced in 2005. The government allowed royalty/revenue share to the terminals whose bidding process was completed before 29th July 2003, in such a manner so as to avoid a likely loss to the operator on account of the royalty/revenue share not being taken into account, subject to a maximum of the amount quoted by the next lowest bidder. This resulted in creating two categories of private operators under the 2005 tariff regime, one pre 29th July 2003 and the other post 29th July 2003.

Further, the Government in an attempt to move towards a normative approach brought in a new set of guidelines dated 26th February 2008. The introduction of 2008 GL, resulted in creating a third set of private operators. The 2008 GL, also stipulate that the norms set will be reviewed every five years and if any changes are introduced, then these revised norms will be applicable for the prospective bidders. This implies that the tariff regime would change every five years and there would be terminals operating in India under different tariff regimes.

As tariff, even presently is set under different regimes using very different methodologies there has been a growing feeling that tariff setting should be on a normative approach and to the extent possible the norms should be uniformly applied. In order to bring about a normative approach to tariff determination the Ministry of Shipping (MoS) felt the need to assess the feasibility of moving players under the existing cost plus tariff regime of 2005 to a normative cost based regime. The MoS commissioned TERI to review the 2005 GL and recommend a normative approach following the approach used in the 2008 GL.

Methodology

TERI’s study is based on a critical review of the 2005 GL, a review of the 2008 GL to understand the extent to which it can be adopted for the proposed GL, a review of national and international experience in tariff regulation in the infrastructure sector, a detailed analysis of the various tariff orders issued by TAMP, a review of the limited information received from some ports and an examination of the views/suggestions expressed by the stakeholders.

Approach to the Development of New Guidelines

At present, the private terminals are dedicated terminals, handling specific cargoes, for which concession had been given by the concerned major ports. Some ports also have terminals handling specific cargoes. As far as other operations are concerned the cargo handling activities of ports are not confined to one cargo or one location as in the case of private terminals. Ports also carry out other ‘landlord’ activities such as estate management, conservancy, safety and security. They also provide basic services at the port such as power, water, sanitation, roads etc. Under this scenario, bringing all port services under a normative approach is very difficult and complex.

In view of these reasons this report recommends, that a normative approach to tariff setting be adopted for all the private operators and port terminals handling specific commodities such as containers, iron ore, etc. As far as other activities carried out by major ports are concerned, the present cost plus approach will continue. Hence the proposed GL provide for two approaches, one a normative approach in case of private terminals and cargo specific terminals of major ports and the other a cost plus approach for other activities of the major ports.

The following Section discusses the major recommendations contained in the new guidelines.

Capacity Determination

The categorization of cargo handling terminals in five categories, i.e., Container, Iron ore, Coal, Liquid bulk and multi-purpose terminals, in the 2008 GL is relevant for the existing terminals as well and hence is retained. The 2008 GL prescribe norms for the creation of physical assets and for their performance and provides for the determination of optimal capacity on that basis. The new GL, on the other hand recognize that investments have already been made and the terminals are in operation and provide for determination of optimal capacity on the basis of the existing assets and the performance norms that have been set. As for performance norms, the norms prescribed in the 2008 GL have been adopted except in a few cases where revised norms have been prescribed. The detail description of the norms prescribed is contained in the Chapter on ‘Development of Norms’.

Capital cost

Since these are existing terminals and investment has already been made, the actual costs of the investment as per audited books of account should be considered.

Asset Base

In the application of the normative cost based approach in case of the new GL, the asset base has to be determined keeping in mind that the capital cost that has already been incurred and depreciation of the value of the asset that has occurred over time. The GL also provide for the consideration of the average of the opening and closing balance of block of asset for the year for which the tariff is fixed as per the audited books of account as is being done in other sectors. This asset base will remain constant for the duration of the tariff cycle.

Additional investments

The new GL encourage operators to reach optimal capacity and higher levels of efficiency. They provide that investments necessary to make this happen should be recognised and tariff re-fixed even within the tariff cycle.

Business Assets, Business Related Assets and Social Obligation Assets

The proposed GL recommend continuation of the existing approach of segregating Business Assets, Business Related Assets and Social Obligation Assets. However, in order to enable the ports to meet their social obligations, a provision is made under the escrow account to finance such investments.

Depreciation of Assets

The proposed guidelines reiterate the requirement in the 2005 GL that both the Ports and the private terminals follow a uniform approach as per the Companies Act. The asset base considered for depreciation should be the average of the opening block and the closing block of the asset for the year in which the tariff is determined.

Escrow Account

The proposed GL provide for the use of escrow account to meet the cost of surplus labour and for the creation and/or modernisation of the Port infrastructure facility as prescribed in the 2005 GL. Further, considering that dredging is a major infrastructure activity, the new GL propose that dredging should also be funded from the escrow account. In addition, the proposed GL provide for enlarging the scope of the escrow account to meet a) the cost of environmental protection and upgradation and b) the social obligations of the ports.

As the scope of the utilization of the funds received in the escrow account is being enlarged, the new GL propose that the entire amount of revenue share/royalty received by the port trust should be maintained in the Escrow Account and spent within a period of 6 years. The investments made out of this Escrow Account will not qualify for any return.

Adjustment of past surplus

When the tariff is fixed for the first time under the new GL, a review of both the efficiency gains and the variations in costs until then should be carried out and adjusted in the new tariff cycle appropriately.

Royalty/revenue share

The proposed guidelines provide for continuation of the government’s decision on treatment of royalty/revenue share. However for the purposes of tariff fixation under the new GL, the GL propose that the allowable royalty should be calculated on the basis of the traffic volume handled in the year preceding the tariff fixation. This should be trued up at the end of the tariff cycle to take into account the actual volume handled by the operator during the tariff cycle.

Tariff Cycle

The proposed GL recommends a five year tariff cycle both in respect of private terminals and ports including all terminal activities.

Cost Escalation

The proposed GL recommends indexation of inflation in the tariff set for private and cargo specific port terminals at 60% of WPI. The GL also propose that the indexation of inflation for expenditure projections in the case of other port activities should be limited to WPI \* 60% in order to increase efficiency.

Operating cost

In the proposed GL the operating costs are grouped as prescribed in the 2008 GL. In addition, the cost of maintenance dredging and the royalty/revenue share, where provided for in the Concession Agreement are recognised as separate cost items. Cost items such as equipment hire charges, technical service fees and preliminary expenses are bundled and included in ‘other costs’ and a norm has been set accordingly.

Foreign exchange fluctuation

The proposed GL do not provide for denominating any tariff or charges in any currency other than the Indian Rupees.

Implications of the Proposed GL

The inadequate availability of data was a major problem in carrying out this study and the development and validation of norms. Data constraints also made it difficult for TERI to establish the formula for determining the optimal capacity for coal, iron ore and multi-purpose terminals on the basis of the actual civil assets created and equipment deployed.

The study has revealed that there are vast differences in the investments made, capacities created and operating costs between private terminals, between major ports and between private terminals and major ports. Therefore application of uniform norms to private terminals and also to the cargo specific terminals of the major ports could be difficult. However best efforts have been made to suggest reasonable norms for various parameters. TERI recognizes that any move from a cost plus approach to a normative approach could result in disparities and adversely impact on the operations of some players. It is for this reason, that it is being suggested that if the government was to accept these recommendations, it should consider providing a security net to the terminals and fix a floor tariff, for a period of three years, at 60% of the prevailing tariff should the prescribed tariff fall below 60% of the prevailing tariff. The modalities for adjusting the support provided in the ensuing tariff cycle(s) could be worked out separately. It is also being suggested that as it has not been possible to assess the impact of the proposed GL on all terminals due to data constraints etc, TAMP should be requested to carry out a review at the end of two years to see if any mid-course correction is necessary.

1. Introduction

India’s coastline of about 7500km forms an important infrastructure link in India’s trade. There are 12 major ports administered by the central government and a large number of non-major ports administered by state government. With the liberalization of the economy, the sector was opened up to private investments; an independent regulator/tariff authority was set up in 1997 to regulate tariff and create a level playing field between the ports and the private terminals.

The first tariff guidelines were introduced in 1998 under which tariff caps were set on the basis of a cost plus approach for services provided by the ports and the private terminals. The cost plus approach was continued in the subsequent guidelines introduced in 2005. As there was some dispute in regard to the treatment of royalty/revenue share, the government of India issued an order on 29th July 2003 allowing royalty/revenue share as a pass through to terminals whose BOT bidding processes were completed before 29th July 2003, in such a manner so as to avoid a likely loss to the operator on account of the royalty/revenue share not being taken into account, subject to a maximum of the amount quoted by the next lowest bidder. This resulted in creating two categories of private operators under the 2005 tariff regime, one pre 29th July 2003 and the other post 29th July 2003 operators.

Recognising that the cost plus regime does not encourage efficiency and reduce cost the Government of India decided to move towards a normative approach for tariff setting and brought in a new set of guidelines dated 26th February 2008. The 2008 GL prescribe norms for the physical assets to be created and the equipments to be deployed and also norms for their performance and a methodology to calculate the optimal terminal capacity on the basis of these norms. These norms are also to be used in determining the capital cost. As the guidelines provide for the determination of tariff on the basis of facilities created and cost incurred according to the norms, these guidelines are applicable only to those operators whose BOT bidding processes are concluded post 2008. The introduction of 2008 GL, resulted in creating a third set of private operators. The 2008 GL, also stipulate that the norms set will be reviewed every five years and if any changes are introduced, then these revised norms will be applicable for the prospective bidders. This implies that the tariff regime would change every five years and there would be terminals operating in India under different tariff regimes.

As tariff, even presently is set under different regimes using very different methodologies there has been a growing feeling that tariff setting should be on a normative approach and to the extent possible the norms should be uniformly applied. In order to bring about a uniformity and a normative approach to tariff determination the Ministry of Shipping (MoS) felt the need to assess the feasibility of moving players under the existing cost plus tariff regime of 2005 to a normative cost based regime. The MoS commissioned TERI to review the 2005 GL and recommend a normative approach following the approach used in the 2008 GL. The terms of reference for the study as provided by the Ministry are as follows:

Terms of Reference

1. To critically analyze the port wise cost plus method of tariff fixation envisaged by the Tariff Guidelines of 2005 and highlight the various issues which are to be addressed in the review exercise.
2. To develop formulae for determining standard capacity of different facilities (both sea and landward) at a port / terminal and suggest the standards for different variables to be considered in computation of the standard capacity. In this regard, the methodology prescribed in the upfront tariff guidelines of 2008 may be taken note of.
3. To analyze individual activities and service groups and develop physical norms for efficient operations of the facilities.
4. To determine normative cost, both fixed and variable, of different operations 'with reference to the physical norms developed and provide a suitable method for periodic updating of costs.
5. To suggest suitable method for recognizing capital cost relevant for achieving the standard capacity and allowing return thereon.
6. To examine the issue relating to pass through of royalty/revenue share payable by the qualifying private terminal operators and suggest the method of factoring admissible pass through in the normative model.
7. To explore the possibilities of introducing efficiency linked Tariff scheme.
8. To suggest periodicity of review of Tariffs and norms.
9. To furnish Draft Guidelines to implement the recommended model.

Methodology

This study involves a detailed review of 2005 GL and has made an attempt to recommend an approach to determination of capacity and fixation of tariff on the basis of norms. A set of guidelines that would help move from the existing cost plus approach to a normative cost based approach has also been furnished. The methodology includes:

1. International literature review of tariff regulations in other countries
2. Review of approaches to tariff fixation adopted by the electricity and airport regulators in India
3. Critical review of 2005 GL
4. Study of TAMP order**s** on the proposals of Major Ports and private terminals
5. Study of the 2008 GL for PPP and the tariff orders for PPP issued on the basis of these guidelines
6. Discussions with stakeholders and visits to select major ports
7. Preparation of New Draft Guidelines

2. Stakeholder Consultation

In order to ensure wide stakeholder consultation, a notice was put up on the Ministry of Shipping’s website inviting comments from all stakeholders on the issues faced by them with respect to the 2005 GL. In addition, TERI contacted all the ports, private terminal operators and some of the user groups to give their feedback on the 2005 GL. TERI team also held focussed discussions with a few port trusts, private terminals, user groups and with TAMP. TERI had also approached all the port trusts and the private terminals for the data necessary for fixation of norms. However, no data was received from the private terminals and some data was received from the port trusts.

Based on the discussions and comments received the major issues/comments raised by the stakeholders are summarized below:

Return on Capital Employed

The present cost plus approach needs a review as the tariff does not offer a fair return to the operators. It was suggested that return should be allowed on the gross block rather than the current practice of allowing return on the net block.

Cost escalation

The present arrangement of cost escalation is not satisfactory as it does not fully compensate the inflationary pressures. It was suggested that updating of the costs should be to the extent of 75% of CPI (IW) for every relevant year.

Royalty/ Revenue share

Treatment of royalty/revenue share is a major concern for private operators. It was suggested that royalty/revenue share should be allowed as a pass through in tariff fixation. For the cases prior to 2003, 100% of royalty should be allowed as cost. For cases post – 2003, revenue share upto 20% i.e. approximately 50% of the average revenue share should be considered as a pass through.

Capacity Determination

The existing norms for fixing capacity of ports need to be reviewed especially for private terminals operating therein. It was suggested that a uniform approach to determine capacity based on norms should be adopted. International norms for calculating berth capacities and yard capacities should be taken into consideration while formulating normative capacity. Further the normative capacity should take into consideration physical constraints faced by each terminal such as yard space available, dwell time, road and rail evacuation facilities, and other factors beyond the control of the operator.

Adjustment of past surplus

The 2005 GL penalise the operator for its efficiency i.e for performing beyond projected traffic through adjustment of past surpluses. A normative approach would do away with the requirement of adjusting past surpluses.

Periodicity of tariff review

It was suggested that once normative capacities have been fixed, there would not be any need for tariff review unless the operator seeks a review due to replacement / up gradation of assets/ or any unforeseen circumstances.

Depreciation

Under the 2005 GL, the ports follow depreciation norms as under Companies Act or as per the guidelines set by the Government of India. This clause should be amended so as to have a uniform approach.

Minor Ports

A uniform approach for major and minor ports should be adopted by bringing in the minor ports under the ambit of the tariff authority.

One - time expenses

The existing 2005 GL do not allow one – time expenses such as arrears of wages/pension, VRS compensation, contributions to Pension Fund for past liability, etc. as an admissible cost. There is a need to review this clause to allow such one time expenses.

Business Assets and Social Assets

The existing 2005 GL distinguish between business related assets and social obligation assets. The former include assets which may not be directly used in the business but which have been created for supporting the business and latter include assets not directly or even indirectly related to port operation but created to meet social obligations / needs of the community at large. It was felt that there are difficulties in making a distinction between social obligation assets and business related assets and that both should be allowed as an admissible cost.

Uniform norms, concepts and approach

Concerns were raised about the appropriateness of applying uniform norms as ports differ widely from one another.

3. Tariff Regulation (National & International Experience)

Most jurisdictions do not have a tariff regulator for the port sector and tariffs are determined based on competitive forces. In a few jurisdictions, the regulators mandate is restricted to monitoring tariffs and intervene only in case of unfair practices or prices. This is the case of the Essential Services Commission which regulates Victoria’s commercial seaports of Melbourne, Geelong, Portland and Hastings. The regulator follows a price monitoring regime wherein port operators are required to provide information to the Commission including financial statements, relevant cost allocation details, port charges, indicators of service quality and other statistical information. South Africa has a National Port Regulator and is mandated to follow the price cap approach in tariff determination. Tariff rebalancing is done every five years. The detailed approach to tariff setting in case of the South African Regulator is however not available in the public domain.

Within India, experience of other infrastructure sector such as electricity and civil aviation show that there is a move gradually from a cost based to a performance based tariff regime. The following section discusses the experience and key learnings from these two sectors:

Electricity Sector

Traditionally, State Electricity Regulatory Commissions (SERCs) have been following the rate of return regulation or cost plus approach to tariff determination. The National Tariff Policy however suggests performance based cost of service regulation or Multi Year Tariff (MYT) approach to tariff determination and gradually most of the SERCs are moving towards this approach. This is because the MYT approach through incentive and discentives encourages as well as compels regulated discoms to reduce costs, improve quality of service parameters, and encourage efficient investment.

Under MYT, SERCs fixes targets for certain factors which are controllable in nature, like O&M expenses, financing costs, T&D losses and other performance measures. In case utility exceeds its targets during control period, it would make profits and if it falls short, it would bear the losses. Further there are certain factors which cannot be controlled like escalation in fuel costs resulting in changes in power purchase costs, sales, taxes, inflation, etc. Under MYT, any gain/loss due to changes in uncontrollable factors is passed through in ARR of the utility, while any gain/loss due to changes in controllable factors is usually shared by utility and consumers as prescribed by the regulator. Under MYT, ARR is approved for the entire control period but the tariffs are revised annually. The key lessons from the electricity sector as relevant for the study are discussed below:

1. The Costs and Income are projected for the entire control period, generally five years, but the true up is done annually and the tariff is revised annually.
2. Benchmarking is an integral part of MYT regulation. The regulators through the forum of regulator either, draw up benchmarks or individual regulators use their discretion/make performance comparisons with other states.
3. R&M is generally considered at 2-3% of GFA
4. Employee cost is generally taken as given and emphasis is more on optimal utilization of existing employees and restraints on new recruitments.
5. Efficiency gains are not kept entirely by the operator but is shared with consumers through reduction in tariffs. In cases of losses, in some cases the operator bears the entire cost and at times it is shared with the consumer.
6. The Central Electricity Regulatory Commission follows the Return on Equity approach for inter-state generating stations. A debt: equity ratio of 70.30 is followed and equity, presently, gets a 15.5% return. Return is allowed on the Gross Fixed Assets.
7. Depreciation is calculated annually based on the straight line method and the Commission allows a higher rate of depreciation in the first 12 years (to ensure funds for repayment of loan). The remaining value after 12 years is spread over the life of the asset.
8. Inflation Factor: The Central Commissions has considered inflation at 60% of WPI.

Civil Aviation

The Government of India notified the Airports Economic Regulatory Authority of India Act on 5th December 2008. In May 2009, Airports Economic Regulatory Authority (AERA), a statutory body, was constituted under the Act.

AERA follows the Multi-year tariff framework under which Annual Revenue Requirement (ARR) and tariffs are determined in advance for a specified period of time (5 years in this case).

For determining its approach towards regulation of the aforementioned regulated services, AERA follows a three stage approach:

1. Assess “materiality”
2. Assess “competition”
3. Assess the “reasonableness of existing user agreements(s)”

AERA assesses the materiality, competition and reasonableness of user agreement(s) prior to the commencement of the 5 year control period. Materiality is arrived at using materiality indices*[[1]](#footnote-1)*. Similarly, competition is determined by looking at number of service providers providing the regulated services at a major airport. For instance, if a regulated service is being provided at a major airport by two or more service provider, it shall be recognized as a competitive airport, otherwise a non-competitive airport. An existing agreement is deemed as reasonable if the tariff between the service provider and the user(s) of the regulated service(s) are spelt out clearly in the agreement, or if the user(s) have not raised any objections related to reasonableness of the agreements.

On the basis of their assessment, AERA deems a regulated service as (a) material, (b) material but competitive, (c) material but not competitive but assured of reasonableness of user agreement(s) and (d) material but not competitive but not assured of reasonableness of user agreement(s). Depending on the above mentioned combinations, AERA deploys either a “Light touch approach” or a “Price cap approach”.

The Regulator, when assessing the tariffs, may limit the increases to the existing revenue weighted tariffs to CPI minus X. where, CPI represents the prevailing Consumer Price Index and X representing the efficiency factor determined by the Regulator after consulting the Airport Authority, other Government stakeholders and those airport users that the Regulator deems necessary.

The key learnings from Airport Regulation are:

1. Extent of regulation depends on the regulators assessment of level of competition
2. **The Cost of capital approach is followed.** Fair Rate of Return (RoR) is determined as the weighted average cost of capital. Cost of equity is estimated using Capital Asset Pricing Model (CAPM) for the control period. Weighted cost of debt is determined based on the forecast quantum of debt for each tariff year in a control period. Rate based = original cost of fixed assets- accumulated depreciation- accumulated capital receipts.
3. **Depreciation** shall be calculated using straight line method on the amount of original cost of the existing fixed assets together with forecasted additions less disposals of fixed assets. Depreciation shall be allowed up to a maximum extent of 90% of the original cost of the asset.
4. **Efficiency improvement** is captured by AERA while validating the forecasted changes in WPI as submitted by the service providers in their MYT proposals through the following formula: **Yt = Yt-1 X (1+ WPlt - Xt).** Here, Xt is determined by AERA for each tariff year and represents an underlying rate reduction in the Yield per Unit. Xt is determined by AERA to simulate a competitive environment and improve efficiency by allowing service provider to raise tariffs to offset cost increases but by a rate lower than inflation.

4. Development of new guidelines

Issues in 2005 GL

The approach adopted in the 2005 GL is to assess the cost of operating the facilities for the projected traffic and the revenue that would be earned if the existing tariff is to continue in the ensuing tariff cycle. The surplus/loss arising out of operating the facilities plus the allowable return on the capital employed is assessed. Depending on the surplus/loss the tariff is adjusted when the tariff is refixed at the beginning of the ensuing tariff cycle.

The major problem in this GL is that the tariff is based on the projected volume of cargo that the port or terminal is likely to handle. These traffic projections have been found to be inaccurate in many instances, causing either benefits or losses to the service provider or the user of the facilities depending on the actuals becoming more than the projection or falling short of the projections. The other major issue which has also been raised by the stakeholders is on the application of return on capital on the depreciated value of the assets. It is contended that the calculation of return on depreciated asset value would continuously reduce the return over a period of time and at one stage would become insufficient to carry out the operation of the terminals or the ports.

As stated above, the present GL provide for a reduction in the tariff to adjust the gains and thus penalizes the operator for better performance. This is an inherent deficiency in the existing GL which discourage the operators to improve their performance. There are also difficulties in verifying the costs projected by the operators and hence there is a tendency to gold plate the costs. Besides this approach also requires micro-management of the cost by the regulator.

Approach in 2008 GL

In this GL, the tariff is determined on the basis of the assessed capacity which is calculated by adopting the normative values, compared to the determination of tariff on the basis of the projected volume of traffic in 2005 GL.

The capital cost and the operating costs are determined using prescribed formula and normative values for various parameters. These normative values are applied to estimate the total requirement of the costs for operating the terminal at the level of the assessed capacity which forms the basis for tariff determination. As the tariff determination is on the basis of the assessed capacity, the operator is encouraged to achieve and exceed the capacity of the terminal by keeping the gains by improving performance.

However, the development of normative values for various parameters is complex and involves study of the various operational systems adopted in the terminals and the ground realities. With wider variations in the operations, the task becomes much more difficult.

Approach to the development of New Guidelines

The terms of reference specify that the cost plus method of tariff fixation followed in the 2005 GL shall be critically analysed and a normative cost based approach be prescribed.

For the purpose of the study, a comparative analysis of the key features of 2005 GL and 2008 GL was carried out, as given in table below.

|  |  |  |  |
| --- | --- | --- | --- |
| S.No | Features | 2005 GL | 2008 GL |
| 1 | Approach | Actual cost & plus | Normative cost |
| 2 | Applicability | Major Port Trust and private terminals for which bids were closed prior to 26th February 2008. | Terminals coming under PPP projects post 26th Feb. 2008 |
| 3 | Tariff setting | Tariff is fixed for the existing terminal | Tariff is fixed upfront before the terminal is developed |
| 4 | Validity of tariff (Tariff Cycle) | 3 years | Concession period given in the PPP projects (Now it is 30 years for most of the projects) |
| 5 | Tariff formulation | a)   Based on projected traffic | a) Based on optimal capacity: it prescribes the norms for number of equipments, norms for performance and then estimates the optimal capacity |
| b)   Based on present actual operating cost, projected for the future. | b) Based on operating cost using normative values |
| c)   Management and general overheads and financial income and expenses as per actuals projected for the future. | c) All of these are bundled as ‘Other Costs’ and a norm has been fixed |
| d)  The return on capital is on the net block of assets. | d) The return on capital is on the gross block of assets. |
| 6 | Royalty/Revenue Share | Is allowed as a pass through for pre 29th July 2003 operators to the extent of making up the loss subject to a maximum amount quoted by the second lowest bidder | Is not allowed as pass through |
| 7 | Efficiency Gains | 50 % of efficiency gains are allowed to be retained by the operator while the remaining 50% is passed on the consumers through reduction in tariff in the next cycle | All efficiency gain is retained by the operator beyond the optimal capacity |
| 8 | Factoring Inflation | Inflation is factored on expenditure items to the extent of increase in WPI | Increase is factored on tariff to the extent of 60% of WPI |
|  | Additional Investments | Additional Investment is allowed and added to the GFA | No provision for additional investment during the concession period |

At present, the private terminals functioning are dedicated terminals to handle specific cargoes for which concession had been given by the concerned major ports. However, in the case of major ports, the operation is complex as the ports handle all type of cargoes. Further the cargo handling activities are not confined to one location as in the case of private terminals. Ports also carry out other ‘landlord’ activities such as estate management, conservancy, safety and security. They also take care of provision of basic services at the port such as power, water, sanitation, roads etc. Under this scenario, determination of costs for any specific cargo handling, be it capital cost, operating cost or overheads is very difficult and complex.

In view of these reasons this report recommends, that to start with tariff setting be norms based for all the private operators. As far as major ports are concerned, the introduction of norms can be undertaken in a phased manner. Accordingly, as a first phase, it is proposed that for major ports the introduction of norms be tried out in terminals handling specific commodities such as containers, iron ore, coal etc. Hence the proposed GL will have normative cost based approach in tariff setting for all the private terminals and the cargo handling terminals of the major ports which handle specific cargo. For other activities carried out by major ports, the present cost plus approach will continue. Hence the proposed GL will provide for two approaches, one being the normative approach applicable to private terminals and cargo specific terminals of major ports and the other being the cost plus approach for other activities of the major ports.

Issues addressed in the new GL

In the process of developing the new GL an attempt has been made to address the issues and concerns raised by the private terminals and the port trusts. Some of these are discussed in detail below.

1. Capacity Determination

In 2008 GL, the cargo handling activities are brought under five categories of cargo handling terminals and the norms for determination of terminal capacity has been prescribed for each of the five categories. In the case of container, coal and iron ore terminals, the determination of terminal capacity is considered as the lower value of the optimal quay capacity and the optimal yard capacity for which formulae and norms have been prescribed. In the case of multi-purpose and liquid bulk terminals, the optimal terminal capacity is the optimal quay capacity for which the formulae and norms have been prescribed. As the new GL follow the normative approach, the applicability of the 2008 GL was studied.

The categorization of cargo handling terminals into five categories, i.e., Container, Iron ore, Coal, Liquid bulk and multi-purpose terminals, as specified in the 2008 GL is found relevant for the existing terminals and hence is retained. However, unlike the 2008 GL where the norms are prescribed for physical parameters for facilities yet to be established, the new GL take into account the fact that investments have already been made and the terminals are in operation and hence considers the actual values for physical parameters. The capacity determination of each of the cargo specific terminals is discussed in detail in the chapter on Development of norms.

2. Capital cost

In the 2005 GL, the capital cost is arrived at as a net block using the following procedure.

1. The assets created during the year are added onto the gross assets at the beginning of the year. Similarly the assets scraped/sold etc., are deleted from the gross block
2. On the resulting value the accumulated depreciation including for the year is deducted to arrive at the net block for the year
3. To the value of the net block thus arrived, the working capital is added to determine the capital employed. The ROCE is applied on this value.

On the contrary, the 2008 GL recognize the capital value as that required for delivering the capacity determined. As the approach proposed for the new GL is to follow the 2008 GL, the capacity will be determined based on the formula prescribed in the 2008 GL but with actual values of the physical infrastructure already in place. For the same reasons, the Capital cost will be based on the actual investments made.

As categorized in the 2008 GL, the capital cost will comprise of the following

* 1. Civil infrastructure cost
  2. Mechanical and electrical equipment cost
  3. IT system cost
  4. Other costs

(All the above categories of cost will be the actual cost.)

Civil infrastructure cost will include all the cost of civil engineering assets such as wharves, yards, buildings, roads etc. In addition, capital dredging that would have been incurred by the private operator or by the port should also be considered as part of the civil infrastructure cost.

The mechanical and electrical equipment cost will include the cost of all electrical and mechanical equipments used for cargo handling operation, electrical substations and electric control systems, and other miscellaneous equipments in operation at the terminal.

The IT system cost will include the cost of all computer system hard wares, soft wares, communication systems etc.

The other costs will include the cost of all assets which are not accounted in any of the above three capital cost but are treated as capital asset as per the accounting norms.

3.  Asset Base

In the 2005 GL, the Return on Capital Employed is applied on the net block of assets. However, with the depreciation of the assets, the return gets diminished continuously over the period of time. It was contended by the operators that this is a serious issue as after a certain period of time, the return realised would not be sufficient for them to run the operations.

In the case of 2008 GL, which adopt the normative cost based approach, the asset base used for determination of return remains constant for the entire period of the tariff cycle i.e. the entire concession period. In the case of new GL, in the application of the normative cost based approach, the asset base has to be decided for the private operators as well as for the ports keeping in mind that the capital cost has already been incurred and the value of the asset has already depreciated over a period of time. It may also be appropriate to consider the average of the opening and closing balance of block of asset for the year for which the tariff is fixed as per the audited books of account which is also being followed in other sectors such as electricity. This asset base will remain constant for the duration of the tariff cycle.

4. Additional investments

In the case of 2008 GL any additional investment made during the course of the concession period is not recognized. However, as the new GL encourage operators to reach optimal capacity and higher levels of efficiency, investments necessary to make this happen will be recognised and tariff re-fixed even within the tariff cycle.

5.  Business Assets, Business Related Assets and Social Obligation Assets

The 2005 GL categorise various types of assets created as Business Assets, Business Related Assets and Social Obligation Assets. The Business Assets are those assets which are necessary for carrying out the cargo handling operations and hence they are allowed to earn the full return on the value of these assets. The Business Related Assets are those assets,

which are not directly used in the business but will help in supporting the business. These are assets such as quarters, school and hospital for the employees. These assets do not earn full return and are allowed only the risk free rate of return. The social obligation assets are neither directly nor indirectly related to port operations, but created to meet the needs of the community at the place where the port is located, such as stadium, road, street lighting etc. The stake holders expressed difficulty in making a distinction between social assets and business related assets and therefore, suggested that both should be allowed the same return. However, it may not be advisable to allow return on the social assets, as it would result in the port user paying for all the costs incurred in meeting the social needs of the port employees and the community. Therefore, the proposed GL continue with the existing approach of segregating Business Assets, Business Related Assets and Social Obligation Assets. However, in order to meet the needs of the ports to meet their social obligations, a provision is made under the escrow account to finance such investments.

6.  Depreciation of Assets

Presently, the depreciation of assets is calculated as per the Companies Act or as per the guidelines laid down by the Government of India. The stake holders suggested that there should be uniformity of approach in the determination of depreciation. It is seen largely that the ports follow the life norms prescribed by the Government of India, while the private operators follow the Companies Act. Hence instead of having two different approaches for determination of depreciation, it is reiterated that as prescribed in the 2005 GL both the Ports and the private terminals follow a uniform approach as per the Companies Act.

The asset base considered for depreciation should be the average of the opening block and the closing block of the asset for the year in which the tariff is determined.

7.  Escrow Account

The 2005 GL stipulate that the royalty/revenue share received by the Major Ports should be first used to meet the cost of surplus labour, if any. Atleast 50% of the balance should be maintained in the Escrow Account for the purpose of creation and/ or modernisation of the Port infrastructure facility within a period of 5 years.

As prescribed in the 2005 GL, the fund received in the escrow account should be utilised to meet the cost of surplus labour and for the creation and/or modernisation of the Port infrastructure facility. Further dredging should be recognised as a major infrastructure work and should be funded from the escrow account. It is also recommended that the scope of the escrow account should be enlarged to meet a) the cost of environmental protection and upgradation and b) the social obligations of the ports. Hence it is recommended that a minimum of 3% of the royalty/revenue share received should be spent on the environment and a maximum of 3% of the royalty/revenue share received on the social obligations.

As the scope of the utilization of the funds received in the escrow account is enlarged, it is proposed that the entire amount of revenue share/royalty received by the port trust should be maintained in the Escrow Account and spent within a period of 6 years.

The investments made out of this Escrow Account will not qualify for any return.

8. Adjustment of past surplus

In the 2005 GL, the actual physical and financial performances are reviewed at the end of the prescribed tariff validity period with reference to both efficiency gains and variations in cost. The gains are adjusted to the extent of 50% in the tariff set for the new cycle.

When the tariff is fixed for the first time under the new GL, review of both the efficiency gains and the variations in costs of the previous cycle should be carried out and adjusted in the new tariff cycle appropriately.

9. Royalty/revenue share

The royalty/revenue share payable by the private operator to the landlord port is not an admissible cost as decided by the Government of India which is reflected in the 2005 GL. However in those BOT cases where bidding process was finalised before 29th July 2003, the tariff computation will take into account royalty/revenue share as cost in such a manner as to avoid likely loss to the operator on account of the royalty/revenue share not being recognised, subject to maximum of the amount quoted by the next lowest bidder. This would, however, be allowed for the period up to which such likely loss will arise. This would not be applicable if there is a provision in the concession agreement on treatment of royalty/revenue share.

The TOR stipulates that the royalty/revenue share issue relating to pass through of the royalty/revenue share as cost be examined and a suitable method of factoring admissible pass through in the normative model be suggested. There are two sets of private terminal operators, one set are those whose BOT bidding processes were finalized prior to 29th July 2003 and the other set are those whose BOT bidding processes were finalized after 29th July 2003. In the later case, the bidders had been informed of the condition that the royalty/revenue share will not be allowed as a pass through and hence there is no case for reconsideration as it would amount to post tender changes. In case of the former the government’s decision on treatment of royalty/revenue share should continue.

In the new GL it is proposed that in the process of tariff fixation for the cycle, the allowable royalty will be based on the traffic volume handled in the year preceding the tariff fixation. This should be trued up at the end of the tariff cycle to take into account the actual volume handled by the operator during the tariff cycle.

10. Tariff Cycle

The tariff set is valid for three year period in the 2005 GL, whereas in the case of 2008 GL there is no such validity period and the upfront tariff set stays for the entire concession period. In the new GL proposed this aspect has been examined. In respect of private terminals for which normative approach is proposed, the royalty/revenue share (in case of the pre 2003 terminals), will require truing up and therefore a tariff cycle is required. In respect of other private terminals and the cargo specific terminals of major ports it may be possible to follow the 2008 GL where the tariff is applied for the entire concession period. However, to apply a uniform approach to all these terminals and also to take corrective measures, if necessary, on the tariff determined, a tariff cycle of five years is proposed.

For all other activities of ports which continue to fall under the cost plus regime as prescribed in the 2005 GL, a tariff cycle of five years as against the existing three years is proposed.

11. Cost Escalation

The 2005 GL stipulate that the expenditure should be adjusted for price fluctuations with reference to the movement of WPI. In the 2008 GL the tariff caps are indexed to inflation but only to the extent of 60% of the WPI. Such adjustments of tariff caps are made every year. An examination of this issue by considering the position prevailing in other sectors such as electricity indicate that Central Electricity Regulatory Commission allows inflation to the extent of 60% of WPI for generation.

It is therefore proposed that under the new GL indexation of inflation in the tariff set for private and cargo specific terminals should be at 60% of WPI. The GL also propose that the indexation of inflation for expenditure projections in the case of other port activities be limited to WPI \* 60 in order to increase efficiency.

12. Operating cost

In the fixation of tariff in the existing private and port terminals following the 2005 GL the following cost items are taken into consideration.

1. Operating and direct labour
2. Maintenance labour
3. Equipment running cost
4. Maintenance dredging
5. Royalty/revenue share
6. Equipment hire
7. Lease rentals
8. Insurance
9. Technical service fee
10. Depreciation
11. Management and administrative overheads
12. General overheads
13. Preliminary expenses
14. Other expenses.

In 2008 GL, these various items of cost have been grouped under the following categories.

1. Power and Fuel
2. Repair and maintenance
3. Insurance
4. Depreciation
5. Licence fee/rentals
6. Other expenses

This shows that some items of expenditure, such as labour cost pertaining to the operations and maintenance staff, management and administration staff and administrative overheads; and other miscellaneous costs have been grouped under the ‘other expenses’. No specific provision has been made for maintenance dredging, royalty/revenue share where allowable, equipment hire charges, technical service fee and preliminary expenses. In the proposed GL the cost of maintenance dredging and the royalty/revenue share, where provided for in the Concession Agreement is recognised as a separate cost item while, the other cost items are bundled and included in ‘other costs’. This has been taken into account for fixing the norms for ‘other costs’ as discussed in the Chapter on Development of Norms.

13. Foreign exchange fluctuation

In the 2005 GL, certain tariff items are denominated in dollar terms. However the amount is collected only in rupees after applying the exchange rate prevailing at the time of tariff collection. When all the other tariff such as cargo handling, rentals etc., are denominated in Indian rupees and collected also in rupees, there is no need for denominating a few items (mostly vessel related activities) in dollars. Some ports also suggested that this may be done away with. Hence the proposed GL do not provide for any tariff and charges be denominated in any currency other than the Indian currency.

5. Development of Norms

As in the 2008 GL, norms have been developed for the five categories of terminals viz., Container, Coal, Multipurpose, Iron ore and Liquid bulk following the approach adopted in the 2008 GL. The norms for various parameters for the different terminals are described in the succeeding sections.

1. Container Terminal

A. Calculation of capacity

The optimal quay capacity and optimal yard capacity are calculated based on the formula prescribed in 2008 GL, as given below:

Optimal Quay capacity

The following formula is used for the calculation of the optimal quay capacity

Optimal Quay capacity = A X B X C X D X E TEUs where

A = Number of Gantry cranes deployed at the terminal

B = Number of possible working hours of gantry crane in an year

C = Number of moves per crane per hour

D = TEU Ratio

E = 0.7

For A, as stated above, the proposed GL take the actual number of gantry cranes deployed at the terminal instead of taking a normative value as in the case of 2008 GL. Given that the terminals are achieving the number of moves per crane per hour as prescribed in the 2008 GL, the proposed GL retain the norm for C, as set under the 2008 GL. For the parameters viz., B and D, the norms prescribed in the 2008 GL are adopted. The efficiency factor i.e. the value of E, is also fixed at the same level as in 2008 GL i.e. at 0.7 (70%). In sum, the norms prescribed for the proposed GL are as given below:

**Norms for calculation of Optimal Quay capacity**

| **Parameter** | **Norm** |
| --- | --- |
| A | Number of cranes actually deployed |
| B | 24X365 |
| C | 25 |
| D | 1.3 |
| E | 0.7 |

Optimal Yard capacity

The optimal yard capacity is calculated using the following formula as per 2008 GL.

Optimal Yard Capacity = 0.7 XG X H X P/ ( S X D ) TEUs where

G = Total number of ground slots in TEUs

H = Average Stack height

P = Period in number of days

S = Surge factor

D = Average dwell time ( measured as the time in days from the time a container is placed in the yard until it leaves it irrespective of the free time allowed in Scale of Rates )

In the 2008 GL, normative values have been prescribed for G,H,S, and D. The proposed GL, however, provide for the value of G being based on the actual number of ground slots created and the equipments installed for yard operations. The value for H i.e. the average stack height is proposed as 3 as against 2.5 in the 2008 GL, as it is found that the existing terminals are achieving this performance level. Similarly, D i.e. the average dwell time is proposed as 2, an average value of the export and import dwell time values, which has been achieved by the existing terminals. The value of S i.e. the surge factor representing the value for peaking effect as provided in the 2008 GL is proposed to be retained at 1.3.

Hence the norms prescribed in the proposed GL for determination of yard capacity are given below:

**Norms for calculation of yard capacity**

| **Parameter** | **Norm** |
| --- | --- |
| G | The actual number of total ground slots developed in the terminal |
| H | 3 |
| P | 365 |
| S | 1.3 |
| D | 2 days |

The 2008 GL provide for the optimal terminal capacity be determined as a lower value of the optimal quay and the optimal yard capacity. The proposed GL however, provide for the determination of the terminal capacity as the higher of the optimal quay and optimal yard capacities on the ground that the operator has consciously invested in creating this higher capacity, has claimed a return on the investment made and should therefore, be capable of achieving it.

B. Calculation of Capital cost

The capital cost as brought out earlier would comprise the following

1. Civil infrastructure cost
2. Mechanical and electrical equipment cost
3. IT system cost
4. Other costs

All the above costs pertain to the investments already made and hence the actual values as in the audited books of account should be taken into account.

C. Calculation of Operating cost

As indicated in the earlier section the cost items considered for the operating costs are as follows:

a. Power

b. Fuel

c. Civil Repair and maintenance

d. Mechanical and electrical maintenance

e. Maintenance dredging

f. Insurance

g. Depreciation

h. Licence fee/rentals

i. Royalty/Revenue share

j. Other expenses

The development of norms for each of these operating costs is described below:

Power

In respect of the power consumption, the 2008 GL prescribe a norm of 10 units per TEU. However, an analysis of the power consumption at the existing private terminals reveals that the power consumption varies widely between 6.25 Units to 17 units per TEU and is found to be above 10 units per TEU in most cases. Keeping in mind the actuals and also the necessity to conserve power and move towards deployment of energy efficient equipment in future, the norm for the power consumption is prescribed now at 12 units per TEU.

Fuel

In respect of fuel consumption, an analysis of the existing container terminals reveal that the average value of fuel consumption for the terminals is close to 3 litres per TEU as against the norm of 4 litres per TEU prescribed in the 2008 GL . Hence a norm of 3 litres per TEU has been recommended in the proposed GL.

Civil repair and maintenance cost

The civil repair and maintenance cost for the civil structures such as marine structures, docks, wharves, buildings, roads, yards etc. is prescribed at 1% of the cost of all such civil assets in the 2008 GL. An examination of the tariff orders available on the PPP projects proposed by various ports indicate that this norm of 1% of cost of civil asset is accepted by these ports. Certain existing terminals show no expenses towards civil maintenance cost as this cost is clubbed along with the repair and maintenance cost of mechanical and electrical equipments. Considering these aspects the proposed GL recommend a continuation of the norm at 1% of the cost of the civil assets as prescribed in 2008 GL.

Mechanical and electrical maintenance

In respect of mechanical and electrical maintenance costs, the 2008 GL prescribe a norm of 2% of the total cost of all mechanical and electrical equipments. It is observed that even in the proposals submitted by ports for PPP projects, they have used the same value. Hence the proposed GL suggest no change in the norm.

Maintenance dredging

Maintenance dredging has not been considered as a cost item under the 2008 GL and hence no norm has been prescribed. Also, this cost is not incurred by all the terminals and where it is incurred, it is as per the site conditions and the provisions stipulated in the Concession Agreement. Hence, given that this cost may not be incurred in some cases and where incurred will vary from terminal to terminal, the proposed GL recommend that the actual cost incurred be considered for tariff computation. Further, in the event where dredging is not done annually, an average value of the dredging cost incurred in the last three years shall be considered.

Insurance

In respect of insurance costs, the 2008 GL prescribe a norm of 1% of the Gross Fixed Assets (GFA). The GFA is the total capital cost and is the sum of civil, mechanical and electrical, IT and other costs. An examination of the cost incurred by the existing terminals indicates that the insurance cost lies well within the prescribed norm. Hence it is proposed to continue with the same norm of 1% of GFA in the proposed GL.

Depreciation

The depreciation of the assets is provided for as an operating cost in the 2008 GL. The value is calculated as per the norms laid down in the Companies Act or as per the norm, if any, prescribed in the Concession Agreement and the higher value between the two is taken into account for the tariff calculation. The proposed GL provide for continuation of the same approach and for the calculation of the asset base for depreciation should be the average of the Opening Block and the Closing Block of assets for the year in which tariff is to be determined.

License fee/Lease rentals

License fee/lease rentals are charged by the ports against the land and waterfront area provided by them to the private terminals for development of the container handling facilities. The port normally collects these charges as per the prevailing Scales of Rate, which varies from port to port. These charges also differ from terminal to terminal as the land and other assets provided will vary depending upon the scale of activities. The proposed GL therefore recommend that the actual cost incurred by the terminals be considered for tariff calculation.

Royalty/Revenue share

As per the current approach the royalty/revenue share is allowed as a pass through for private terminals whose bidding process were finalised prior to 29 July 2003, to the extent stipulated by the Government in the order No PR-14019/6/2002-PG dated 29 July 2003. For the other terminals this is not allowed as a cost component in the tariff calculations.

The proposed GL continue the same approach for the treatment of royalty/revenue share. However, it is recognised that the payment due on account of royalty/revenue share would depend upon the scales of operation. The GL therefore recommend that the royalty/revenue share to be included in the tariff be calculated on the basis of the allowable royalty/revenue share calculated for the actual traffic handled and revenue earned in the year immediately preceding year in which the tariff is determined. The variation between the amount allowed as a pass through in the tariff and the allowable amount calculated on the traffic handled and the revenue earned in the subsequent years should be trued up when the tariff comes up for revision.

Other expenses

The other expenses consist of the following cost items:

(a) Operating and Direct labour

(b) Maintenance Labour

(c) Equipment hire

(d) Management and administrative overheads

(e) General overheads

(f) Preliminary expenses

(g) Technical fee

(h) Travel

(i) Advertisement, publicity, entertainment etc.

(j) All other miscellaneous expenses not covered under any of the above

As per the 2008 GL, a norm of 15% of Gross Fixed Assets (GFA) is fixed for ‘other expenses’ for the terminals having a capacity of less than 0.5 million TEUs and 10% of GFA for other terminals. However, an examination of the actual cost incurred by the terminals indicates that a norm of 10% of the GFA for all terminals would be adequate.

2. Coal Terminal

A. Calculation of capacity

The 2008 GL followed the approach of calculation of capacity based on the type of vessels handled at the terminal for which normative quantum of equipments were prescribed in these guidelines. In other words the capacity is determined as a value that would be possible to achieve using the equipments prescribed given the vessel mix is determined for the particular terminal. Normative values have also been prescribed for the shipday output for the three categories of vessels that the terminal is expected to handle.

In the case of existing terminals, the equipments are already in place and have to be accounted as such. However, the data on the actual equipments deployed at these terminals was not available and the formula for determining the capacity could not be prescribed. TERI, therefore, recommends that the TAMP be requested to assess the quay capacity and yard capacity on the basis of the actual assets created and equipments deployed and determine the optimal terminal capacity as has been recommended by the proposed GL for container terminals.

In case this exercise is likely to take time the proposed GL recommend that the methodology prescribed in the 2008 GL for the calculation of optimal terminal capacity be continued with the changes suggested in the values of norms in the proposed GL.

Optimal Quay capacity

The formula prescribed in 2008 GL for calculation of quay capacity is as given below

Optimal quay capacity

= 0.7 x ((S1\*P1/100) + (S2\*P2/100) + (S3\*P3/100) ) X 365 tons

Where

P1 = Percentage share of capacity of capsize vessel

S1 = Ship day output of the capsize vessel

P2 = Percentage share of capacity of Panamax vessels

S2 = Ship day output of the Panamax vessels

P3 = Percentage share of capacity of Handy and Handy max vessels

S3 = Ship day output of Handy size and Handy max vessels

Where P1,P2 and P3 are to be determined taking into consideration the draft availability and type of vessel expected to be handled at particular terminal.

**Norms for ship day output**

| **Type of ship** | **Norms for loading in tons** | **Norms for unloading in tons** |
| --- | --- | --- |
| Capesize | -- | 50,000 |
| Panamax | 40,000 | 35,000 |
| Handy Size &  Handy max | 20,000 | 15,000 |

Optimal yard capacity

In 2008 GL the formula given for this capacity is reproduced below

Optimal Yard Capacity = 0.7 X A X (U/100) X Q X T tons

Where

A - Area of the yard available for the stacking of coal which includes all the areas used by the coal handling equipments erected within the stack yard

U - Percentage of the stack yard that could be used for stacking

Q - Quantity that could be stacked per sq.m of area

T - Turnover ratio of the stack yard in an year

In the above formula the value for A is the actual yard area available for stacking the coal. The value for Q is the quantity of coal that could be stacked in the plot. In analysis of the density of coal and angle of repose suggest that the value of Q could be revised from 3 as provided in the 2008 GL to 5. Similarly, the value of T i.e. the turnover ratio of stack yard in an year can be revised to 30 considering that 10 days would be adequate for unloading, storing and evacuating the coal.

| **Parameters** | **Norm** |
| --- | --- |
| A | The actual area earmarked for the stack yard |
| U | 70% |
| Q | 5 tons / sq.m |
| T | 30 |

The optimal terminal capacity will be the lower of the two optimal capacities as prescribed in 2008 GL.

B. Calculation of Capital cost

The capital cost is sum total of the following costs as per the 2008 GL

1. Civil infrastructure cost
2. Mechanical and electrical equipment cost
3. Other costs

All the above costs pertain to the investments already made and hence the actual values as in the audited books of account should be taken into account. The cost incurred towards providing the infrastructure required for IT, Communication systems are accounted under Mechanical and electrical equipment cost.

C. Calculation of Operating cost

The cost items considered for the operating cost of the container terminal holds true for the coal terminal and are reproduced below.

a. Power

b. Fuel

c. Civil Repair and maintenance

d. Mechanical and electrical maintenance

e. Maintenance dredging

f. Insurance

g. Depreciation

h. Licence fee/rentals

i. Royalty/Revenue share

j. Other expenses

Power

As per the 2008 GL, a norm of 1.4 units per ton has been prescribed for the power consumption by coal terminals. An examination of the proposals by ports for PPP coal handling projects indicates that the power consumption is as per the norm. Therefore, in the proposed GL the same norm is continued.

Fuel

The 2008 GL do not prescribe a norm for fuel, however, at some coal terminals fuel operated harbour mobile cranes are used and therefore, norms for fuel consumption need to be prescribed. However, as the fuel consumption varies with the capacity of the HMC and by technology, prescribing a uniform norm for all capacities of HMC becomes difficult. The proposed GL therefore, prescribe a norm of 50 litres per hour of operation for HMC with capacity upto 60 tons and 70 litres for HMC with the capacity of more than 60 tons.

Civil Repair and Maintenance

As in the case of container terminals, the 2012 GL follow the 2008 GL approach and prescribe a norm of 1% of cost of civil assets for civil repair and maintenance costs for coal terminals.

Mechanical and electrical maintenance

The proposed GL recommend a norm of 7% of the asset values for the mechanical and electrical maintenance as prescribed by the 2008 GL. Infact, the same value has also been adopted by the ports in the PPP proposals submitted by them for the development of coal terminals.

Insurance, Depreciation, Lease rentals and Royalty/Revenue share

The norms for these items of cost are as per the norms prescribed for the container terminal.

Other expenses

The other expenses consist of the following:

(a) Operating and Direct labour

(b) Maintenance Labour

(c) Equipment hire

(d) Management and administrative overheads

(e) General overheads

(f) Preliminary expenses

(g) Technical fee

(h) Travel

(i) Advertisement, publicity, entertainment etc.

(j) All other miscellaneous expenses not covered under any of the above

As the 2008 GL do not provide for the cost of equipment hire, technical fees, preliminary expenses, advertisement, etc. these are brought under the ‘other expenses’ under the proposed GL. Taking this into consideration a norm of 10% of GFA is proposed as against the existing norm of 5 % in the 2008 GL.

3. Multipurpose berth/terminal

As pointed out in the case of the coal terminal it has not been possible to determine the optimal terminal capacity on the basis of the actual civil assets created and equipment deployed due to data constraints. Ideally, therefore, TAMP should be requested to determine the optimal terminal capacity using the methodology recommended by the proposed GL in the case of container terminal. Pending such an exercise it is recommended that the optimal terminal capacity be determined using the methodology suggested in the 2008 GL.

A. Calculation of Capacity

The formula given in 2008 GL for calculation of berth/terminal capacity handling multiple type of cargo is as given under

Optimal capacity

=0.7 x ((S1\*P1/100) + (S2\*P2/100) + (S3\*P3/100) + ........ ) X 365 tons

Where

P1 = Percentage share of capacity of cargo type 1

S1 = Handling rate of the vessel carrying cargo type 1,

P2 = Percentage share of capacity of cargo type 2

S2 = Handling rate of the vessel carrying cargo type 2

P3 = Percentage share of capacity of cargo type 3

S3 = Handling rate of the vessel carrying cargo type 3

P4, S4, P5, S5 and so on depending on the number of different types of cargo to be handled at the berth.

**Norm for handling rate of the vessel**

| **Cargo** | **Norm** |
| --- | --- |
| Food grains, Fertilizer etc. | 10,000 tons/day for vessels of more than 30,000 tons parcel size  7500 tons/day for lower parcel size vessels |
| Coal, Lime stones, Minerals, Ores etc. | 10,000 tons/day |
| Steel, bagged cargo | 4000 tons/day |
| Others | 2500 tons/day |

B. Calculation of Capital Cost

The capital cost would consist of the following category of costs.

1. Civil infrastructure cost
2. Mechanical and electrical equipment cost
3. Other costs

All the above costs pertain to the investment already made and hence the actual values as in the audited books of account should be taken into account.

C. Calculation of operating cost

The operating cost comprises of the same items of cost as prescribed for other terminals. The list is reproduced below.

a. Power

b. Fuel

c. Civil Repair and maintenance

d. Mechanical and electrical maintenance

e. Maintenance dredging

f. Insurance

g. Depreciation

h. Licence fee/rentals

i. Royalty/Revenue share

j. Other expenses

Power

The 2008 GL prescribe power consumption norm at 100 units per hour per crane for the 20 ton level luffing wharf crane. This norm seems reasonable and therefore, the proposed GL recommend continuation of the same norm.

Fuel

The continuance of the norms for consumption of fuel for various categories of equipments as prescribed in the 2008 GL is recommended in the proposed GL.

Civil Repair and Maintenance

As in the case of container terminals, the proposed GL follow the 2008 GL approach and prescribe a norm of 1% of cost of civil assets for civil repair and maintenance costs for multi – purpose terminals.

Mechanical and electrical maintenance

The proposed GL recommend a norm of 5% of the asset values for the mechanical and electrical maintenance as is prescribed in the 2008 GL. Infact, most of the PPP proposals on the development of multipurpose berths proposed by the ports also adopted the same value.

Insurance, Depreciation, Lease rentals and Royalty/Revenue share

The norms for these items of cost are as per the norms prescribed for the container terminal.

Other expenses

The other expenses consist of the following cost items:

(a) Operating and Direct labour

(b) Maintenance Labour

(c) Equipment hire

(d) Management and administrative overheads

(e) General overheads

(f) Preliminary expenses

(g) Technical fee

(h) Travel

(i) Advertisement, publicity, entertainment etc.

(j) All other miscellaneous expenses not covered under any of the above

As in the case of coal terminals some of the items not provided for under the 2008 GL such as the cost of equipment hire, technical fees, preliminary expenses, advertisement, etc. are brought under the ‘other expenses’ under the proposed GL. Taking this into consideration a norm of 10% of GFA is proposed as against the existing norm of 5 % in the 2008 GL.

4. Iron Ore Terminal

As pointed out in the case of the coal terminal it has not been possible to determine the optimal terminal capacity on the basis of the actual civil assets created and equipment deployed due to data constraints. Ideally, therefore, TAMP should be requested to determine the optimal terminal capacity using the methodology recommended by the proposed GL in the case of container terminal. Pending such an exercise it is recommended that the optimal terminal capacity be determined using the methodology suggested in the 2008 GL.

In respect of calculation of the terminal capacity, capital cost and operating cost, the methodology adopted in the 2008 GL should be followed except for the norm for the turnover ratio used in the calculation of the yard capacity. Based on the study of the tariff orders for the PPP terminals the norm for the turnover ratio is raised from 12 to 14.

5. Liquid Bulk Terminal

For the reasons stated in the case of other terminals it has not been possible to calculate the optimal terminal capacity in the absence of data on the actual physical assets created. It is therefore, recommended that in the interim period the capacity be determined on the basis of the methodology and the norms prescribed in the 2008 GL.

6. Berth Hire

The scope of investment required from the private investor varies from terminal to terminal in accordance with the bidding requirements and concession agreements. In certain cases the ports have built the berths and invited private investments only for setting up and operating cargo handling facilities. In certain other cases the private operator has also been asked to build the berth. Therefore, the question whether the operator should be allowed to collect the berth hires or not depends on whether the operator has built the berth. In that event there is a need to establish a methodology for calculating the berth hire charges.

The 2008 GL provide a formula for determination of berth hire charges using the same approach as prescribed for determining the cargo handling charges. However, as far as operating costs are concerned the 2008 GL provide a norm only for the cost of civil repair and maintenance and not for insurance, depreciation and licence fee/rentals. As for insurance the proposed GL recommend a norm of 1% of the GFA. Depreciation will be provided for as per the companies act or as per the norm prescribed in the concession agreement, whichever is higher. The licence fee/rental would be on the basis of the actual as the fee would vary from port to port depending upon the land and waterfront.

The question of apportioning the capital cost of the berth between the cargo handling activities and berthing activities has not been addressed in the 2008 GL and need to be addressed. The proposed GL recommend that where this apportionment has already been done by the terminal operator, then the allocation should be made on that basis; where this has not been done 25% of the cost should be apportioned towards cargo handling activities and the balance 75 % towards berth hire.

6. Implications of the Proposed Guidelines

The terms of reference for the study require TERI to critically analyse the existing 2005 GL and develop a normative cost based tariff using the approach of the 2008 GL; the TOR also call for establishing norms for the various parameters that are necessary for the determination of normative cost based tariff. However, as the proposed GL provide for tariff fixation on the basis of the physical assets actually created and the costs incurred, the study would have been greatly facilitated if data in respect of the existing terminals was available. However, inspite of efforts made by TERI data was not furnished by the relevant stakeholders or the data furnished was not adequate. The inadequate availability of data was a major problem in carrying out this study and the development and validation of norms. Data constraints also made it difficult for TERI to establish the formula for determining the optimal capacity for coal, iron ore and multi-purpose terminals on the basis of the actual civil assets created and equipments deployed. Therefore, the study is largely based on a critical review of the 2008 GL, a detailed analysis of various tariff orders issued by TAMP, the limited information received from some ports and the views expressed by the stakeholders.

The study has revealed that there are vast differences in the investments made, capacities created and operating costs between private terminals, between major ports and between private terminals and major ports. The manner in which the operations are carried out, the constraints in terms of available physical infrastructure, variations in the investments made for similar terminals, the differences in operating costs, etc., made the task of development of the norms daunting. It was also recognised that the application of uniform norms to private terminals and also to the cargo specific terminals of the major ports could be difficult as each terminal vastly differs from one another and could lead to distortions. On the other hand, prescription of different norms based on the physical and financial parameters of each terminal would tantamount to continuing the present cost plus approach and defeat the very purpose of the exercise. Given this difficult situation, best efforts have been made to suggest norms which are reasonable for various parameters. However, as stated above, application of the norms could result in disparities and the tariff set in accordance with the proposed GL could have an adverse impact on the operations of some terminals. It is for these reasons, that it is suggested that if the government is to accept these recommendations, it should consider providing a security net to the terminals and fix a floor tariff, for a period of three years, at 60% of the prevailing tariff should the prescribed tariff fall below 60% of the prevailing tariff. The modalities for adjusting the support provided in the ensuing tariff cycle(s) could be worked out separately. Also, as it has not been possible to assess the impact of the proposed GL on all terminals due to data constraints, it is recommended that TAMP should be asked to carry out a review at the end of two years to see if any mid-course correction is necessary.

7. Way Forward

As stated earlier, the major ports and the private port terminals that were set up after the port sector was opened up for private investment in 1996 were under a cost plus tariff regime. This regime was continued in terms of the 1st tariff guidelines framed by TAMP in February 1998 and subsequently by the guidelines notified in March 2005. The only change that was effected in the interim period was to allow the pass through of royalty / revenue sharing to a limited extent to private terminals that were set up through BOT bidding processes finalized before 29th July 2003. Thus even in terms of the 2005 GL there were two tariff regimes one pertaining to BOT bidding processes finalized before 29th July 2003 and the other in respect of BOT bidding processes completed thereafter.

In 2008, a major initiative was taken to move away from the cost plus approach to a normative approach. The 2008 GL, however, apply only to those facilities set up through BOT bidding processes finalized after 26th February, 2008 when these GL were notified. The 2008 GL also provide for the review of the norms every 5 years and stipulate that any revision made in the norms would apply to prospective bidders. This implies that the tariff regime could change every 5 years and that major ports and private terminals operating in India could fall under different tariff regimes making it difficult to ensure that all the terminals operate at the maximum possible level of efficiency and on the basis of the norms that are technologically achievable.

In the current exercise, TERI has attempted to bring terminals from a tariff regime that was based on a cost plus approach to a regime based on a normative approach. However, in fairness to the existing facilities the determination of capacity and capital costs have been based on the actuals and not on norms as in the case of the 2008 GL. It is never the less important that these terminals are also over a period of time made to achieve the levels of efficiency and productivity that are possible based on the land and water front allotted to them. Eventually, they should be brought under the 2008 GL so that maximum efficiencies can be achieved. It is therefore recommended that the 2008 GL as revised in 2013, when the revision is due, should be made applicable to these terminals by 2020. That will give them a period of 7 years to make the necessary investments in civil works and equipment to comply with the norms of 2013 by 2020. The investments required for this should, no doubt, be taken into account for the purpose of calculating the RoCE.

Even when this is done, the terminals operating in India in the years to come will be under different regimes as the norms would change every 5 years. Prescription of norms and tariff setting by TAMP can never ensure that all the terminals operate with the similar levels of efficiency, using the best available technology. It is only competition that can achieve this. It is therefore for consideration whether the private terminals and cargo specific terminals at ports should be freed from tariff setting and allowed to compete between themselves and non- Major Ports ; TAMP and / or the CCI could step in if competition is unfair or charges usurious. Perhaps , to begin with TAMP could consider following the practice adopted by AERA to assess the level of competition in ports or between ports in respect of similar services and decide on the approach to tariff fixing.

The current study, although required by the ToR, could not come up with recommendations on bringing the activities of the ports in terminals other than cargo specific terminals under the normative approach. It is important that a separate study should be undertaken to explore the potential for prescribing norms in respect of all port activities, including vessel related activities and costs incurred for them. It would also be desirable to fix norms at least for a few cost items such as expenditure on the administration and management, financial management expenditure, maintenance cost, etc. It would also be for consideration whether activities which are not strictly port specific and can be equally carried out outside port premises such as warehousing, CFS etc. can be exempt from tariff setting.

The GL proposed do not address the procedural issues covered by the 2005 GL under Clause 3. It would be for government to detail out the procedures on the basis of the recommendations accepted.

8. Proposed Guidelines for Regulation of Tariff

General

1.0 Preliminary

1.1 These guidelines may be called 'Guidelines for Regulation of Tariff at Major Ports, 2012’.

1.2 These shall come into effect from the date of their publication in the Gazette of India, and shall remain in force until it is reviewed, modified or revoked.

1.3 These shall apply to the Major Ports to whom the provisions of MPT Act, 1963, as amended from time to time, are applicable or extended to those private terminals which are operating at these ports prior to 26 February 2008 or for which the bidding process has been concluded before 26 February 2008, all of which will be referred to as Private Terminals hereinafter.

1.4.1 These Guidelines will generally apply, inter-alia, in respect of the following:

* 1. regulation of tariff levied by the port for services rendered or facilities provided as specified under section 48 of the MPT Act, 1963
  2. fixation of charges, under section 49 of the said Act, for the use of properties belonging to, or in possession or occupation of, the port or any place within the limit of the port or the port approaches.
  3. fixation of fees under section 49(A) and 49(B), respectively, of the said Act, for pilotage, hauling, mooring, re-mooring, hooking and measuring
  4. and other services rendered to the vessels and port dues on vessels entering the port.
  5. fixation, under section 50 of the said Act, of consolidated Scale of Rates for combination of services
  6. the conditionalities governing application of the tariff/charges/fees/dues.

1.4.2 The earlier guidelines published on 31 March 2005 stand superseded. The principles evolved through various tariff orders will, however, continue to apply to the extent that they are consistent with and not specifically superseded by these guidelines. A compendium or digest of principles evolved will be published periodically.

1.5 Unless the context otherwise requires, various terms used herein will have the same definition as in the MPT Act, 1963, and the Indian Ports ct,1908, as amended from time to time.

1.6 If any difficulty arises in giving effect to these guidelines, the TAMP may, of its own motion or otherwise, after giving reasonable opportunity to those likely to be affected, make such orders, not inconsistent with these guidelines, as may appear to be necessary for removing the difficulty.

1.7 The TAMP, for reasons to be recorded in writing, may relax application of any of the provisions of these regulations to a port or group of ports or to Private Terminals, on its own or on an application made before it by the concerned parties.

2.0 Overall Approach

2.1 TAMP shall rationalize the tariff structures and streamline tariff setting system.

2.2 In fixing tariffs, Tamp will be guided by the following

* + 1. Safeguarding the interest of consignors/consignees and other port users.
    2. Ensuring just and fair return to ports
    3. The factors which will encourage competition, efficient use of resources, efficiency in performance and optimum investment.
    4. The established costing methodologies (including cost plus approach, normative cost based approach) and pricing principles..
    5. The policy directions issued by the Central Government under section 111 of the MPT Act, 1963
    6. Ensuring transparency and participative approach while discharging its functions.
    7. Leveraging tariff to improve operational efficiency of the ports.
    8. Overall long term objective will be to move to competitive pricing and to move performance of Indian Ports to internationally competitive levels.

2.3 TAMP will normally apply uniform concepts principles and approach in determining tariffs at all ports and private terminals

2.4 TAMP will examine the reasonableness of the costs and investments to ensure that inefficiencies, uneconomic uses/practices or excesses are not passed on to users.

2.5 The tariff setting for the private terminals for which these guidelines are applicable will be based on normative cost based approach. Also normative cost based approach will be applicable for the activities carried out by the major ports at cargo specific terminals. For all other activities carried out by the major ports, the cost plus approach will be followed. However continuous efforts will be made to bring all of them into normative cost based approach progressively.

3.0 Normative cost based approach applicable to private and cargo specific port terminals

3.1 This approach is applicable to all the Private Terminals and to the cargo specific port terminals operated by the Major Ports. The approach will be to apply norms for various physical and financial parameters that go into the fixation of tariff. The norms for fixing the tariff for various types of cargo handling terminals are set out at **Annex A to E.**

3.2 Tariffs set by TAMP will act as a cap for all the activities performed at the said dedicated terminals.

3.3 The normative cost based approach will recognize the actual capital invested for operating the terminal and the operating costs will be estimated based on the norms set by these guidelines and a return will be allowed on capital employed which is 16% as of now.

3.4 While doing so TAMP will comply with the policy directions issued by the Central Government from time to time, like concessions to coastal cargo/containers, concession to transhipment containers etc.

**3.5 Estimation of capacity**

3.5.1 The optimal capacity of a terminal will be determined in accordance with the formulae set out in Annex A to E.

3.5.2 Tariff will be fixed with reference to the optimal capacity of the terminal.

**3.6 Capital cost**

3.6.1 Capital cost will be determined for the following broad categories

* 1. Civil construction cost including dredging and reclamation
  2. Equipment, plant, machinery, electrical installations, electrical control systems
  3. IT systems
  4. Other costs which are currently allowed to be capitalized according to prevailing accounting norms.

3.6.2 The actual values as per audited annual accounts will be used for calculation of the above categories of cost. The actual values shall be arrived at as an average of Gross Fixed Asset at the beginning of the accounting year and the Closing Net block at the close of the accounting year for which tariff is determined.

**3.7 Operating cost**

3.7.1 The operating cost will be calculated using the methodology given in these guidelines.

3.7.2 The license fee payable by the private operator to the concerned Major Port for the assets given to the Private operator will be as per the prevailing SOR.

3.7.3 ‘Royalty/Revenue share’ payable to the landlord port by the private operator will not be allowed as an admissible cost for tariff computation as decided by the Govt. in the Ministry of Shipping vide its Order No.PR-14019/6/2002-PG dt. 29th July 2003. In those BOT cases where bidding process was finalised before 29 July 2003, the tariff computation will take into account royalty / revenue sharing as cost for tariff fixation in such a manner as to avoid likely loss to the operator on account of the royalty / revenue share not being taken into account, subject to maximum of the amount quoted by the next lowest bidder. Further, a true up of the royalty/revenue share will be conducted at the end of each tariff cycle.

3.7.4 Other expenses will include those expenses which are not covered specifically such as general and administrative overheads, printing stationery, travel, entertainment, marketing, finance and miscellaneous expenses etc.

**3.8 Return on Capital Employed (ROCE)**

3.8.1 A fair return on capital employed will be allowed on the capital cost determined in terms of clause 3.6.1. The norm for determining the quantum of Return on Capital Employed is 16% as of now.

3.8.2 As and when any additional investment is made at the terminal by the private operator for creation of assets, then the tariff will be reviewed. The additional investment made will be added to the capital block and will be considered for the allowable return provided the investment results in either addition to the existing capacity or improvement in operational efficiency.

**3.9 Revenue Requirement and framing of Scale of Rates (SOR)**

3.9.1 The annual revenue requirement for operating the terminal is the sum of the return on capital employed and the annual operating cost as determined according to the methodology laid in the Annex A to E.

3.9.2 The annual revenue requirement is to be achieved through realization of tariff. The tariff cap for different individual services is therefore, to be set appropriately by TAMP in such a way to achieve the annual revenue requirement.

3.9.3 The conditionalities for providing various services may also be prescribed along with tariff cap following the existing policy guidelines and the position obtaining at the concerned Major ports.

3.9.4 If any question arises requiring clarification or interpretation of the SOR and the statement of conditionalities, the matter shall be referred to TAMP and its decision in this regard is binding on the parties concerned.

**3.10 Tariff and its validity**

3.10.1 The SOR framed as per the clause 3.9 will be notified in the Government of India Gazette and will be valid for 5 years or if it is modified earlier by TAMP and the modified tariff is notified in the Gazette.

3.10.2 The tariff cap so notified will be indexed to inflation but only to an extent of 60% of the variation in Wholesale Price Index (WPI) occurring between 1 January 2012 and 1 January of the relevant year. Such automatic adjustment of the 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. For this purpose, the WPI for all commodities announced by the Government of India will be considered.

4.0 Cost plus approach for major port trust activities other than in cargo specific terminals

4.1 The existing cost plus return on capital employed approach will continue to apply to all cargo handling activities, vessel related activities and estate activities carried out by Major Ports except for the cargo handling activities carried out at cargo specific terminals.

4.2 The traffic projection should be in line with the projections in the five year/annual plan and the current/expected growth. Income projections should be made accordingly. The expenditure projections should be in line with the adjusted traffic. The allowable increase in expenditure projections will be to the extent of 60% of the variation in Wholesale Price Index occurring between 1 January 2012 and 1 January of the relevant year.

4.3 For the purpose of depreciation of assets, straight line method following the life norms adopted as per the Companies Act will be allowed. The depreciation will be calculated based on an average of Gross Fixed Asset at the beginning of the accounting year and the Closing Net block at the close of the accounting year for which tariff is set.

4.4 One-time expenses such as, arrears of wages/pension, VRS compensation, contributions to Pension Fund for past liability, etc. will not be allowed as admissible cost while determining the tariff. If it is found that the accumulated surpluses / reserves other than specifically earmarked funds or provisions made cannot adequately cover them or for any other justifiable reasons, a special rate for a limited period may be prescribed to meet such liabilities.

4.5 Cost of manpower rendered surplus due to change in cargo mix or technological changes be met out of the royalty/revenue share.

4.6 Manning scales/datum for different services/ operations will be reckoned at the levels followed by ports based on various settlements. With the technological changes in operations, the major port trust should take necessary action to conduct time and motion study of different operations and regularly adjust manning scales/datum accordingly after due process of law.

4.7 When cargo-handling equipment, floating craft and other assets are replaced by any port trust, the tariff for such assets will be fixed considering the least cost option between the actuals and the expenses that may be incurred if the equipment/craft/other assets were to be hired and operated. Likewise, the ports have to examine on continuous basis cost based analysis for getting the repairs done in-house vis-à-vis outsourcing on case-to-case basis.

4.8 The revenue share/royalty receivable by the port trust shall be maintained in an Escrow Account and spent within a period of 6 years. The port will spend a minimum of 3 percent of the amount of royalty/revenue share received towards protection and enhancement of environment. The balance amount shall be spent for the following activities:

(a) Cost of meeting labor rendered surplus

(b) Creation/ modernization of port infrastructure

(c) Dredging

(d) Creation of assets to meet social obligations subject to a ceiling of 3 percent of the amount of royalty/revenue share received.

The investments made from the escrow account will not qualify for the return.

4.9 Return will be allowed on Capital Employed (ROCE), for major port trust activities other than cargo specific terminals, at the pre-tax rate, fixed in accordance with the Capital Asset Pricing Model (CAPM). Key parameters that determine the Cost of Capital under CAPM are –

(i). the Risk Free Rate (Rf) based on the transaction - weighted yields on Govt. of India Bonds having a residual maturity of 10 years considered over the period July - Dec., 2004, viz***,*** 6.35%.

(ii). the Market Risk Premium (Rm -Rf) based on the a review of the various methods for calculating the risk premium in India's context, presently estimated at 7.15%;

(iii). the Equity Beta (Be) based on the review of the asset Betas of port sector and other domestic sector companies, presently estimated at 0.84;

(iv). the Debt Risk Premium (Rd) based on the risk profile of the port sector as assessed, presently considered at 5.55% as 'investment grade';

(v). the Debt : Equity ratio for the industry, presently factored as 1 :1; and

(vi). the Corporate tax rate applicable as per the Income Tax Act and rules there under.

4.10 The rate so fixed presently 16 % per annum will be reviewed and revised if necessary, at the beginning of the financial year. i.e. in April every year, in light of changes in the key parameters. If the resultant variance is less than 1%, the existing rate will continue unaltered.

4.11 Capital employed will comprise Net Fixed Assets (Gross Block minus Depreciation minus Work in Progress) plus Working Capital.

4.12 Working capital means Current Assets (excluding of Cash/deposit balance of funds) less Current Liabilities.

4.13 Reasonableness of capital base will be assessed. Cost of fully commissioned Business assets that can be directly identified as created for the port business, and in use will only be considered while computing allowable depreciation and return on capital employed

4.14 Reasonableness of fresh investments made/proposed for creation of capacity) will be assessed on the basis of (i) reduction in unit operating costs, if any; (i) additional traffic/business generated/projected, (iii) improvement in operational efficiency (iv) a combination of any or all of these factors. Project / Feasibility reports relied upon by Government / Port Trust Boards / Financial institutions will be referred to, if necessary

4.15 On the cost of Business-related assets/facilities, (like quarters/schools/hospital for port employees ) which may not be directly used in the business but which have been created for supporting the business, return will be allowed only at the risk free rate. Variable and fixed operating expenses on such assets will be considered as admissible cost for tariff purposes.

4.16 Social obligation assets/facilities not directly or even indirectly related to port operation but created to meet social obligations/needs of the community at large of the location at which port is situated, such as stadium, road widening, street lighting and those assets created to discharge other non-port functions like municipal functions will be categorized as business related asset and will qualify for the reduced ROCE as applicable to business related asset, only if more than 75% of users of any social obligation asset created are port employees.

4.17 TAMP will examine the reasonableness of the various items of Working Capital, like, inventory, sundry debtors, cash balances, etc., to ensure that it is not unjustifiably expanded and will, from time to time, set limits up to which such balances will be considered admissible for computing working capital and return thereon. To start with, limit on inventory for capital spares will be one year’s average consumption and in case of other items of inventory the limit will be six months’ average consumption of stores excluding fuels. This, however, will not be applicable for customized spares. Insurance spares shall be part of the equipment procurement cost. Limit on sundry debtors balances will be two months’ Estate income & Railway Terminal charges payable by Indian Railways and the limit on cash balances will be one month’s cash expenses.

4.18 The return allowed will be linked to the utilization factor of the capacity of the port as assessed by it or by the Government. In line with the policy of the Government for the ports to have spare capacity to avoid congestion and timely development of additional facilities, maximum permissible return will be allowed for capacity utilization of 60% and above. When the capacity utilization is found to be below 60%, pro rata reduction in the permissible return to be allowed will be decided on case to case basis.

4.19 Differential tariff scheme, if proposed by the port, will been entertained after analyzing the factors leading to congestion or underutilization of facilities etc.

4.20 Bearing in mind the quid pro qua principle, tariff/charges leviable shall be commensurate with the services rendered/facilities provided.

4.21 The cross subsidies or subsidies in the major ports are not subsidies in the economic sense but arise for meeting deficit in the operating costs and return on capital employed on the concerned activities/sub-activities.

4.22 A port may propose tariff for any sub-activity/service/facility lower than the permissible cost plus rates. TAMP will not allow increase, in the tariff for any other activity or sub-activity/service/facility showing surplus if such increase is sought to prescribe lower tariff for other any sub-activity/service/facility or otherwise.

4.23 Cross-subsidization in cases where it has to continue – totally or partially – shall be governed by total transparency and shall be restricted with the objective to ultimately phasing it out. *The requirement of cross-subsidization as a result Govt. policy would be accepted.*

4.24 Estate activity, privatization proceeds and investment income can be contributor to meeting the deficit in the port operations in the short term. Efficiency improvement and cost reduction, including rationalization of manning scales, need to be addressed in the long term.

4.25 Accordingly, the financial position of the port as a whole and for each activity as also sub-activity will be considered while determining the need and extent of revision in tariff necessary and to ensure that the surplus sub-activity/service/facility is not burdened beyond the existing level while proposing relief /lower tariff for some sub-activity/service/facility.

4.26 In the context of the current general trend towards elimination of hidden subsidies, fixation of tariff based on the principle of ‘what traffic can bear’ shall be eventually phased out – over a fixed time frame as may be specified for each port based on their proposal and main activities will be made self-sustaining.

4.27 The actual physical and financial performance will be reviewed at the end of the prescribed tariff validity period with reference to the projections relied upon at time of fixing the prevailing tariff. If performance variation of more than + or – 20% is observed as compared to the projections, tariff will be adjusted prospectively. While doing so 50% of the benefit/loss already accrued will be set off while revising the tariff.

4.28 The cost of repairs to damages to port property caused by users during the course of normal port operations, if covered from insurance of the property either with outside agency or internally by the Port, the premium payable to the insurance company or contribution to Insurance Fund will be considered as an item of cost for the purpose of tariff computation. The actual cost of damage repairs of such property to the extent admitted by the Insurance Company will not be considered as an admissible item of cost. Likewise, in the event of replacement of such assets due to total damage, return will be limited to the capital cost incurred less amount recovered from insurance.

4.29 Users will not be required to pay charges for delays beyond a reasonable level attributable to the port.

4.30 The rates prescribed in the Scale of Rates are ceiling levels; likewise, rebates and discounts are floor levels. The ports may, if they so desire, charge lower rates and/or allow higher rebates and discounts.

4.31 The ports may also, if they so desire, rationalize the prescribed conditionalities governing the application of rates prescribed in the Scale of Rates if such rationalization gives relief to the user in rate per unit and the unit rates prescribed in the Scale of Rates do not exceed the ceiling level.

4.32 The ports 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 changes in such lower rates and/or in the conditionalities governing the application of such rates provided the new rates fixed shall not exceed the rates notified by the TAMP.

4.33 Whenever a specific tariff for a service / cargo is not available in the notified Scale of Rates, the port can submit a suitable proposal.

4.34 Simultaneously with the submission of proposal, the proposed rate can be levied on an ad hoc basis till the rate is finally notified.

4.35 The ad hoc rate to be operated in the interim period must be derived based on existing notified tariffs for comparable services/cargo; and, it must be mutually agreed upon by the Port/Terminal and the concerned user(s).

4.36 The final rate fixed by the TAMP will ordinarily be effective only prospectively. The interim rate adopted in an ad hoc manner will be recognized as such unless it is found to be excessive requiring some moderation retrospectively.

4.37 Users shall pay interest on delayed payments and the port shall pay interest on delayed refunds at the same rate.

4.38 The rate of interest will be 2% above the Prime Lending Rate of the State Bank of India.

4.39 The delay in payments by user will be counted beyond 10 days after the date of raising the bills. This provision will not apply to the case where payment is to be made before availing of the services / use of port properties as stipulated in the MPT Act, 1963 and/or prescribed as a condition in the tariff.

4.40 The delay in refunds by the port will be counted beyond 20 days from the date of completion of services or on production of all documents required form the user, whichever is later.

Annexure A: Norms for fixation of tariff for services rendered at Container terminal

1.0 Tariff Structure

The tariff structure for services performed at a container terminal can be grouped under the following three major groups.

(1) Container Handling Charges

(2) Ground Rent Charges

(3) Miscellaneous Charges

2.0 Norms for apportionment of total Revenue Requirement (RR)

The total RR determined as per these guidelines is apportioned among the aforesaid major tariff groups in the following manner and then the rates for individual tariff items under each of the groups can be determined.

| **Tariff Group** | **Percentage of total revenue allocated** |
| --- | --- |
| Container Handling Charges | 90 |
| Ground Rent Charges | 7 |
| Miscellaneous Charges | 3 |

3.0 Norms for calculation of Optimal Capacity of the Terminal

The optimal capacity of the terminal is reckoned as the capacity of the terminal that can be achieved using the existing physical infrastructure. The optimal capacity of the terminal is the higher value of the optimum quay capacity and the optimum stack yard capacity.

3.1 Determination of Optimal quay capacity

The optimal quay capacity is the number of TEUs that the quay can handle if the existing civil infrastructure, container handling equipments and other assets are deployed for the quay handling activities, and are put into optimal use. The capacity is calculated as given below

Optimal Quay capacity = A X B X C X D X E TEUs where

A = Number of Gantry cranes deployed at the terminal

B = Number of possible working hours of gantry crane in an year

C = Number of moves per crane per hour

D = TEU Ratio

E = 0.7

The norms for the above parameters are given in Table 1.

**Table 1 Norms for calculation of Optimal Quay capacity**

| **Parameter** | **Norm** |
| --- | --- |
| A | Number of cranes actually deployed |
| B | 24X365 |
| C | 25 |
| D | 1.3 |
| E | 0.7 |

3.2 Determination of Optimal Yard Capacity

The optimal yard capacity is the number of TEUs that can be handled using the present infrastructure facilities at the container stack yard and is calculated using the following formula

Optimal Yard Capacity = 0.7 XG X H X P/ ( S X D ) TEUs where

G = Total number of ground slots in TEUs

H = Average Stack height

P = Period in number of days

S = Surge factor

D = Average dwell time ( measured as the time in days from the time a container is placed in the yard until it leaves it irrespective of the free time allowed in Scale of Rates )

The norms for the above parameters are given in Table 2.

**Table 2 Norms for calculation of yard capacity**

| **Parameter** | **Norm** |
| --- | --- |
| G | The actual number of total ground slots developed in the terminal |
| H | 3 |
| P | 365 |
| S | 1.3 |
| D | 2 days |

4.0 Norms for calculation of Capital cost

4.1 The norms for calculation of Capital cost is given under Table 3

**Table 3 Norms for calculation of Capital cost**

| **Sl. No** | **Group** | **Norm** |
| --- | --- | --- |
| 1 | Civil construction cost | As per the actual cost including 25% of the berth cost if the full cost of the berth is not accounted under berth hire |
| 2 | Container Handling equipment | As per the actual cost |
| 3 | IT system cost | As per the actual cost |
| 4 | Cost of all other assets | As per the actual cost |

Note : 1. The civil cost will include cost of all civil structures ( wharves, buildings, roads, boundary walls, gates etc.,) and the capital cost of dredging if carried out and not accounted elsewhere.

2. The equipment cost will include all mechanical handling equipments electrical control system, electrical power supply systems.

3. The IT system cost will include all IT system cost, communication systems and soft wares

4. The other costs are those which are not accounted under the above three but can be capitalized as per accounting norms

5.0 Norms for calculation of operating cost

5.1 The operating cost incurred in a container terminal is grouped under the following major

Heads and is to be calculated for the optimal capacity determined under Clause 3 above.

(i) Power

(ii) Fuel

(iii) Civil maintenance cost

(iv) Equipment maintenance cost

(v) Maintenance dredging

(vi) Insurance

(vii) License fee

(viii) Royalty/Revenue share

(ix) Other expenses consisting of the following

(a) Operating and Direct labour

(b) Maintenance Labour

(c) Equipment hire

(d) Management and administrative overheads

(e) General overheads

(f) Preliminary expenses

(g) Technical fee

(h) Travel

(i) Advertisement, publicity, entertainment etc.

(j) All other miscellaneous expenses not covered under any of the above

5.2 The norms for the above various items of operating cost are given in Table 4

**Table 4 Norms for operating cost**

| **Sl. No** | **Cost item** | **Norm** |
| --- | --- | --- |
| 1 | Power | 12 Units/TUE |
| 2 | Fuel | 3 Ltrs/TUE |
| 3 | Civil maintenance cost | 1% of cost civil asset |
| 4 | Mechanical and electrical maintenance cost including spares | 2% of cost of mechanical and electrical asset |
| 5 | Maintenance dredging | Actual annual cost or the average of actual cost in the past three years if annual cost is not available |
| 6 | Insurance | 1% of Gross fixed assets\* |
| 7 | Depreciation | As per the norms prescribed in the Companies Act or any norm prescribed in the CA whichever is higher |
| 8 | License fee (rentals for land and other port assets )\*\* | As per the rate prescribed in the prevailing Scale of Rates in the concerned Port Trust |
| 9 | Royalty/Revenue share\*\* | Allowable only for pre July 2003 terminals. Amount allowable is as per the GL |
| 10 | Other expenses | 10% of GFA |

\* Gross Fixed Asset is the sum of civil assets and mechanical and electrical assets IT and the other assets

\*\* Not applicable to port trust

6.0 Determination of Berth hire

The tariff determination for berth hire will follow the methodology, approach and the procedure as that used for the container handling activities. The revenue requirement is the sum of operating cost and the ROCE. For calculation of capital cost, the following costs are accounted for which norm has also been prescribed.

6.1 Norms for calculation of Capital cost

| **Sl. No** | **Group** | **Norm** |
| --- | --- | --- |
| 1 | Cost of construction of the berth | Actual cost (i.e.,75% of the actual value of the berth cost as 25% is already accounted under handling |
| 2 | Cost of dredging | Actual cost |

6.2 Norms for operating cost

For determination of the operating cost, the following norms are prescribed

| **Sl. No** | **Group** | **Norm** |
| --- | --- | --- |
| 1 | Civil maintenance cost | 1% of the cost of civil assets |
| 2 | Insurance | 1% of the cost of civil assets |
| 3 | Depreciation | As per the norms prescribed in the Companies Act or any norm prescribed in the CA whichever is higher |
| 4 | Lease rentals | As per the rate prescribed in the prevailing Scale of Rates in the concerned Port Trust |

After calculating the revenue requirement , the berth hire per GRT is formulated taking into account the value of the GRT of the vessels considered for calculation of capacity. For arriving at the per hour berth hire rate, the value of berth hire per GRT is to be divided by the number of working hours of the Vessel which is 70% of 365X24 hours.

**Note: The actual values referred above for various items are the audited values found in the books of account at the beginning 0f the year (unless otherwise specified) in which the tariff is fixed.**

Annexure B: Norms for fixation of tariff for services rendered at Coal terminal

1.0 Tariff Structure

The tariff structure for the services rendered at a mechanised coal Terminal can be grouped under the following three major groups

(1) Coal Handling charges

(2) Storage charges

(3) Miscellaneous charges

2.0 Norms for apportionment of total revenue requirement

The total revenue requirement determined as per these GL is apportioned among the aforesaid major tariff groups in the following manner and then the rates for individual tariff items under each of the groups can be determined.

| **Tariff Group** | **Percentage of total revenue allocated** |
| --- | --- |
| Coal handling charges | 98 |
| Storage charges | 1 |
| Miscellaneous charges | 1 |

\* The above norms are prescribed on the basis that the coal handling charges is a composite charge comprising of charges for unloading of coal, conveying and stacking at the stack yard for the prescribed period and then loading onto ship for loading terminal and vice versa for the unloading terminal

\*\* Storage charges is the charge levied for storage of coal at the yard beyond allowable free period of 10 days

3.0 Norms for calculation of optimal capacity of the terminal

The optimal capacity of the terminal is reckoned as 70% of the maximum capacity. The optimal capacity is the higher value of the optimal quay capacity and optimal stack yard capacity. The calculation of quay capacity has to take into account the actual values of the number of equipments deployed at the terminal, their capacity and performance values. In the same way the actual value of stack yard area etcequipments deployed are to be taken into account for calculation of the stack yard capacity. In the absence of data on equipments deployed etc., the alternate method of calculation of the optimal capacity as the lower value between the optimal quay and stack yard capacity on the same lines of 2008 Guide lines is described below for consideration.

3.1 Determination of the optimal quay capacity

The quay capacity of the terminal is calculated using the following formula.

Optimal capacity

= 0.7 x ((S1\*P1/100) + (S2\*P2/100) + (S3\*P3/100) ) X 365 tons

Where

P1 = Percentage share of capacity of capsize vessel

S1 = Ship day output of the capsize vessel

P2 = Percentage share of capacity of Panamax vessels

S2 = Ship day output of the Panamax vessels

P3 = Percentage share of capacity of Handy and Handy max vessels

S3 = Ship day output of Handy size and Handy max vessels

P1,P2 and P3 are to be determined taking into consideration the draft availability and type of vessel expected to be handled at particular terminal

The norms for ship day output for various type of vessels are given in the table below

**Norms for ship day output**

| **Type of ship** | **Norms for loading in tons** | **Norms for unloading in tons** |
| --- | --- | --- |
| Capesize | -- | 50,000 |
| Panamax | 40,000 | 35,000 |
| Handy Size &  Handy max | 20,000 | 15,000 |

3.2 Determination of Optimal Yard Capacity

The optimal yard capacity is 70% of the maximum quantity of iron ore that could pass through the yard

Optimal Yard Capacity = 0.7 X A X (U/100) X Q X T tons

Where

A - Area of the yard available for the stacking of coal which includes all the areas used by the coal handling equipments erected within the stack yard

U - Percentage of the stack yard that could be used for stacking

Q - Quantity that could be stacked per sq.m of area

T - Turnover ratio of the stack yard in an year

The norms for the above parameters are given in the Table below

| **Parameters** | **Norm** |
| --- | --- |
| A | The actual area earmarked for the stack yard |
| U | 70% |
| Q | 5 tons / sq.m |
| T | 30 |

4.0 Norms for calculation of Capital cost

The norms for calculation of capital cost are given in the following table.

**Norms for calculation of Capital cost**

| **Sl. No** | **Group** | **Norm** |
| --- | --- | --- |
| 1 | Civil construction cost | As per the actual cost including 25% of the berth cost if the full cost of the berth is not accounted under berth hire |
| 2 | All mechanical and electrical equipment cost | As per the actual cost |
| 3 | Other miscellaneous assets | As per the actual cost |

Note : 1. The civil cost will include cost of all civil structures ( wharves, buildings, roads, boundary walls, gates etc.,) and the capital cost of dredging if carried out and not accounted elsewhere.

2. The equipment cost will include all mechanical handling equipments electrical control system, electrical power supply systems.

3. The other costs are those which are not accounted under the above two but can be capitalized as per accounting norms

5.0 Norms for calculation of operating cost

The major cost items that are considered for calculation of operating cost and the norms for each of them are provided in the table below.

**Norms for operating cost**

| **Sl. No** | **Group** | **Norm** |
| --- | --- | --- |
| 1 | Power | 1.4 units / ton |
| 2 | Fuel  For HMC with  capacity < 60 T  capacity > 60 T | 50 Ltrs/hr#  70 Ltrs/hr# |
| 3 | Repair and maintenance  of civil assets | 1% of cost of all civil assets |
| 4 | Repair and maintenance of mechanical and electrical  Equipments including Spares | 7% of cost of all mechanical and electrical equipments |
| 5 | Maintenance dredging | Actual annual cost or the average of actual cost in the past three years if annual cost is not available |
| 6 | Insurance | 1% of Gross fixed assets\* |
| 7 | Depreciation | As per the norms prescribed in the Companies Act or any norm prescribed in the CA whichever is higher |
| 8 | License fee (rentals for land and other port assets )\*\* | As per Scale of Rates of the concerned Major Port Trust |
| 9 | Royalty/Revenue share\*\* | Allowable only for pre July 2003 terminals. Amount allowable is as per the GL |
| 10 | Other expenses | 10% of Gross Fixed Assets value or the actual whichever is lower |

# A norm of 4000 hours of working in an year is to be adopted

\* Gross Fixed Asset is the sum of civil assets and mechanical and electrical assets and the other assets

\*\* Not applicable to port trust

**Note: The norms given for power and fuel are under the condition that the equipments use either one of it.**

6.0 Determination of Berth hire

The tariff determination for berth hire will follow the methodology, approach and the procedure as that used for the coal handling activities. The revenue requirement is the sum of operating cost and the ROCE. For calculation of capital cost, the following costs are accounted for which norm has also been prescribed.

6.1 Norms for calculation of Capital cost

| **Sl. No** | **Group** | **Norm** |
| --- | --- | --- |
| 1 | Cost of construction of the berth | Actual cost (i.e.,75% of the actual value of the berth cost if 25% is already accounted under coal handling) |
| 2 | Cost of dredging | Actual cost |

6.2 Norms for operating cost

For determination of the operating cost, the following norms are prescribed

| **Sl. No** | **Group** | **Norm** |
| --- | --- | --- |
| 1 | Civil maintenance cost | 1% of the cost of civil assets |
| 2 | Insurance | 1% of the cost of civil assets |
| 3 | Depreciation | As per the norms prescribed in the Companies Act or any norm prescribed in the CA whichever is higher |
| 4 | Lease rentals | As per Scale of Rates of the concerned Major Port Trust |

After calculating the revenue requirement , the berth hire per GRT is formulated taking into account the value of the GRT of the vessels considered for calculation of capacity. For arriving at the per hour berth hire rate, the value of berth hire per GRT is to be divided by the number of working hours of the Vessel which is 70% of 365X24 hours.

**Note: The actual values referred above for various items are the audited values found in the books of account at the beginning of the year(unless otherwise specified) in which the tariff is fixed.**

Annexure C: Norms for fixation of tariff for services rendered at Multipurpose Cargo Berth

1.0 Tariff Structure

The tariff structure for the services rendered at a multipurpose cargo berth can be grouped under the following two major groups

(1) Cargo Handling

(2) Berthing

The Cargo handling activity can be further divided into the following three sub groups for tariff fixation

(i) Cargo Handling

(ii) Storage

(iii) Miscellaneous

2.0 Norms for apportionment of total revenue requirement

The total revenue requirement determined as per these GL is apportioned among the aforesaid major tariff groups in the following manner and then the rates for individual tariff items under each of the groups can be determined.

| **Tariff Group** | **Percentage of total revenue allocated** |
| --- | --- |
| Cargo handling charges | 90 |
| Storage charges\*\* | 5 |
| Miscellaneous charges | 5 |

\* The above norms are prescribed on the basis that the cargo handling charges include the cargo loading or unloading charges (as the case may be), transportation charges, storage charges, wharfage etc.

\*\* Storage charges is the charge levied for storage of cargoes at the transit area beyond allowable period of 5 days for import cargo and 15 days for export cargo.

3.0 Norms for calculation of optimal capacity of the berth(s)

The optimal capacity of the berth(s) is reckoned as 70% of the maximum capacity

The optimal capacity calculation of quay has to take into account the actual values of the number of equipments deployed at the terminal, their capacity and performance values. In the absence of data on equipments deployed etc., the alternate method of calculation of the optimal capacity on the same lines of 2008 Guide lines is described below for consideration.

3.1 Determination of the optimal capacity

The capacity of a multipurpose cargo berth is dependant on the following factors

(i) Type of cargo to be handled

(ii) Cargo mix ratio

(iii) Size of the vessel to be handled

(iv) The type, capacity and the number of equipment used to handle cargo

The optimal capacity of the berth(s) is calculated using the following formula:

Optimal capacity

=0.7 x ((S1\*P1/100) + (S2\*P2/100) + (S3\*P3/100) + ........ ) X 365 tons

Where

P1 = Percentage share of capacity of cargo type 1

S1 = Handling rate of the vessel carrying cargo type 1,

P2 = Percentage share of capacity of cargo type 2

S2 = Handling rate of the vessel carrying cargo type 2

P3 = Percentage share of capacity of cargo type 3

S3 = Handling rate of the vessel carrying cargo type 3

P4, S4, P5, S5 and so on depending on the number of different types of cargo to be handled at the berth.

3.2 Norms for Handling Rate

The norms for handling rate of the vessel carrying different type of cargo are given in the following Table.

**Norm for handling rate of the vessel**

| **Cargo** | **Norm** |
| --- | --- |
| Food grains, Fertilizer etc. | 10,000 tons/day for vessels of more than 30,000 tons parcel size  7500 tons/day for lower parcel size vessels |
| Coal, Lime stones, Minerals, Ores etc. | 10,000 tons/day |
| Steel, bagged cargo | 4000 tons/day |
| Others | 2500 tons/day |

4.0 Norms for calculation of Capital cost

The norms for calculation of capital cost are given in the following table.

**Norms for calculation of Capital cost**

| **Sl. No** | **Group** | **Norm** |
| --- | --- | --- |
| 1 | Civil construction cost | As per the actual cost including 25% of the berth cost if the full cost of the berth is not accounted under berth hire |
| 2 | All mechanical and electrical equipment cost | As per the actual cost |
| 3 | Other miscellaneous assets | As per the actual cost |

Note : 1. The civil cost will include cost of all civil structures ( wharves, buildings, roads, boundary walls, gates etc.,) and the capital cost of dredging if carried out and not accounted elsewhere.

2. The equipment cost will include all mechanical handling equipments electrical control system, electrical power supply systems.

3. The other costs are those which are not accounted under the above two but can be capitalized as per accounting norms

5.0 Norms for calculation of operating cost

The major cost items that are considered for calculation of operating cost and the norms for each of them are provided in the table below.

**Norms for operating cost**

| **Sl. No** | **Group** | **Norm** |
| --- | --- | --- |
| 1 | Power Level luffing  Wharf crane | 100 units/hr/crane# ~~or the actual value whichever is lower#~~ |
| 2 | Fuel For HMC with  capacity < 60 T  capacity > 60 T  For 5 T FLT  For 10 T FLT  For 10 T Payloader | 50 Ltrs/hr#  70 Ltrs/hr#  7 Ltrs/ hr#  10 Ltrs/ hr#  12 Ltrs/ hr# |
| 3 | Repair and maintenance of civil assets | 1% of cost of all civil assets |
| 4 | Repair and maintenance of mechanical and electrical  Equipments including  Spares | 5% of cost of all mechanical and electrical equipments |
| 5 | Maintenance dredging | Actual annual cost or the average of actual cost in the past three years if annual cost is not available |
| 6 | Insurance | 1% of Gross Fixed Assets\* |
| 7 | Depreciation | As per the norms prescribed in the Companies Act or any norm prescribed in the CA whichever is higher |
| 8 | License fee (rentals for land and other port assets )\*\* | As per Scale of Rates of the concerned Major Port Trust |
| 9 | Royalty/Revenue share\*\* | Allowable only for pre July 2003 terminals. Amount allowable is as per the GL |
| 10 | Other expenses | 10% of Gross Fixed Assets value |

**** A norm of 4000 hours of working in an year is to be adopted

**** Gross Fixed Asset is the sum of civil assets and mechanical and electrical assets and the other assets

**** Not applicable to Major Port

6.0 Determination of Berth hire

The tariff determination for berth hire will follow the methodology, approach and the procedure as that used for the cargo handling activities. The revenue requirement is the sum of operating cost and the ROCE. For calculation of capital cost, the following costs are accounted for which norm has also been prescribed.

6.1 Norms for calculation of Capital cost

The norms for calculation of the capital cost are given in the table below.

| **Sl. No** | **Group** | **Norm** |
| --- | --- | --- |
| 1 | Cost of construction of the berth | Actual cost (i.e.,75% of the actual value of the berth cost if 25% is already accounted under handling) |
| 2 | Cost of dredging | Actual cost |

6.2 Norms for operating cost

For determination of the operating cost, the following norms are prescribed

| **Sl. No** | **Group** | **Norm** |
| --- | --- | --- |
| 1 | Civil maintenance cost | 1% of the cost of civil assets |
| 2 | Insurance | 1% of the cost of civil assets |
| 3 | Depreciation | As per the norms prescribed in the Companies Act or any norm prescribed in the CA whichever is higher |
| 4 | Lease rentals | As per the rate prescribed in the prevailing Scale of Rates in the concerned Port Trust |

After calculating the revenue requirement , the berth hire per GRT is formulated taking into account the value of the GRT of the vessels considered for calculation of capacity. For arriving at the per hour berth hire rate, the value of berth hire per GRT is to be divided by the number of working hours of the Vessel which is 70% of 365X24 hours.

**Note: The actual values referred above for various items are the audited values found in the books of account at the beginning of the year (unless otherwise specified) in which the tariff is fixed.**

Annexure D: Norms for fixation of tariff for services rendered at Iron Ore Terminal

1.0 Tariff Structure

The tariff structure for the services rendered at a mechanised Iron Ore Terminal can be grouped under the following three major groups

(1) Iron ore Handling charges

(2) Storage charges

(3) Miscellaneous

2.0 Norms for apportionment of total revenue requirement

The total revenue requirement determined as per these GL is apportioned among the aforesaid major tariff groups in the following manner and rates for individual tariff items under each of the groups can determined.

| **Tariff Group** | **Percentage of total revenue allocated** |
| --- | --- |
| Iron ore handling charges | 98 |
| Storage charges | 1 |
| Miscellaneous charges | 1 |

*The above norms are prescribed on the basis that the iron ore handling charges is a composite charge comprising of charge for unloading of iron ore, conveying and stacking at the stack yard for the prescribed period and then loading onto ship.*

*Storage charges is the charge levied for storage of iron ore at the yard beyond allowable period of 21 days.*

3.0 Norms for calculation of optimal capacity of the terminal

The optimal capacity of the terminal is reckoned as 70% of the maximum capacity. The optimal capacity is the higher value of the optimal quay capacity and optimal stack yard capacity. The calculation of quay capacity has to take into account the actual values of the number of equipments deployed at the terminal, their capacity and performance values. In the same way the actual value of stack yard area etcequipments deployed are to be taken into account for calculation of the stack yard capacity. In the absence of data on equipments deployed etc., the alternate method of calculation of the optimal capacity as the lower value between the optimal quay and stack yard capacity on the same lines of 2008 Guide lines is described below for consideration.

3.1 Determination of the optima quay capacity

The quay capacity of the terminal is calculated using the following formula.

Optimal capacity

=0.7 x ((S1\*P1/100) + (S2\*P2/100) + (S3\*P3/100) ) X 365 tons

Where

P1 = Percentage share of capacity of capsize vessel

S1 = Ship day output of the capsize vessel

P2 = Percentage share of capacity of Panamax vessels

S2 = Ship day output of the Panamax vessels

P3 = Percentage share of capacity of Handy and Handy max vessels

S3 = Ship day output of Handy size and Handy max vessels

P1, P2 and P3 are to be determined taking into consideration the draft availability and type of vessel expected to be handled at particular port.

The norms for ship day output for various types of vessels are given in the table below

**Norms for ship**

| **Type of ship** | **Norms for loading** |
| --- | --- |
| Capesize | 60,000 Tons/day |
| Panamax | 55,000 Tons/day |
| Handy Size & Handy max | 25,000 Tons/day |

3.2 Determination of Optimal Yard Capacity

The optimal yard capacity is 70% of the maximum quantity of iron ore that could pass through the yard

Optimal Yard Capacity = 0.7 X A X (U/100) X Q X T tons

Where

A - Area of the yard available for the stacking of iron ore

U - Percentage of the stack yard that could be used for stacking

Q - Quantity that could be stacked per sq.m of area

T - Turnover ratio of the plot in an year

The norms for the above parameters are given in the Table below

| **Parameters** | **Norm** |
| --- | --- |
| A | Area earmarked for the stack yard |
| U | 70% |
| Q | 15 tons / sq.m |
| T | 14 |

4.0 Norms for calculation of Capital cost

The norms for calculation of capital cost are given in the following table.

**Norms for calculation of Capital cost**

| **Sl. No** | **Group** | **Norm** |
| --- | --- | --- |
| 1 | Civil construction cost | As per the actual cost including 25% of the berth cost if the full cost of the berth is not accounted under berth hire |
| 2 | All mechanical and electrical equipment cost | As per the actual cost |
| 3 | Other miscellaneous assets | As per the actual cost |

Note : 1. The civil cost will include cost of all civil structures ( wharves, buildings, roads, boundary walls, gates etc.,) and the capital cost of dredging if carried out and not accounted elsewhere.

2. The equipment cost will include all mechanical handling equipments electrical control system, electrical power supply systems.

3. The other costs are those which are not accounted under the above two but can be capitalized as per accounting norms

5.0 Norms for calculation of operating cost

The major cost items that are considered for calculation of operating cost and the norms for each of them are provided in the table below.

**Norms for operating cost**

| **Sl. No** | **Group** | **Norm** |
| --- | --- | --- |
| 1 | Power | 1.4 units / ton |
| 2 | Repair and maintenance  of civil assets | 1% of cost of all civil assets |
| 3 | Repair and maintenance of mechanical and electrical  Equipments including  Spares | 7% of cost of all mechanical and electrical equipments |
| 4 | Maintenance dredging | Actual annual cost or the average of actual cost in the past three years if annual cost is not available |
| 5 | Insurance | 1% of Gross fixed assets\* |
| 6 | Depreciation | As per the norms prescribed in the Companies Act or any norm prescribed in the CA whichever is higher |
| 6 | License fee (rentals for land and other port assets )\*\* | As per Scale of Rates of the concerned Major Port Trust |
| 7 | Royalty/Revenue share\*\* | Allowable only for pre July 2003 terminals. Amount allowable is the amount payable for the Minimum Guaranteed Traffic |
| 8 | Other expenses | 10% of Gross Fixed Assets value or the actual whichever is lower |

\* Gross Fixed Asset is the sum of civil assets and mechanical and electrical assets

\*\* Not applicable to port trust

6.0 Determination of Berth hire

The tariff determination for berth hire will follow the methodology, approach and the procedure as that used for the iron ore handling activities. The revenue requirement is the sum of operating cost and the ROCE. For calculation of capital cost, the following costs are accounted for which norm has also been prescribed.

6.1 Norms for calculation of Capital cost

| **Sl. No** | **Group** | **Norm** |
| --- | --- | --- |
| 1 | Cost of construction of the berth | 75% of the actual value of the berth cost |
| 2 | Cost of dredging | Actual cost |

6.2 Norms for operating cost

For determination of the operating cost, the following norms are prescribed

| **Sl. No** | **Group** | **Norm** |
| --- | --- | --- |
| 1 | Civil maintenance cost | 1% of the cost of civil assets |
| 2 | Insurance | 1% of the cost of civil assets |
| 3 | Depreciation | As per the norms prescribed in the Companies Act or any norm prescribed in the CA whichever is higher |
| 4 | Lease rentals | As per Scale of Rates of the concerned Major Port Trust |

After calculating the revenue requirement, the berth hire per GRT is formulated taking into account the value of the GRT of the vessels considered for calculation of capacity. For arriving at the per hour berth hire rate, the value of berth hire per GRT is to be divided by the number of working hours of the Vessel which is 70% of 365X24 hours.

**Note: The actual values referred above for various items are the audited values found in the books of account at the beginning of the year (unless otherwise specified) in which the tariff is fixed.**

Annexure E: Norms for fixation of tariff for services rendered at Liquid Bulk Terminal

1.0 Tariff Structure

The tariff structure for services rendered at a liquid bulk terminal can be grouped under the following two major groups

(1) Liquid bulk cargo handling charges

(2) Miscellaneous charges

2.0 Norms for calculation of optimal capacity of terminal

The optimal capacity of the terminal is reckoned as 70% of the maximum capacity

2.1 Determination of optimal capacity

The capacity of the terminal is mainly dependent on the following factors.

(1) Type of cargo handled

(2) Cargo mix ratio

(3) Size of the vessel handled

Considering the above factors,the percentage share of the capacity of the vessels carrying cargoes expected to be handled in the berth are to be determined.

Then the optimal capacity of the terminal is calculated using the following formula.

Optimal capacity

= 0.7 X ((S1\*P1/100) + (S2\*P2/100) + (S3\*P3/100) + ......) X 100

P1 -- Percentage share of capacity of cargo type 1

S1 -- Handling rate of the vessel carrying cargo type 1

P2 -- Percentage share of capacity of cargo type 2

S2 -- Handling rate of the vessel carrying cargo type 2

P3 -- Percentage share of capacity of cargo type 3

S3 -- Handling rate of the vessel carrying cargo type 3

P4, S4, P5, S5 and so on depending on the number of different type of cargo to be handled at the berth of the particular port.

The norms for handling rate of the vessel carrying different types of liquid bulk are given in the Table below

**Norms for handling rate**

| **Liquid bulk** | **Norms for handling rate** |
| --- | --- |
| Crude | 5000 tons per hour |
| POL Products | 1000 tons per hour |
| LPG/LNG | 250 tons per hour |
| Other liquids | 300 tons per hour |

3.0 Norms for calculation of Capital cost

3.1 The norms for calculation of capital cost are given under the table below

**Norms for calculation of capital cost**

| **Sl. No** | **Group** | **Norm** |
| --- | --- | --- |
| 1 | Civil construction cost | As per the actual cost including 25% of the berth cost if the full cost of the berth is not accounted under berth hire |
| 2 | Liquid cargo handling equipment | As per the actual value |
| 3 | Other miscellaneous costs | As per the actual value |

Note : 1. The civil cost will include cost of all civil structures ( wharves, buildings, roads, boundary walls, gates etc.,) and the capital cost of dredging if carried out and not accounted elsewhere.

2. The equipment cost will include all mechanical handling equipments electrical control system, electrical power supply systems.

3. The other costs are those which are not accounted under the above two but can be capitalized as per accounting norms

4.0 Norms for calculation of Operating cost

The operating cost incurred for operating the terminal is grouped under the following major heads and to be calculated for optimal capacity using the norm given in the table below

| **Sl. No** | **Group** | **Norm** |
| --- | --- | --- |
| 1 | Power | 2.4 Lakhs unit/annum/hectare |
| 2 | Repair and maintenance of civil assets | 1% of all civil assets |
| 3 | Repair and maintenance of mechanical and electrical equipments including spares | 2% of cost of all mechanical and electrical equipments including spares |
| 4 | Maintenance dredging | Actual annual cost or the average of actual cost in the past three years if annual cost is not available |
| 5 | Insurance | 1% of Gross fixed Assets\* |
| 6 | Depreciation | As per the norms prescribed in the Companies Act or any norm prescribed in the CA whichever is higher |
| 7 | License fee (rentals for land and other port assts)\*\* | As per Scale of Rates of the concerned port trust |
| 8 | Royalty/Revenue share\*\* | Allowable only for pre July 2003 terminals. Amount allowable is as per GL |
| 9 | Other expenses | 1% of Gross Fixed Assets |

\* Gross Fixed Asset is the sum of civil assets, mechanical and electrical assets and other assets

\*\* Not applicable to port trusts

5.0 Norms for apportionment of total revenue requirement

The total revenue requirement determined as per these GL is apportioned among the aforesaid major tariff groups in the following manner and rates for individual tariff items under each of the groups can be determined.

| **Tariff Group** | **Percentage of total revenue allocated** |
| --- | --- |
| Liquid cargo handling charges | 95 |
| Storage charges | 5 |

*The above norms are prescribed on the basis that the cargo handling charges is a composite charge comprising of the cargo loading or unloading charges (as the case may be), transportation through pipelines and storage charges for storing in tanks, wharfage etc.,*

6.0 Determination of Berth hire

The tariff determination for berth hire will follow the methodology, approach and the procedure as that used for the liquid bulk handling activities. The revenue requirement is the sum of operating cost and the ROCE. For calculation of capital cost, the following costs are accounted for which norm has also been prescribed.

6.1 Norms for calculation of Capital cost

| **Sl. No** | **Group** | **Norm** |
| --- | --- | --- |
| 1 | Cost of construction of the berth | 75% of the actual value of the berth cost |
| 2 | Cost of dredging | Actual cost |

6.2 Norms for operating cost

For determination of the operating cost, the following norms are prescribed

| **Sl. No** | **Group** | **Norm** |
| --- | --- | --- |
| 1 | Civil maintenance cost | 1% of the cost of civil assets or the actual whichever is lower |
| 2 | Insurance | 1% of the cost of civil assets or the actual whichever is lower |
| 3 | Depreciation | As per the norms prescribed in the Companies Act or any norm prescribed in the CA whichever is higher |
| 4 | Lease rentals | As per Scale of Rates of the concerned Major Port Trust |

After calculating the revenue requirement, the berth hire per GRT is formulated taking into account the value of the GRT of the vessels considered for calculation of capacity. For arriving at the per hour berth hire rate, the value of berth hire per GRT is to be divided by the number of working hours of the Vessel which is 70% of 365X24 hours.

**Note: The actual values referred above for various items are the audited values found in the books of account at the beginning of the year (unless otherwise specified) in which the tariff is fixed.**

Annexure F: List of Stakeholders from whom written submissions were received

1. APM Terminals
2. Bharat Petroleum Corporation Ltd (BPCL)
3. Cochin Port Trust
4. Federation of Indian Chambers of Commerce and Industry (FICCI)
5. Haldia Port Trust
6. Indian Private Ports & Terminals Association (IPPTA)
7. Jawaharlal Nehru Port Trust (JNPT)
8. Kandla Port Trust
9. Kolkata Port Trust
10. Marmugao Port Trust
11. Mumbai and Nhava-Sheva Ship-Agents Association (MANSA)
12. Mumbai Port Trust
13. Paradip Port Trust
14. Visakha Container Terminal
15. Visakhapatnam Port Trust



1. Materiality index for services provided for supply of fuel to aircraft (MIf)= [(fuel throughput in kilolitres at major airport A)/(fuel throughput in kilolitres at major airports)]\*100. If MIf> 5%, service deemed as material, otherwise as non-material.

   Materiality index for services for cargo facility (MIc)= [(cargo volume at major airport A)/(cargo volume at major airports)]\*100. If MIc> 2.5%, service deemed as material, otherwise as non-material.

   Materiality index for ground handling services (MIg) = [(international aircraft movement at major airport A)/

   (international aircraft movement at major airports)]\*100.If MIg> 5%, service deemed as material, otherwise as non-material. [↑](#footnote-ref-1)