

**Standard Operating Procedure (SOP) for handling IMDG Class  
Explosives at JNPA (BMCTPL, APMT, NSFT, and NSIGT) Berths**

**A. Arrangement for handling Explosives:**

1. The Cargo owner shall notify Dy. Conservator /Harbour Master of intention to convey load or unload of Explosives and such notification shall be given on a normal working day at least 48 hrs. before the proposed operation and at least before (12 noon) if the day on which notice is required is a Friday or day before a Public Holiday.
2. The Cargo owner shall provide the Dangerous Goods Regulatory Authority with any quality certificate required by the Authorities.
3. A copy of these procedures and Appendices shall be handed over to the Chief Officer/Captain of the vessel before handling of explosives commences.
4. The Cargo owners shall also provide regulations to be observed by all drivers in handling explosives in the Port Area.
5. The vessel should not be worked if the Port is closed to outward Traffic by adverse weather and during lightning / thunder storms/heavy rains.

**B. Conditions Relating to Explosives on the Vessels:**

1. The total quantity of explosives carried on a vessel or handled at the berth shall not exceed the quantity permitted by the Chief Controller of Explosives, Nagpur from time to time.
2. The packaging of explosives shall conform with the requirements of current edition of UN Guidelines and IMDG Guidelines. In India IIP are the authorised bodies to approve the packaging in line with UN Guideline.
3. The explosive container shall be handled safely on vessel, slowly and without any jerk as per stowing category for hazardous/ dangerous cargo and approved by the principle Officer of Mercantile Marine Department (MMD) and in strict conformity to the stowage provision of the IMDG Code. The cargo owner shall assist in any further instruction as required by the Port Authority.
4. Immediately on berthing a vessel carrying explosives or on which explosives is to be loaded, has been berthed, steel wire hawsers sufficiently strong to have the vessel towed away from the berth shall be placed over the fore and aft ends of the vessels. The hawsers shall so remain while the vessel is alongside the berth and shall be tended and adjusted to meet the changes in the draft of the vessel.
5. Vessel main engines and auxiliary gear shall be available for immediate movement of vessel, in case of any eventuality.
6. The vessel shall be positioned to allow quickest access to sea in case of any emergency. The vessel's firefighting facilities shall be kept in readiness throughout the handling operations with hoses run out.
7. No bunkering shall be permitted during the handling of explosives or hatches of cargo spaces containing explosives are open. Due precautions to be adhered to during bunkering operations at other times in accordance with procedures lead out in Annex-V

of IMO recommendations on the safe transport of dangerous cargo. The bunkering and storing of the vessel shall be completed before loading of the explosives commences.

8. Master of vessel shall display /exhibit visual signs such as red flag during day light and red light during night hours to indicate dangerous goods being handled on Board.
9. Tugs of the Port shall be kept in ready position for meeting the emergency/exigency.
10. Firefighting equipment on board the ship shall be kept in readiness and notice shall be displayed in the area of explosives handling operation bearing the words “**DANGER - NO SMOKING – NO NAKED LIGHTS**”. Designated area should be assisted with appropriate signage

**C. Conditions relating to Explosives on the Berth of JNPA:**

1. Before the commencement of any operation the maser, owner or agent of the vessel shall furnish to the Dy. Conservator / Harbour Master / Principal Officer Mercantile Marine Department (MMD) in writing the name of the person (Nodal Officer) who shall be in charge of handling of explosives.
2. The cargo owner shall inform to the Port, in advance before commencing handling operations at the respective Berth.
3. The explosives shall be loaded or discharged as soon as practicable after arrival at the berth and vessel shall sail out immediately after loading of explosives is completed.
4. Work on other holds of the vessel shall not be permitted while the holds containing explosives are open.
5. Vehicle movements on the berth shall be arranged as a one-way traffic flow.
6. The berth shall be thoroughly cleaned free of all combustible dust and debris prior to handling explosives.
7. No other dangerous goods or oil or combustible substances shall be permitted in the designated berth or handling area while explosives are being handled.
8. For import shipments, after the explosives has been removed from the vessel and the hold or holds in which the explosives had been carried have been thoroughly cleaned free from any spillage, a report in writing shall then be made by the Master, Owner or Agent of Vessel to the Dy. Conservator / Harbour Master, that the holds are clean.
9. Vehicle carrying explosives shall be of diesel powered and the number in the berth area shall be restricted to not more than one vehicle alongside of the vessel loading explosives.
10. The cargo owner shall notify the Fire Brigade in advance on the commencement of each explosives handling operation.
11. The Cargo owner shall erect on the berth a notice –Board indicating the procedure to be adopted in the event of a fire. These procedures are to be made known to all persons working on the berth.
12. The berth shall be declared to be a “RESTRICTED AREA” for the duration of the explosives handling and all vehicles not directly involved shall not be permitted.

13. No repair works (including hot works) or any work which generates heat / sparks on the berth shall be carried out while the holds containing explosives are open, or while explosives are being handled.
14. Engine repairs and maintenance works shall not be carried out on board of the vessel from the commencement of loading operations of explosives till the departure of the vessel from the berth.
15. For export shipments the total quantity of explosives delivered to the berth shall be identical to that documented on Mates receipt and Bill of Lading. Any discrepancy however cause shall be documented and that documented discrepancy shall be recorded as transfer to the place of origin of the cargo or other appropriate secured location.
16. In case of import, any discrepancy between Bill of Lading Quantity and quantity recorded as dispatch of the berth is formally documented as a stock transferred or its repacking or other placement is recorded to the satisfaction of the regulatory authority.

**D. Emergency Procedure:**

1. Prior to handling explosives detailed instruction shall be prepared jointly by the cargo owner shall be submitted to the Port Authorities. Explosive Authority in the State, The Manager (Fire & Safety), JNPA and any other authority concerned with the safety of the operation setting out:
  - (a) All precautions necessary to prevent fire or explosion.
  - (b) All procedures to be followed in the event of the outbreak of fire or other emergency.
2. These procedures for tackling the fire must be handed over to the Master of the vessel and to the Traffic Manager and the CFO of concern Terminal, prior to the commencement of operations, which shall ensure that they are closely followed within their respective areas of responsibility. Formation of a local emergency response team is to be considered.
3. Emergency and fire crews properly trained and equipped shall be immediately available whilst explosives are loaded on to the ship or handled in the Port area.
4. Notice are prominently displayed on the ship and berth stating:

In the event of fire

  - Avoid breathing fumes.
  - Use plenty of water to fight the fire.
  - Do not use chemical or foam fire extinguishers.
  - Do not batten down hatches.
5. At least two sets of hoses fitted with spray/jet nozzle are to be connected to the Fire Tender outlet and be ready to be run out.
6. Hoses are to be run out and connected on board the vessel to the satisfaction of the Dy. Conservator / Harbour Master.
7. The Cargo owners is to provide at least one person trained in firefighting & prevention on the wharf to raise the alarm and the company's fire alarm phone system supplied on the wharf and to initiate firefighting operations. A Ship's Officer is to be on duty on the

vessel during the time the hatch is opened to initiate the Fire Fighting and the vessel if required.

8. During firefighting operation, the Chief Officer shall consult with Dy. Conservator/ Harbour Master should it be necessary to order the vessel to be flooded or moved or to have vessels moved from nearby berths.
9. Police are to be informed immediately when a fire is detected as they would then blocked roads as required and initiate evacuation of persons to a safe distance as requested by Chief Fire Officer at the site.
10. The Dy. Conservator/Harbour Master shall arrange to have Tugs, Pilots, Boatman etc. available so that vessels can be moved at any short notice if required.
11. Any incident reporting system to be set up to ensure near misses and learnings are shared.
12. While using large quantities of water to combat a fire on a Ship the stability of the Ship is affected and priority / consideration shall be given to ensuring the ship does not become unstable and capsize.

**E. Requirement for Export Explosives:**

1. Explosives shall be loaded and transported only through IMO approved vessels. The Loading plan of such container shall be approved by MMD before commencement of the cargo.
2. Any container is used for International Transport must have a valid Safety Approval Plate or “CSC PLATE”. CSC is the abbreviation for Container Safety Convention.
3. As per IMO, explosives containers shall be transported only in 20” size containers and container shall be stuffed in accordance with IMDG guidelines.
4. The Containers shall be brought to Port area on a fixed Chassis Truck duly permitted/licenced by the Controller of Explosives/ approved by requisite Statutory Authority.
5. The Container shall be brought to the concern berth in permitted license vehicle with full proof safety locks on all corners of the fixed chassis and shall be directly loaded on the Ship as last cargo.
6. In any condition the containers carrying explosives shall not be permitted to store in the Port premises.
7. Where Containers carried under deck the same shall be done as per the cargo handling plan approved by the MMD.
8. Freight Container shall not be loaded above their rated capacity and copy of the container packaging certificate, shall be supplied to MMD/CCOE if required.
9. A responsible person of the cargo owner shall inspect each freight container prior to loading to ensure the freight container is in good condition and thoroughly cleaned and there are no projections which could tear packaging or bags.

10. The container shall be sealed to the satisfaction of the Regulatory Authority and the seal details documented on the customs and the other documentation to the satisfaction of the Regulatory Authority.
11. When input containers are opened for quarantine inspection the transport and custom documentation shall note the change of seal and unique identifier of the new seal.
12. All container used for the carrying explosives shall be fully compliant to the 1972 CSC standards and labelled, placarded in accordance with the IMDG standards.
13. Stuffing/DE stuffing of cargo on board of the vessel in to/from container will not be allowed.

**F. Requirement for Import Explosives:**

1. The import container of explosive shall be unloaded on priority basis.
2. The explosive container shall be unloaded safely, slowly and without any jerk.
3. The import explosive container shall not be kept inside the Port premises. The container shall be expeditiously removed from the Port premises on the top priority.
4. In case import container gets damaged during handling, the consigner / shipping agent shall arrange for re-export of the container/cargo to country of export or accept the same by complying all statutory norms at their own cost and risk.

**G. Procedure for Transporting IMDG Class Explosive container from CFS to JN Port and in port Area.**

1. Vehicle used for transporting the container from CFS to JN Port shall be sound mechanically, displayed with TREM card on the window screen, fitted with spark arrester, displayed with red flag at front, equipped with fire extinguisher and provided with first aid kit etc.
2. Importer/exporter of the cargo shall inform to local police and district administrator about the movement of the cargo/container from CFS to JN Port and vice-a-versa.
3. Importer / exporter of the cargo shall arrange to and fro escort of local police & ambulance from CFS to JN Port Gate complex or vice-a-versa.
4. Owner of the cargo shall make arrangement of additional tractor - trailers at ratio of 1.5 (minimum 2 Nos. of TTs from CFS to Port and vice-a-versa in case of export and import of the container.
5. Meeting of all concerned stake holders (i.e. Toolbox Talk Meeting) for handling explosives will be convened by the Dy. Conservator/Harbour Master prior to berthing of the vessel.
6. After approval of the Competent Authority, permission letter specifying conditions will be issued to the Ship Agent. The shipping agent shall submit copy of PESO license, copy of the Manufacturer licence, copy of export invoice, copy of MSDS, copy of custom clearance, copy of consignee, copy of statutory documents (if any), all requisite documents/dangerous goods declaration forms, other requisite documents etc. to Marine Dept.

7. The concern shipping agent shall notify the JNP fire tender well in advance before the movement of explosive container from CFS to JN Port.
8. JNPA Fire Tender (Multipurpose Tender) escort will be provided from concerned Terminal Gate of Port to loading location on jetty and vice-a-versa and will kept stationed on concerned wharf till clearance of operational area from explosives cargo / sailing of the vessel on chargeable basis. Fire hoses to be relayed by Fire Crew.
9. Fire system of respective wharf / Berth shall be kept in charged condition till handling of container on/from vessel is completed.
10. Vehicle carrying the cargo shall comply with latest CMV Rules and following documents should be submitted to the Port Authority:
  - a. Fitness certificate of the vehicle
  - b. Insurance certificate
  - c. PUC
  - d. RC Book
  - e. Drivers licence with endorsement by RTO for handling of dangerous goods.
11. No hot work or similar type of work which produce heat/generate spark shall be carried out on board ship or anywhere on the berth.
12. Other vehicular movement should be regulated/restricted on jetty at the time of loading/unloading the explosive container by C.I.S.F. The area (wharf) shall be barricaded & monitored/supervised /patrolled by C.I.S.F. where explosives container is being handled. The area shall be declared as "Restricted Area" at the time of handling of explosive container on respective berths.
13. If cargo is not loaded on the ship, the same shall be taken back by consignee/shipping agent to safe place/CFS and the same shall be informed to local police and district administration in addition to the Port Authority.
14. In case of transit, the container containing explosives shall not be moved from its original position on board.
15. No explosive cargo shall be stored in the Port premises. There shall not cut off time for export bound/import bound container.
16. In case of unavoidable circumstances/traffic jam at gate truck carrying import container shall be parked temporarily at "Hazbund area/isolated area" under the strict vigil and supervision of C.I.S.F and JNPA fire tender shall be stationed over till the departure of vehicle containing explosive from Port premises.
17. Smoking is strictly prohibited at berth where explosives are being handled.
18. The driver of vehicle shall remain in the vehicle while container is handled on/from the vessel.
19. The explosive vehicle shall be tracked by GPS or any other mechanism.
20. It should be ensure that the distance at least of 90 Mtrs. around the ship, on which explosives are being loaded shall be strictly maintained. If possible, adjacent berth should be kept vacant.

21. The shipping agent shall handover, the procedures for tackling the fire to the Master of vessel and the Traffic Deptt. of respective terminals and Manager (Fire & Safety), prior to recommencement of operations, which shall ensure that they are closely followed within their respective areas of responsibility.
22. Fire crews shall be trained and equipped and shall be immediately available whilst explosives are loaded on to the ship or handled in the port area.
23. Engine repairs and maintenance works shall not be carried out on board of the vessel from the commencement of loading operations of explosives till the departure of the vessel from the berth.
24. All the lifting appliances (RMQC/Vessel crane) both on ship and shore must have been tested to safe load.
25. The explosive container shall be handled under the wharf carnie by maintaining a distance at least of 3 mtrs. apart from power cable trench.
26. The crew / lashing gang/checker shall wear safety goggle/aprons, hand gloves and PPE applicable as per MSDS of the explosives cargo while handling the container at berth.
27. Preventive maintenance of lifting machinery (RMQC/vessel crane) shall be ensured before commencement of handling of the container.
28. Wharfs and its immediate surrounding are at all time to be kept scrupulously clean so as not to constitute hazard.
29. After loading / unloading the container from / to the truck, the vehicle (truck) must be proceed from wharf immediately.
30. In case export containers gets damaged during handling, shall not be exported and shall be returned back to the concern factory by the consigner at their cost and risk by giving undertaking to the port authority and shall inform to the respective statutory authorities (if applicable)
31. In case import container gets damaged during handling, the consigner / shipping agent shall arrange for re-export of the container/cargo to country of export or accept the same by complying all statutory norms at their own cost and risk.
32. Drivers carrying explosive container shall be well trained and they shall handle any emergency.

## **H. Standing Instructions for Loading / Unloading of Explosive Containers:**

### **1. Berthing:**

- a) The vessel shall be preferably berthed at Port side at respective berths.  
(Compliance: Traffic Department of concern Terminal / Harbour Master/Port control room)
- b) The minimum distance at least of 90 mtrs. shall be kept around of the ship on which explosive container is being handled.  
(Compliance: Marine Dept. / Port Control)

- c) No cargo of combustible and in flammable nature shall be present at the berth where explosive container is being handled.  
(Compliance: - Traffic Dept. of concern Terminal/vessel agent)
- d) All fenders at respective berth shall be in proper conditions. If any damage previously or missing, then either repair shall be carried out or provisional fenders using heavy duty tyres of rubber shall be put in place prior vessels entry.  
(Compliance: PPD / Marine Department)
- e) Vessel shall be berthed at notified berth only, on specific orders of Dy. Conservator.  
(Compliance: Harbour Master / Control Room)

## **2. Security Arrangement:**

- a) A security barricade shall be put up around the berth at the time of handling of the explosive container. Adequate security arrangement shall be made for regulating the flow of traffic at the berth where explosive containers are being handled.  
(Compliance: Sr. Commandant (CISF))
- b) Unauthorised person shall be prevented from having access to the area.  
(Compliance: Sr. Commandant (CISF))
- c) Ships persons/Chief officer to see that any other boats do not come alongside and peddlers do not go over side.  
(Compliance: Master of Ship / Sr. Commandant (CISF))
- d) Radio or cell-phone or radio frequency operated device or any such communication system or devices shall not be allowed at any time within 15 mtrs. Of the premises during the handling of explosives.  
(Compliance: Sr. Commandant (CISF))
- e) Each vessel carrying explosives shall be ISPS compliant.  
(Compliance: Concern Terminal/JNPA Port Control)

## **3. Fire-fighting:**

- a) Fire-fighting system at berth where explosive being handled shall be kept in charged conditions. In addition, JNP fire tender shall be stationed at the berth where explosives are being handled.  
(Compliance: Fire & Safety Section, JNPA & Traffic Deptt. of concern Terminal)
- b) Firefighting equipment on board the ship shall be kept in readiness and notice shall be displayed in the area of explosives handling operation bearing the words “**DANGER - NO SMOKING – NO NAKED LIGHTS**”. Designated area should be assisted with appropriate signage.  
(Compliance: Master of the Vessel)
- c) Tugs to be kept ready for meeting the any emergency.  
(Compliance: Harbour Master / Dock Master)

## **4. Loading of Container on the vessel:**



- a) Loading or unloading of explosive from the ship shall be carried out only during day time between the hrs. of sunrise and sunset unless specifically authorized by CCOE with the prior approval.  
(Compliance: Master of Ship / consigner/ Shipping Agent)
- b) Explosives shall be loaded and transported only through IMO approved vessels. The Loading plan of such container shall be approved by MMD before commencement of the cargo.  
(Compliance: Concern Terminal and Shipping Agent).
- c) There shall not be cut-off time to the export container. The container on truck shall be immediately loaded in the ship and vehicle shall be moved out the port immediately.  
(Compliance: Traffic Deptt. of concern Terminal/Sr. Dy. Commandant C.I.S.F/ consigner/shipping agent).
- d) Area outside the berth where explosives being handled and at the jetty to be well lit with flame proof lights  
(Compliance: Concern Terminal/ Sr. Commandant (CISF))

#### **5. Unloading of Container from vessel:**

- a) The import container of explosive shall be unloaded on priority basis.  
(Compliance: Traffic Deptt. of concern Terminal/ shipping agent/consigner/Sr. Commandant (CISF))
- b) The explosive container shall be unloaded safely, slowly and without any jerk.  
(Compliance: Traffic Deptt of Concern Terminal /shipping agent.)
- c) The import explosive container shall not be kept inside the Port premises. The container shall be expeditiously removed from the Port premises on the top priority.  
(Compliance: Sr. Commandant (CISF)/ Traffic Manager of concern Terminal/shipping agent/consignee)

#### **6. Maintenance of lifting appliances:**

- a) All the lifting appliances both on ship and shore (RMQC) must have been tested to safe load. Preventive maintenance of the equipment shall be ensured before handling the explosive container.  
(Compliance: Maintenance Deptt. of concern Terminal/Master of vessel).
- b) The maintenance team shall remain present at site while, loading explosive containers on the ship.  
(Compliance: Maintenance Section of concern Terminal)

#### **7. Safety Measures to be taken in the event of spillage during handling/transportation inside the Port premises:**

- (a) The spilled container shall be moved to the designated place or Hazbund area by spillage chassis carrier
- (b) The area shall be continuously monitored by CISF, Competent person of the concern Terminal and Fire Tender shall be kept station at the place till the leakages arrested in presence competent person approved by CCOE/statutory authority.

- (c) Person handling explosive cargo shall bear protective gloves and eye protection.
- (d) Wash thoroughly after handling.
- (e) Do not eat, drink or smoke when handling this product.
- (f) Avoid dispersal of dust in the area (cleaning dust surfaces with compress air).
- (g) Clean up spills immediately using non-sparking utensils.
- (h) Wet down spill material prior to initiating clean up and keep material wet until ready for disposal.
- (i) In case of large spill: sweep, shovel or vacuum up spillage and collect in suitable container for disposal.
- (j) For spillage into water: where possible, remove any intact containers from the water. Clean contaminated surfaces thoroughly to remove residual contamination.
- (k) It should be immediately informed to the concern statutory authorities, local police etc.

**8. Additional Safety Measures: -**

- a) No cargo of inflammable or combustible nature is to be present on the berth where explosives being handled. No work to be permitted on adjacent wharf while loading or unloading explosive containers.
- b) A direct telephone connection is to be made available on board and the telephone number of the Jawaharlal Nehru Port Authority fire section, Dy. Conservator of Port, Harbour Master, Fire Officer, Safety Officer be prominently displayed.
- c) Warning sirens are to be installed at the appropriate berth where explosives are handled to enable immediate evacuation of personal in case of fire accident involving explosives. Access to fire-fighting equipments on wharf and ships is to be kept clear of all time.
- d) Wharfs and its immediate surrounding are at all time to be kept scrupulously clean so as not to constitute hazard.
- e) Priority shall be given for loading of explosive on the vessel at the end of the vessel operation and for unloading it shall be done at the commencement of the vessel operation. After loading /unloading of the explosives the respective trailers shall be immediately removed from the Port premises.
- f) All the lifting appliances both on ship and shore must have been tested to safe load from Competent Authority/Statutory Authority.
- g) Ship shall display red flag not less than 1 sq. mtr. during day time i.e. between the hrs. of sunset and sunrise. During night time i.e. the hrs. of sunset and sunrise ship shall display red light which could be so constructed as to give clear information and unbroken light visible from distance of 3 kms. This shall be displayed on the mast head of the ship or all a staff 6 mtrs. Higher than deck. The red light is to be displayed at a height greater than that of any other light carried by the vessel as a navigational aid.

- h) The concern Terminal shall remain responsible and accountable for Safety and Security during handling IMDG Class 1.3 C Cargo at their berths/wharf.

**9. The Important Telephone Numbers:**

- (a) JNPA Fire Station: 022-67815000, 022-67815100
- (b) Port Control Room: 9769508085, 022-67815151, 022-67815246.
- (c) Medical: 022-27473565, 022-27473538, 022-27473568, 022-67813568, 022-27473560, 022-67813560
- (d) Ambulance Room: 67815200
- (e) Security - CISF Control Room: 022-27244545, 022-67814545, 022-27242354 (Direct)
- (f) Nhava Sheva Police station: 022-27472264
- (g) Harbour Master: 022-67814173
- (h) Dy. Conservator: 022-67814171
- (i) Joint Chief Controller of Explosives: 022-27575946
- (j) Chief General Manager (Traffic): 022 67814191
- (k) Chief General Manager (M&EE): 022 67814181
- (l) JNP Safety Section: 022-67815205
- (m) Inspectorate of Dock Safety: 022-67815099
- (n) CIDCO Fire station: 022-27452337

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