



Participant Handbook

Sector
Logistics

Sub-Sector

Land Transportation

Occupation
Vehicle Operations

Reference ID: LSC/Q1118, Version 5.0

NSQF Level 4



Transport Coordinator



Scan the QR code to access the ebook

This book is sponsored by

Logistics Sector Skill Council

Logistics Sector Skill Council Contact Details:

Address: No. 480 A, 7th floor Khivraj Complex 2,
Anna Salai, Nandanam, Chennai – 600 035

Email: reena@lsc-india.com

Phone: 044 4851 4605

Under Creative Commons License: CC-BY-SA



This license lets others remix, tweak, and build upon your work even for commercial purposes, as long as they credit you and license their new creations under the identical terms. This license is often compared to “copyleft” free and open-source software licenses. All new works based on yours will carry the same license, so any derivatives will also allow commercial use. This is the license used by Wikipedia and is recommended for materials that would benefit from incorporating content from Wikipedia and similarly licensed projects.





Shri Narendra Modi
Prime Minister of India

“ Skilling is building a better India.
If we have to move India towards
development then Skill Development
should be our mission. ”



Certificate

COMPLIANCE TO QUALIFICATION PACK - NATIONAL OCCUPATIONAL STANDARDS

is hereby issued by the

LOGISTICS SECTOR SKILL COUNCIL

for the

SKILLING CONTENT: PARTICIPANT HANDBOOK

Complying to National Occupational Standards of

Job Role/ Qualification Pack: 'Transport Coordinator' QP No. 'LSC/Q1118,V5.0 NSQF Level 4'

Date of Issuance: 27/01/2022

Valid up to*: 27/01/2025

*Valid up to the next review date of the Qualification Pack

Valid up to 'date mentioned above (whichever is earlier)

Authorized Signatory
(Logistics Sector Skill Council of
India)

Acknowledgements

We wholeheartedly thank all the organizations who have immensely helped us in endorsing the contents of this Participant Handbook thus contributing towards Government of India's initiative in skilling based on the Qualification Pack (QP) & National Occupation Standards for Transport Coordinator.

About this Book

This Participant Handbook is designed to enable training for the Transport Coordinator Qualification Pack (QP). Each National Occupational standard (NOS) is covered across Units.

After reading this book one would be able to understand all the requirements and various processes to be followed by Transport Coordinator. Insights about various activities performed by a Transport Coordinator have been covered in this book.

Key characteristics of this handbook:

- (i) It discusses the concept of Transport Coordination in an easy to learn manner.
- (ii) It presents Transport Coordination concepts in interactive and professional way.
- (iii) It gives opportunity for learners to foresee themselves in a professional set-up.

Key Learning Objectives for the specific NOS mark the beginning of the Unit/s for that NOS. The NOS covered in the book are as follows:

- LSC/N1110: Setup systems, update information and plan the operations for the day
- LSC/N1111: Monitor status of consignments that are under way
- LSC/N1112: Confirm delivery is completed with client and report
- LSC/N1113: Prepare for shift handover
- LSC/N1126: Maintain Health, Safety and security measures in coordinating transportation routes.

The symbols used in this book are described below.

Symbols Used



Key Learning
Outcomes



Summary



Unit
Objectives



Tips



Notes



Exercise

Table of Contents

S. No	Modules and Units	Page No
1.	Introduction to Transport Coordinator	2
	Unit 1.1– Logistics and Supply Chain Management	4
	Unit 1.2– Sub sectors in Logistics Space - Key Activities	7
	Unit 1.3 – Introduction to Land Transportation	11
	Unit 1.4 – Warehouse Organization Structure - Roles and Responsibilities	13
	Unit 1.5 – Equipment used in a Warehouse	16
	Unit 1.6 – Documentation in Land Transportation	22
2.	Planning Operations of the day (LSC/N1110)	28
	Unit 2.1 – Operating System Setup & Login	30
	Unit 2.2 – Operations Planning	37
	Unit 2.3 – Information Feeding	40
3.	Monitoring Status of Consignment (LSC/N1111)	43
	Unit 3.1 – Coordinate with trucking companies	45
	Unit 3.2 – In-transit consignment follow-up	48
4.	Reporting (LSC/N1112)	52
	Unit 4.1 – Consignment Handover	54
	Unit 4.2 – Faulty Consignment Reporting	57
	Unit 4.3 – Escalation Matrix	61
5.	Shift Handover Activities (LSC/N1113)	64
	Unit 5.1 – Pre-Dispatch Log	66
	Unit 5.2 – Post-Dispatch Log	68
	Unit 5.3 – Special Log	70
6.	Compliance to Health and Safety Measures (LSC/N1126)	72
	Unit 6.1 – Implementing Safety at Workplace	74
	Unit 6.2 – Handling Dangerous and Hazardous Goods	82
	Unit 6.3 – 5S Concept	86
	Unit 6.4 – Managing Breach of Safety, Accidents and Emergency Situations	89
7.	Annexure	96

8. Employability Skills - 60 hours (DGT/VSQ/N0102)

The book on New Employability Skills is available at the following location:

<https://eskillindia.org/NewEmployability>

Scan the QR code below to access the ebook







Skill India
कौशल भारत - कुशल भारत



सत्यमेव जयते
GOVERNMENT OF INDIA
MINISTRY OF SKILL DEVELOPMENT
& ENTREPRENEURSHIP



N S D C
National
Skill Development
Corporation

Transforming the skill landscape



1. Introduction to Transport Coordinator

Unit 1.1 - Logistics and Supply Chain Management

Unit 1.2 - Sub sectors in Logistics Space - Key Activities

Unit 1.3 - Introduction to Land Transportation

Unit 1.4- Warehouse Organization Structure - Roles and
Responsibilities

Unit 1.5 - Equipment used in a Warehouse

Unit 1.6 - Documentation in Land Transportation



Bridge Module

Key Learning Outcomes



At the end of this module, participant will be able to:

1. Classify the components of Supply Chain and Logistics sector.
2. Elaborate the various sub-sectors and the opportunities in them.
3. Identify various activities in warehousing, courier, port yard, land, ship and air transportation.
4. Explain job roles in warehousing/transportation.
5. Explain your job role as transport coordinator and its interface with other job roles.
6. Describe the various MHEs and equipment used in warehouse.
7. Discuss the documentation requirements in transportation.

UNIT 1.1: Logistics and Supply Chain Management

Unit Objectives

At the end of this unit, participant will be able to:

1. Define Supply Chain Management
2. Define Logistics Management
3. Explain the important flows in Supply Chain Management

1.1.1 Supply Chain and Logistics Management

“Supply Chain is like nature; it is all around us.” Dave Waters.

We start our day with a toothpaste and end with a glass of milk. Everything that we consume throughout the day has underlying Supply Chain. Raw material is procured and transported to the factories to be converted into finished products. Finished products are then transported and warehoused at various locations till they reach our home. Supply chain is a “Chain” of organizations, activities, people who manage flow of “material” in the form of Raw Material, Semi-Finished-Goods and Finished Goods across various “entities” like Suppliers, Manufacturers, Warehouses, Distributors and Retailers to move goods from point of origin to point of consumption.



Fig 1.1.1 Supply Chain Management

SCM is also called the art of management of providing the Right Product, At the Right Time, at the Right Place, at the Right Cost to the Customer in the Right Quantity and in the Right Quality.

Supply Chain Management is defined as “The movement of materials as they flow from their source to the end customer. Includes purchasing, manufacturing, warehousing, transportation, demand

"Supply planning and inventory management. It is made up of people, activities, information and resources involved in moving a product from its supplier to customer."

Supply Chain Council SCOR has given the following lucid depiction of Supply Chain.

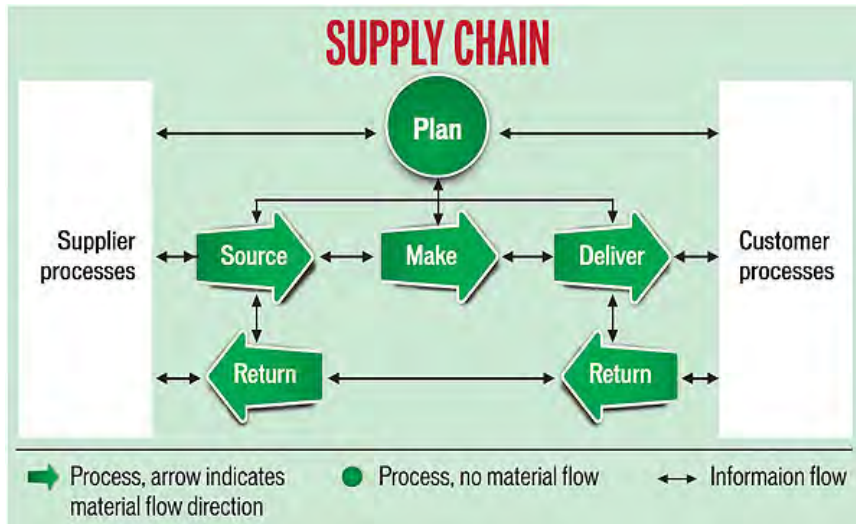


Fig 1.1.2 Components of Supply Chain Management

As per SCOR, the five important components of Supply Chain Management are -

PLAN - SOURCE- MAKE- DELIVER- RETURN sourcing Raw Material.

PLAN: This stage addresses how customer demand will be met through the supply. As can be seen in the picture, Plan function interacts with Customer to get demand forecast. This gets translated into Supply Plan and communicated to the Supplier for identify the various possible vendors for the raw materials required for the manufacturing. Just identifying suppliers will not be enough. It should also include the availability of products, the cost involved, ease in transporting goods and even the payment terms.

SOURCE: This is the step where one must identify the various possible vendors for the raw materials required for the manufacturing. Just identifying suppliers will not be enough. It should also include the availability of products, the cost involved, ease in transporting goods and even the payment terms.

MAKE: The third component involves designing, producing, testing, packaging and then synchronizing all these activities for delivery. The raw material from suppliers is transformed into finished goods for the customer.

DELIVER: This stage involves delivering the right product at the right place at the right time in the right quantity and at the right price. Here the supply chain transports the Finished Goods from Factory to the Warehouses, Warehouse to Distributors, Distributors to Retailers and finally Retailers to final consumer.

RETURN: This is the latest stage in supply chain, which is becoming increasingly important. Here the defective, damaged or even the rejected goods are returned by the customer. The supply chain must respond to the customer quickly and return the goods by optimizing the cost.

Logistics Management

Logistics management is the part of supply chain management that plans, implements, and controls the efficient, effective forward, and reverse flow and storage of goods, services, and related information between point of origin and point of consumption to meet customer's requirements. Logistics management includes activities such as warehousing, inventory control, and transportation management. Logistics management mainly focuses on the transportation and storage of goods within the supply chain.

Logistics management comprises two main activities:

Inbound logistics: Surrounds the activities related to procurement, storage and transportation of Raw Materials.

Outbound logistics: Involves the storage and delivery of final products to customers.

How is it different from Supply Chain Management?

SCM is an overarching concept, and it includes Logistics Management as one of its components. Logistics mainly deals with Warehousing, Inventory Management, Transportation, Import and Export Management, Track and Trace and related processes.

SCM is a wider concept and is a tool to create competitive advantage for any company. Beside Logistics it carries various other functions like Supply Chain Planning and Strategy, Forecasting and Demand Planning, Production and Supply Planning, Procurement and Vendor Management, Collaborations and coordination with Upstream and Downstream Partners, Information flow Management.

Notes 

UNIT 1.2: Sub sectors in Logistics Space - Key Activities

Unit Objectives

At the end of this unit, participant will be able to:

1. Explain the various sub sectors in Logistics
2. Explain various modes of Transportation
3. Define Warehouse/Transport Services

1.2.1 Sub-Sectors of logistics

As seen in the previous section, Transportation and Warehousing are the two key activities in Logistics Management.

Transportation can further be by various modes – Air, Water and Land.

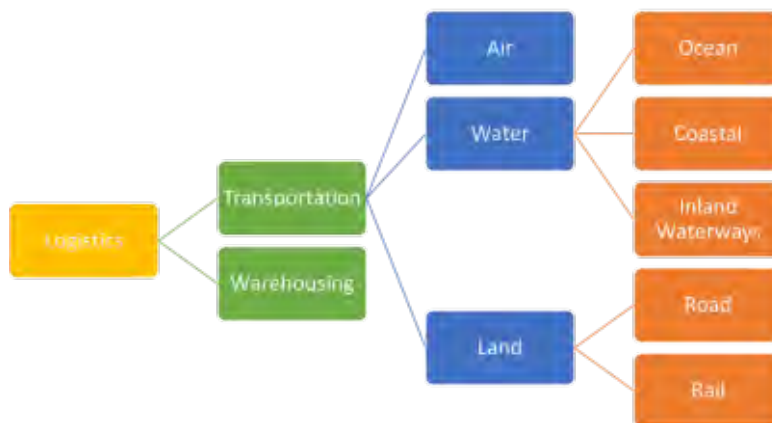


Fig 1.2.1 Transportation Activities

Transportation is the lifeline for any country and keeps its economy going. Transportation can be international also when goods are exchanged between countries.

Air Transportation

Air transport is the fastest means of transportation. It reduces the distances by minimizing the travel time. Air transport acts as a key enabler in achieving economic progress and growth. Air transport provides vital connectivity within the country and allows the integrations of any country the global economy. It helps generate trade, promote tourism, and create employment opportunities. Air Transportation is most suitable for high value cargo which are susceptible to faster transit times.

Air transport is normally used for smaller cargoes, though even big shipments are moved by air depending on its urgency and criticality.

The main activities it undergoes can be divided as two

- 1) Activities at the point of origin
- 2) Activities at point of discharge

Point of origin: Once the cargo is ready for shipment one most important aspect is the packing of cargo. Packing should be according to the cargo and designed for its mode and duration of transportation.

The packed cargo is taken to the airport for the customs formalities to be completed and after successful completion it is handed over to respective airlines. Airline does the loading of the cargo as per their loading plan. Each cargo will be accompanied by an individual set of documents which will contain all details of this cargo.

Point of Destination: On arrival cargo is handed over to the customs authority who in turn will hand over the cargo to respective buyers after customs formalities are done. Airlines facilitate this movement by giving necessary assistance in taking delivery of the cargo.



Fig 1.2.2 Air Transportation Activities

Water Transportation

Among all modes of transportation, water is the cheapest mode and accounts for the largest share of the international cargo movement. Also known as Maritime transportation, water transportation is movement of cargo and passengers over Water. Among all modes of Transport, Water is the most environment friendly with least usage of fuel and emissions. Further there are no highways to be built, Rail Tracks or Airports to be laid to use this mode. Water is naturally available, and we just have to float over it.

Water Transportation can further be divided among Ocean Transportation, Coastal Shipping and Inland waterways.

Ocean Transportation: This is the transportation over long distance across seas and oceans. They are realized through ships and Vessels and mainly used for international Trade. They can further be classified as Bulk and Containerized.

- **Bulk:** In case of Bulk Ocean movement, bulk commodities like Ore, Gas, Crude Oil, Chemicals, Steel are stored in Bulk in the vessel and moved over long distances.
- **Containerized Transportation:** In this case, cargo is stored in standardized containers and containers are moved using specialized container carrying vessels. This mode of transportation has

very large progress in last 50 years and now accounting for one of the largest shares of international transportation.

Coastal Shipping: Also known as short Sea transportation, this is a transportation within a country using its Coastal lines. For example, movement from Kolkata to Chennai using the Bay of Bengal or from Mumbai to Cochin using Arabian Sea. This can again be in Bulk or containerized. This is mainly used for low value commodities where the cost of moving by Road or Rail is much higher.

Inland Waterways: This is the movement of cargo using Rivers and Canals. Wherever this mode is available is the most economical mode of transportation. India has 111 official National Waterways and out of them two on Ganga and Brahmaputra are the longest.

PORT AND PORT YARD: Cargoes are received at the Sea port. This is the place where the cargo is handed over to the shipping lines, loaded on to the vessel after completing all customs formalities. At the port of destination, the buyer can receive their cargoes from the port after completing all necessary formalities.

In land locked destinations or due to any other reasons the authorities can designate a separate place for handling of cargoes. These places will be known as Internal Container Depot, Container Freight Station or just a Port Yard. There port yards also undertake all activities of a port.

Land Transport

Land transport is the transport or movement of people and goods from one location to another location on land. The two main forms of land transport are rail transport and road transport.

Road Transportation: As the name suggests, it is the transportation using Roads. It is used for transportation of goods and people. Cargo can be transported using Roads by Trucks, Trailers, Vans, Auto, Bikes and even Animals. Various classes of Road exist from a local two-lane to State Highways to National Highways to Freeways. Modern Roads carry lanes and signages to manage the traffic. There are trucking companies who mainly specialize in Road Transportation.

Rail Transportation: Rail transport is a means of transporting passengers and goods on wheeled vehicles running on rails, which are located on tracks. In contrast to road transport, where vehicles run on a prepared flat surface, rail vehicles (rolling stock) are directionally guided by the tracks on which they run. Rail is a very strong means of Mass Transportation, both cargo and passenger.

Warehousing

A very important component of Logistics Management is Warehousing. Warehouse are commercial building used by Manufacturers and Traders to store Raw Material, Finished Goods, Work In Process Inventory or Spares till they are either consumed or sold. Warehouse provides the buffer between Demand and Supply. Wheat is harvested in April but consumed throughout the year. This is only possible through storage in the warehouses. There are other where demand is once a year and supply/production throughout the year. Winter clothes, Air conditioners, Diwali goods are required only during a time period but produced throughout the year. This is again possible only through warehouses which house them till they are sold.

UNIT 1.3: Introduction to Land Transportation

Unit Objectives

At the end of this unit, participant will be able to:

1. Explain the role of Land Transportation in Supply Chain
2. List the various activities carried out in Land Transportation

1.3.1 Land Transportation Activities

Land Transportation play a critical role in supply chain management. As the word indicates Supply Chain consists of various links and transportation is one of its strongest links. As mentioned earlier the biggest challenge of Supply Chain is the ever-widening gap between the demand and the supply. Transportation plays the role of a connecting link among different demand (market) and supply (plant, warehouse, go down) points. Transportation is only link in supply chain which keeps moving goods from one place to other place and fuel the supply chain to perform well.

Some of the major roles of Land Transportation are:

1. **Facilitating regular and constant flow of goods:** This is done by balancing between the demands forecast and supply constraints.
2. **Provide safe movement of goods:** In supply chain goods are always exposed to various risks. A right transportation medium can mitigate these risks by playing the role of an intermediary in transit while goods moving from one point to another.
3. **Consolidation of cargo:** Volume always provides cost benefit. The goods can be procured from various sources and could be transported from/to destination by proper routing and using right type and size of vehicle.
4. **Pickup of goods:** Land transport services provide goods pickup services as per specified schedule to reduce TAT of in-transit cargo and hence reduce safety inventory in warehouse/plant and ultimately increase organization cash-flow and hence strengthen company's financials.
5. **Delivery of goods:** Land transport services provide goods delivery services as per specified schedule to reduce TAT of in-transit cargo and hence reduce safety inventory in warehouse/plant and ultimately increase organization cash-flow and hence strengthen company's financials.
6. **Managing seasonal supplies:** This is one big challenge many of the stake holders face. Seasonal goods demand many facilities which will vary from season to season. So, transport services play vital role in moving goods on right time from supply point to demand point.
7. **Defining the time to market:** Markets always demand the right product at right place in right quantity for the right price. The unreliable production, unpredictable transits and unforeseen constraints during movement of goods makes this a difficult task. However, this can be easily achieved by proper planning of transport.

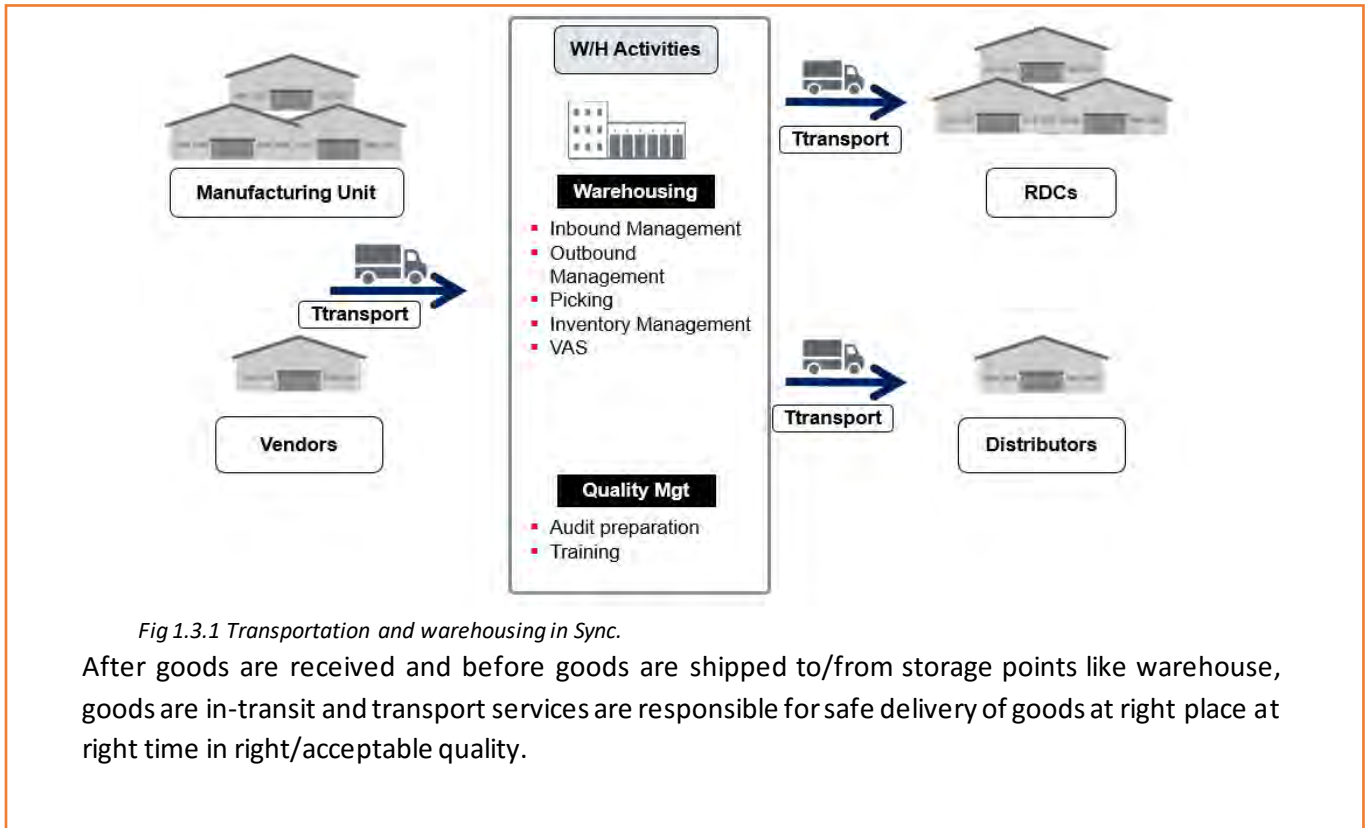


Fig 1.3.1 Transportation and warehousing in Sync.

After goods are received and before goods are shipped to/from storage points like warehouse, goods are in-transit and transport services are responsible for safe delivery of goods at right place at right time in right/acceptable quality.

Notes 

UNIT 1.4: Warehouse Organization Structure - Roles and Responsibilities

Unit Objectives

At the end of this unit, participant will be able to:

1. Elaborate the various job roles which exist inside a Warehouse
2. Describe the roles and responsibility of a Transport Coordinator

1.4.1 Warehouse People Management

Warehouse is all about the people who manage it. Staffing the warehouse with right number or people with right set of skills will ensure the most efficient and effective warehouse operations. Following is a typical organization chart within a warehouse:

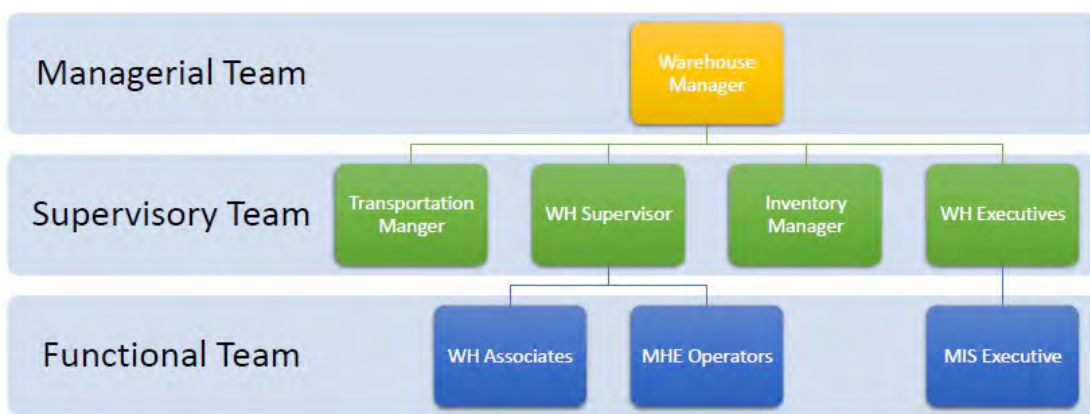


Fig 1.4.1 The organization chart of a warehouse

The following section discusses in brief the job description for the various positions inside the warehouse.

A. Warehouse Manager (Site In charge)

Key Objective of this position: This position is focused on the management of Warehouse Operations with “Delivery of Promise”.

B. Transport Coordinator

Key Objective of this position: This position is responsible for planning & managing all outbound transport services from the warehouse to the delivery location. In brief, transport coordinator is responsible for vehicle planning and scheduling, route planning, vehicle placement at warehouse dock, arrangement of transportation documents, timely relieving of vehicles from warehouse, tracking of in-transit vehicles and collecting PoDs after goods delivery.

C. Inventory, Materials Manager

Key Objective of this position: This position is responsible for all the inventory inside the warehouse. This position needs to ensure that inventory is properly stacked, counted and always matching with system stock.

D. Data Feeder-warehouse

Key Objective of this position: This position operates on the computer and is responsible for system entries and MIS of the warehouse operations including operating WMS. **Data Feeder - Warehouse** Data Feeder Warehouse, in the Logistics industry is also known as system executive, data analyst, data entry operator and system analyst. Individuals in this role need electronically process all orders and provide database management support for warehouse operations. Responsibilities include logging orders, maintaining reports, generating pick lists and schedules.

E. Warehouse Picker

Key objective of this position: Warehouse Picker in the Logistics industry is also known as Picker, Floor Staff, Warehouse Associate. Individuals in this role need to pick items from storage. Individuals are responsible for picking items according to an inventory list. Additional Participant Responsibilities could at times include loading and unloading cargo, labeling, re-packaging items and documenting cargo that has been moved. The difference in tasks performed under the picker role thus varies according to the volume of operations, however the core function of the role is to pick items from storage and ensure they are ready to be sent out.

F. Warehouse Packer

Key objective of this position: Warehouse Packer in the Logistics industry is also known as Packer, Floor Staff, Warehouse Associate. Individuals in this role need to pack items that have been picked or require binning. Individuals are responsible for packing items that require additional pre-packing or outbound packaging. Additional responsibilities could at times include loading and unloading cargo, labeling, re-packaging items and documenting cargo that has been moved. The difference in tasks performed under the Packer role thus varies according to the volume of operations, however the core function of the role is to pack items according to the nature of the product either for storage or transportation.

G. Warehouse Binner

Key objective of this position: Warehouse Binner in the Logistics industry is also known as Binner, Floor Staff, Warehouse Associate. Individuals in this role need to bin items to put away into storage. Individuals are responsible for binning items according to an inventory list.

H. Loader/Unloader

Key objective of this position: Loader/Unloader in the Logistics industry is also known as Loader, Transport Associate. Individuals in this role need to identify goods based on the product code, unload them from the truck onto the inbound area and move them to the staging area. A similar sequence is done for loading. Their responsibilities include identifying damaged goods and moving goods safely.

1.4.2 Transport Coordinator and its interface with other job roles

Transport Coordinator is a role which is less an individual contributor and more a coordinator with different stake holders in different teams like coordinating with vendor for vehicles, with internal team for timely operations and with customer for delivery status update and PoDs. In general, transport coordinator team-up with for vehicle planning and placement and with customer for goods delivery status and PoDs, and mostly engaged with internal team as per following:

Picking Supervisor	Dispatch Supervisor	Data Entry Operator
<ul style="list-style-type: none"> • Collect daily dispatch load for vehicle planning • Status update on picking progress as per SLA and deviation in schedule 	<ul style="list-style-type: none"> • Collect SLA details of day for vehicle scheduling and placement • Coordinate for timely loading of goods in vehicle and ensure timely vehicle relieving from warehouse compound • Coordinate for delivery manifest 	<ul style="list-style-type: none"> • Coordinate for invoice/Stock Transfer Note (STN) • Coordinate for E-way bill

Fig 1.4.2 Other job roles

Notes

UNIT 1.5: Equipment used in a Warehouse

Unit Objectives

At the end of this unit, participant will be able to:

1. Explain the classification of Equipment used in the Warehouse
2. Identify different types of Material, Storage and Safety Handling Equipment and its uses

1.5.1 Warehouse Handling Equipment

Warehouse equipment are used for storage, movement, protection and control of material and people throughout the end-to-end process of the Warehouse. Materials handling includes moving, packaging, and storing all the materials used inside the warehouse. The different kinds of equipment which are used in a warehouse can be broadly classified into three categories, viz, storing equipment, material handling equipment and safety equipment. A judicious selection of different store equipment is a key to the successful operation of a storeroom.

Forklifts, Reach-stackers, Pallet Trucks, Heavy duty racks, Slotted Angle Racks, Cranes, Hoists, Handrails, Bollards, Wire Partitions are all example of Warehouse Handling Equipment.

Warehouse equipment are used to increase output, control costs, and maximize productivity. A well-designed handling system attempts to achieve the following:

- Improve the efficiency of the warehouse by doing more with less efforts.
- Allow handling of several types of goods which cannot be manually handled or lifted.
- Cut down on manual efforts and this labor costs.
- Reduce potential damage to material during storage and handling.
- Maximize the utilization of the cube space inside the warehouse.
- Minimize the accidents inside the warehouse.
- Reduce the overall cost of operations of the warehouse.
- Improve service levels of the warehouse.

Following are the way Warehouse Equipment may be classified:

- Storage equipment
- Material Handling Equipment
- Safety equipment

Storage Equipment



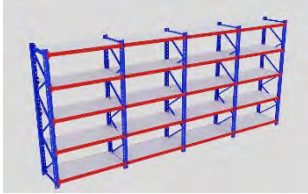










Name	Picture	Description
Selective Pallet Racking		<p>Selective Pallet Racking is the simplest & economical racking system which allows 100% accessibility to each pallet. This racking is suitable for large variety of SKU's irrespective of quantity.</p>
Heavy Duty Racks		<p>Heavy duty shelving is a simple storage solution which facilitates storage of non-palletized items. Ideal for large variety of medium to big sized items that can be handled manually.</p>
Long-span Shelving Racks		<p>Longspan Shelving is ideally suited for items which are light/medium in weight and voluminous in nature. This types of racking is used for Auto, Retail, Engineering Sectors</p>
Bin Racking		<p>Usually used in Spares part storage for storing smaller items.</p>
Slotted Angle Racks		<p>This shelving is a versatile system best suited for storage of small components, bins, cartons having light loads up to (300 kgs) level.</p>
Mezzanine Flooring		<p>Column based Mezzanine floor system is a light weight steel flooring system provided at a suitable height above the ground. The system can be configured to suit the layout of the room, taking into account pillar positions, door positions etc.</p>
Cantilever Racking System		<p>Generally used where the need is to hang the products like tyre.</p>

Table 1.5.1 Storage Equipment

Material Handling Equipment (MHE)

Name	Picture	Description
Hand Pallet Truck (HPT)		One of the most important equipment in the Warehouse. Used to lift and move pallet within the warehouse.
Battery Operated Pallet Truck (BOPT)		This is Battery Operated version of Hand Pallet Truck. Used in large warehouses for fast movement of Material.
Integrated Dock Levelers		Aids loading and unloading of goods by acting as bridge between truck and Loading Bay edge.
Forklifts		Another very important equipment in the Warehouse. A forklift is a powered industrial truck used to lift and move materials over short distances. It can pick up goods a height with HPT or BOPT cannot do.
Reach Trucks		Reach trucks are designed for 'reaching' extreme heights. They are used for highly racked warehouses for lifting of Pallets.
Stackers		Suitable for stacking, double pallet handling, order picking and horizontal transport. Available both in Manual and Electric version.







Chain Pulleys and Hoists		These are used to lift and lower heavy loads in the warehouse. Again, available in Electric or Manual versions.
Dollies		Used to move heavy equipment, boxes, and other bulky items within the warehouse.
Trucks		Can be made wooden, steel, aluminium, or plastic, used for movement within the warehouse.
Utility Carts		Movement of material like Garments and tools inside the warehouse.

Table 1.5.2 Material Handling Equipment (MHE)

Safety Equipment

Name	Picture	Description
Emergency Wash Station		Used in Chemical Warehouses for body and Eye Wash in case of any spillage or leak.
Anti-fatigue Mats		Used in the warehouses which deal with oil, grease and other slippery material.








Barrier Rails		These barricades protect valuable equipment and workers from hazards in the workplace.
Bollards		Heavy-duty bollards provide a physical barrier between fork trucks and valuable equipment.
Column Protectors		Universal rack protectors protect rack columns from damaging impact that can be caused by forklifts or heavy machinery.
Wire Partitions		Wire enclosures work well as tool rooms, security cage, or to store hazardous material.
Traffic Visibility Mirrors		Wide angle convex mirrors designed to increase surveillance, provide security, and promote safety.
Handrails		Safety guardrails make overhead walkways and mezzanines safe with easy to install guardrails.
Miscellaneous Equipment		Floor signs and other range of products for safety in the warehouse.

Table 1.5.3 Safety Equipment

Notes 

A large rectangular area with a thin orange border, containing 20 horizontal lines for writing notes.

UNIT 1.6: Documentation in Land Transportation

Unit Objectives

At the end of this unit, participant will be able to:

1. Discuss the importance of Documentation in Transportation.
2. Explain the various documents being used in Transportation.

1.6.1 Transport Documents

Documentation is another very vital part of transportation services. The way Bank is the custodian of depositor's money, Transporter is also the custodian of the value in the form of in-transit inventory. Any loss to in-transit inventory is a loss of money.

In transport services, documents are used to ensure goods are transported legally, vehicle in-charge know what goods are being transported and customer should know goods description and quantity before unloading of vehicle. In general, following documents are required during transport of goods:

Invoice reference number (IRN)

IRN is provided as an alternative for Tax Invoice to be carried by person in charge of the vehicle. In case of verification by government officials during transit, IRN may be produced as Tax Invoice against transportation.

Invoice reference number (IRN) is generated by GSTN portal after uploading of details of Tax Invoice by seller on such portal in form GST INV-1

Delivery Challan

This is a register which is used to record all the outgoing goods from the Warehouse in a vehicle.

Fig 1.6.1 Delivery Challan

Goods Receipt Note (GRN)

When the incoming shipment details are entered into the system, the computer system generates an documents Called Goods Receipt Note (GRN).

eZee Technosys Pvt. Ltd.

International Trade Center
Majura Gate

Goods Receipt Note

GRN #	CSGRN20	Vendor	Seven Eleven
Voucher No	123	Reg. No.	12
Date	29-03-2019	Print Date	29-03-2019 12:27:39
Receiving Store	Central Store	Print By	Admin
Purchase Order#	CSON22		

Item Name	Quantity	Unit	Rate	Dis. Amount	Tax	Amount
Ajwaan	2.000	Kgs	120.0000	0.0000	48.0000	288.0000
Action	10.000	Pair	6.8100	0.0000	0.0000	68.1000
Total	Amount	Tax	Discount %	DiscountAmount	Add/Less	Bill Amount
	308.1000	48.0000	0.0000	0.0000	0.0000	356.1000 \$

Purchasing Clerk	_____	Store	_____
Director / Manager	_____	Security	_____

Fig 1.6.2 Goods Receipt Note (GRN)

E-way Bill

This is a ledger which maintains the inwards and outward entries of various products and indicates the current stock level at any point of time.



Fig 1.6.3 Sample E-way bill (Part A & B)

Sales Invoice

This is an important document evidencing the sale and transfer of ownership of the goods from the Warehouse to the buyer.

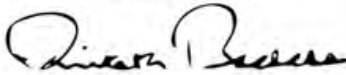
TAX INVOICE					
ABC ENTERPRISES 123 B 20/B XXXXXX PUSA ROAD, NEW DELHI-110005 GSTIN No 07APAFD8245XXXX					
Bill to	Place of Supply			INVOICE No	Dated
RK Electrical Works A-10 Rajouri Garden, New Delhi GSTIN No.-07BBUPS5252XXXX	RK Electrical Works A-10 Rajouri Garden, New Delhi			DD-TI-01	1-Jul-17
Description of Goods	HSN CODE	QTY	Units	RATE	Amount
LED LIGHTS	8501	50	pcs	200	10000
Bulbs	8501	5	Dozens	3000	15000
Total					25000
Less Discount 20%					5000
Taxable Value					20000
ADD CGST 6%				6%	1200
ADD SGST 6%				6%	1200
Total					22400.00
Amount Chargeable (in words) Rupees Twenty Two Thousand Four Hundred only Company's PAN: AAKFD6723D Note-Please make cheques in favor of "DD Enterprises"				For ABC ENTERPRISES Authorised Signatory 	

Fig 1.6.4 Sales Invoice

Scan the QR codes for the related video's



Logistics vs supply chain management

<https://youtu.be/bzNAcfFW-8c>



Transportation in supply chain management

<https://youtu.be/SFIDSn5TbAk>



warehouse handling equipment

<https://youtu.be/sj-8Smf62EU>

Tips

To be a successful Transport Coordinator

- Achievement motivation can be learned.
- Don't be afraid to make mistakes. But make sure to learn from mistakes and try not to repeat same mistake
- Train yourself to finish what you start.
- Dream big.

Notes

Summary

The basics of Supply chain management is discussed at the ground level and the importance of logistics linkage in managing an efficient supply chain. Three main flows of supply chain management are clearly explained in this chapter. You will be able to understand the main roles of the individual as a transport coordinator with the set targets. This unit also discusses the necessity of a transport services and different services catered in transportation.

Exercise

Multiple Choice Questions

- The correct sequence of supply chain process is
 - Plan – Make - Source – Make - Return
 - Plan – Source – Make – Deliver – Return
 - Plan – Make – Deliver – Source - Return
 - Plan – Source – Deliver - Make – Return
- Which of the following is not a classification of equipment being used in the warehouse?
 - Storage
 - Safety
 - Earth moving
 - Material handling
- Which of the following activity is part of the shipping activity in the warehouse process?
 - Order processing
 - Unload vehicle
 - Cycle count
 - Filling bill of transport
- Which of the following is a role played by the transport coordinator?
 - Consolidation hub
 - Break bulk
 - Value added services
 - Vehicle planning

Fill in the Blanks

- The movement of cargo over river and canals is called _____.
- This position responsible for managing all outbound transportation from the warehouse is _____.
- _____ is an acknowledgement of goods given by the transporter to the warehouse at the time of dispatch of goods.
- The document used to gather the material as demanded by the customer is called the _____.

True or False

- Logistics management is part of supply chain management.
- Among all modes, water is the cheapest mode of transport.
- Vehicle planning is not one of the requirements for transport coordinator.
- Security guards and transport coordinator are two independent set of people in the warehouse who hardly interact with each other.



2. Planning Operations of the day

Unit 2.1 – Operating System Setup & Login

Unit 2.2 – Operations Planning

Unit 2.3 – Information Feeding



Key Learning Outcomes



At the end of this module, participant will be able to:

1. Explain the process of checking readiness of computer and tracking system
2. List the various information to be updated in the tracking system
3. Coordinate with data entry operator (DEO) and dispatcher for information such as new order data, problems in outgoing assignments etc.
4. Detail the list of tasks to be performed before starting operations
5. Determine the amount of consignment which can be expedited in case of special needs.

UNIT 2.1: Operating System Setup & Login

Unit Objectives

At the end of this unit, participant will be able to:

1. Explain the process of setting up a computer for starting operations.
2. Elaborate the importance of confidential data.
3. Define TMS and its benefits.
4. Define ERP and its benefits.

2.1.1 Setting up of Computer for Operations

The following are the various steps in setting up computer for starting the day-to-day operations

STEP 1: Follow the time Limits given by the given manager.

STEP 2: Turn on your computer and login with your given company's official E-Mail ID and passwords.

STEP 3: Check for the updated entries on the transport management system (TMS)/Enterprise Resource Planning (ERP)/C&IP (Complain & Issue Portal) homepage before the start of daily operations.

STEP 4: Ensure that your computer is ready for the operations and complete any software updates required before start of operations.

2.1.2 Importance of Confidential Data

Warehouse is the repository of several important data and information. All inward movement, outward movement and stock information are recorded in the warehouse. Warehouse carries information about the pricing of the products, the discount structure, the sales numbers, stock data and several other vital information. All these information needs to be protected and should be in the right hands only.

Protected information may take any form, e.g. electronic or physical

1. Tangible – in the form of paperwork and records of various transactions which happen at the warehouse
2. Intangible – various data in electronic form stored inside the computers and servers.

Information Security:

Information security is the practice of protecting information. It typically involves preventing unauthorized/inappropriate access to data, or the unlawful use, disclosure, disruption, deletion, corruption, modification, inspection, recording or devaluation of information. It also involves actions intended to reduce the adverse impacts of such incidents.

Information security's primary focus is the balanced protection of the confidentiality, integrity and availability of data while maintaining a focus on efficient policy implementation, all without hampering organization productivity. This is largely achieved through a structured information risk management process.

Following are some of the steps which can be used to protect the integrity of information:

Lock down hardware

The computer systems should be switched off at the end of the day, holidays and while not in use.

Turn off private browsing

The warehouse team should have access to limited sites which are required only for delivering the duties. All private browsing sites should be turned off.

Practice good password management

Passwords should have limited access. They should be available only with the relevant people in the warehouse. They should be strong and unique and difficult to remember. They should ideally be a combination characters, numbers and special characters. Further, they should be amended periodically.

Use two-factor authentication

In case of very discrete information, companies may implement the policy of two level of authentication for the access.

Keep software up to date

Install the latest updates of the software that you use. The newer updates carry better features in terms of security and data protection.

Avoid Phishing - beware of suspicious emails

Do not open any email or data from unreliable sources. Be constantly suspicious and avoid any phishing related risks.

Do not download Software

No software should be downloaded by the employee in the warehouse unless approved by the company IT team. Avoid visiting unknown websites or downloading software from untrusted sources. These sites often host malware that will automatically, and often silently, compromise the data computer.

Install anti-virus protection

A strong anti-virus software is a must. Most of the times companies follow company wise anti-virus software and protection systems

No External Memory devices

No external memory devices like hard disks, pen drives should be allowed in the warehouse. Ideally all the USB ports also should be blocked to avoid any access to information.

Back up your data

Back up regularly. If there is a data security incident, the only guaranteed way to repair your computer is to erase and re-install the system.

2.1.3 Define TMS & its Benefits

Transport Management System (TMS) refers to a dynamic software which manages the day-to-day transportation related activities for any organization including vehicle scheduling, vehicle capacity utilization, Pod management, in-transit vehicle tracking and delivery management. TMS is a software that helps plan, budget, manage, control and report on an organization's transportation and delivery performance.

TMS systems tie multitude of business processes together and enable the flow of data between them. TMS systems eliminate data duplication by collecting an organization's shared transactional data from multiple sources and offer data integrity with a single source of truth.

Today, TMS systems are being used across the world by thousands of companies of all sizes and types.

The Business Value of Transport Management System

TMS delivers numerous business benefits including:

- Better business insights using reports based on real-time information
- Reduction in operational costs through efficient business processes and deployment of best practices.
- Sharing of data and widespread collaboration among user across functions.
- Consistent infrastructure and the look and feel of all the business activities being done.
- Data integrity and financial controls ensure reduced risk for the organization.
- Ability to meet the dynamic requirements of the customers.
- To help the decision-makers in achieving set business targets.
- To optimize supply chain operations in terms of delivery, quality, and cost.

Benefits of TMS

The Transport Coordinator can use the TMS system, to better service the customers. TMS can help to:

- Timely vehicle placement.
- Inform customer about delivery schedules
- Prioritize customer orders loading depending SLA
- Inform them about delivery dates
- Respond to their queries and complaints
- In-transit vehicle tracking and delivery updates

Transport Coordinator may use some of the following reports to service the customer.

- Delivery status- customer wise -Lane wise-City wise– Daily
- In-transit vehicles- Customer wise-Lane wise-City wise

2.1.4 Define ERP & its Benefits

Enterprise resource planning (ERP) refers to a large software which manages the day-to-day activities for any organization including Accounting, Sourcing, Supply chain operations, Human resource management and Manufacturing. ERP is a software that helps plan, budget, manage, control and report on an organization's performance.

ERP systems tie a multitude of business processes together and enable the flow of data between them. ERP systems eliminate data duplication by collecting an organization's shared transactional data from multiple sources and offer data integrity with a single source of truth.

Today, ERP systems are being used across the world by thousands of companies of all sizes and types, ERP is as now almost as indispensable as the electricity.

The Business Value of ERP

ERP delivers numerous business benefits including:

- Better business insights using reports based on real-time information
- Reduction in operational costs through efficient business processes and deployment of best practices.
- Sharing of data and widespread collaboration among user across functions.
- Consistent infrastructure and the look and feel of all the business activities being done.
- Data integrity and financial controls ensure reduced risk for the organization.
- Ability to meet the dynamic requirements of the customers.
- To help the decision-makers in achieving set business targets.
- To integrate all the business functions like Sales & Distribution, Materials Management, Finance and Controlling on one common system
- To optimize supply chain operations in terms of delivery, quality, and cost.
- To prepare for expansion and growth plans in the coming years

Benefits of ERP

The Warehouse Data feeder can use the ERP system, to better service the customers. ERP can help warehouse Data feeder to:

- Timely execute the Customer Order.
- Inform customer about delivery schedules
- Prioritize customer orders
- Inform them about delivery dates
- Respond to their queries and complaints
- Process Sales Returns

Warehouse Data feeder may use some of the following reports to service the customer.

- Sales orders- Product wise -Customer Wise-Location wise– Daily
- Pending Sales orders- Product Wise-Customer Wise-Location wise
- Cancelled Sales orders- Product Wise-Customer Wise-Location wise
- Order/Invoice wise - Product wise -Customer Wise-Location wise– Daily

- Sales returns- Product wise -Customer Wise-Location wise– Daily
- Sales register- Product wise -Customer Wise-Location wise– Daily
- GST Tax payable with Taxable Turn Over-Location Wise-Monthly
- Sales Report- Distributor wise -Cluster wise-MT

Notes



UNIT 2.2: Operations Planning

Unit Objectives

At the end of this unit, participant will be able to:

1. Elaborate the vehicle planning and calculation
2. Explain vendor coordination for vehicle placement and documentation

2.2.1 Operations Planning

The very first task of a transport coordinator is to know/estimate number of vehicles required along with their type/dimension for the day operations and arrange those vehicles from vendor. Then second task involves placement of those vehicles on warehouse dock on right time so that warehouse SLA should not breach material could be delivered to destination on time.

So, if we list down tasks of transport coordinator in sequence, it will look like:

- Vehicle planning
- Vehicle arrangement
- Vehicle placement on warehouse dock
- Vehicle dispatch from warehouse on time along with documents
- Vehicle/shipment tracking
- Proof of delivery (PoD) management

Vehicle Planning:

For vehicle planning, transport need to collect data regarding following-

- Different routes and stop points
- Route and stop-wise delivery boxes and their dimensions
- Different vehicle types available and their inventory

Vehicle planning is usually done based on priority load and vehicle cube utilization. For example-

Let's assume we have a 268 inches' vehicle with dimension 268x45x48 inch

And there are 5 types of boxes with below details:

Type 1 box = 64

Type 2 box = 12

Type 3 box = 10

Type 4 box = 24

Type 5 box = 16

Type 6 box = 50

Type 7 box = 18

So, load plan for single vehicle will look like:

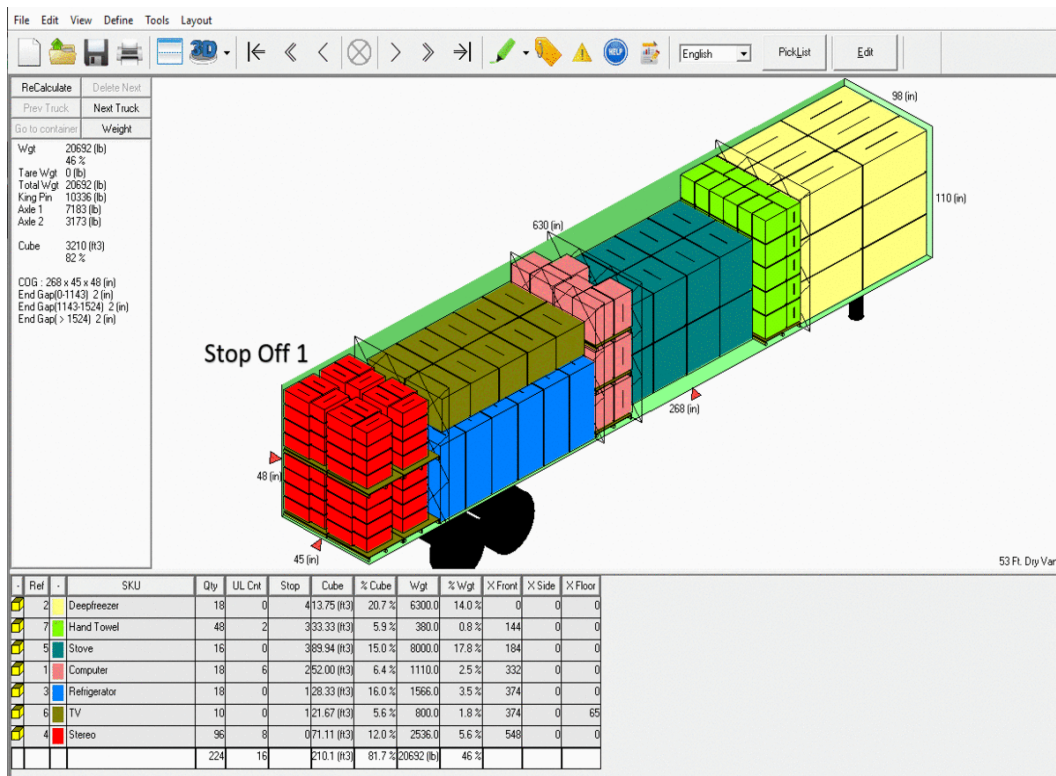


Fig 2.2.1: Vehicle stuffing for a route with stops and their loading/unloading sequence.

So, once we have estimated vehicle required for our requirement, our next task is to arrange these vehicles from different nominated vendors.

While arranging vehicle from different vendors, we need to make sure that at what time and how many vehicles should report to warehouse for loading operations. Otherwise, delay will happen once we have vehicles in premises more than capacity because of chaos and all.

Once these vehicles are arranged and confirmed with time, we need to create shipment is out TMS for further process and tracking.

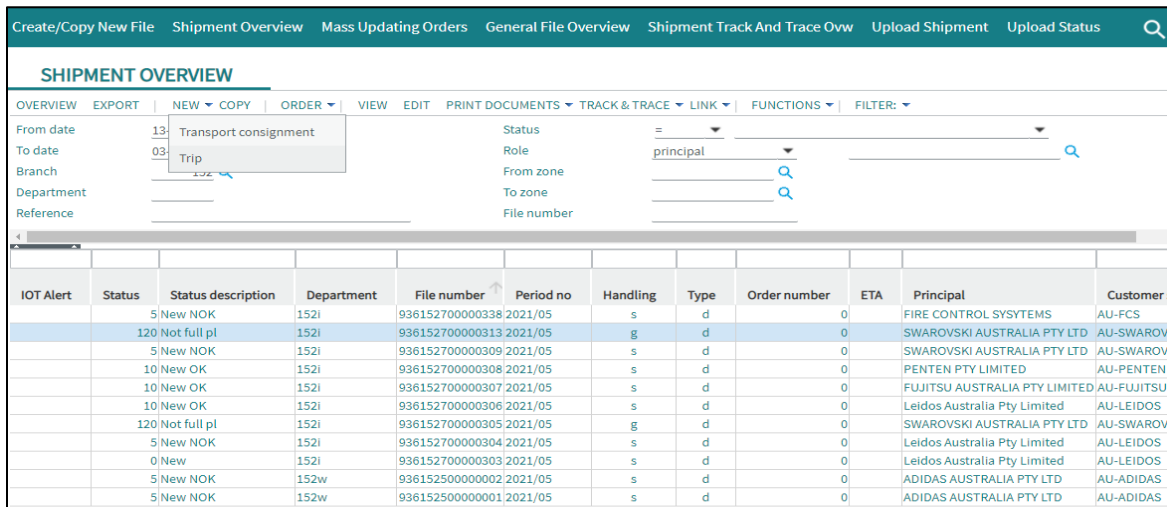


Fig 2.2.2: Shipment Creation in TMS

And during dispatch, document could be printed from here (invoice and e-way bill shall be printed from other EPRs):

The screenshot shows the 'SHIPMENT OVERVIEW' page in a TMS system. At the top, there are navigation tabs: 'Create/Copy New File', 'Shipment Overview', 'Mass Updating Orders', 'General File Overview', 'Shipment Track And Trace Ovw', 'Upload Shipment', and 'Upload Status'. Below these is a sub-header 'SHIPMENT OVERVIEW' with a search icon. A menu bar contains 'OVERVIEW', 'EXPORT', 'NEW COPY', 'ORDER VIEW EDIT', 'PRINT DOCUMENTS', 'TRACK & TRACE LINK', 'FUNCTIONS', and 'FILTER:'. On the left, there are search filters for 'From date' (13-05-21), 'To date' (03-06-21), 'Branch' (152), 'Department', and 'Reference'. A dropdown menu is open under 'PRINT DOCUMENTS', listing options: 'Print selection...', 'Generate selection...', 'Consignment Note', 'House Truck Waybill', and 'Shipping Label'. On the right, there are search fields for 'principal' and other criteria. Below the menu is a table with columns: IOT Alert, Status, Status description, Department, File number, Period no, Handling, Type, Order number, ETA, Principal, and Customers.

IOT Alert	Status	Status description	Department	File number	Period no	Handling	Type	Order number	ETA	Principal	Customers
	5	New NOK	152i	936152700000338	2021/05	s	d	0		FIRE CONTROL SYSTEMS	AU-FCS
	120	Not full pl	152i	936152700000313	2021/05	g	d	0		SWAROVSKI AUSTRALIA PTY LTD	AU-SWAROVSKI
	5	New NOK	152i	936152700000309	2021/05	s	d	0		SWAROVSKI AUSTRALIA PTY LTD	AU-SWAROVSKI
	10	New OK	152i	936152700000308	2021/05	s	d	0		PENTEN PTY LIMITED	AU-PENTEN
	10	New OK	152i	936152700000307	2021/05	s	d	0		FUJITSU AUSTRALIA PTY LIMITED	AU-FUJITSU
	10	New OK	152i	936152700000306	2021/05	s	d	0		Leidos Australia Pty Limited	AU-LEIDOS
	120	Not full pl	152i	936152700000305	2021/05	g	d	0		SWAROVSKI AUSTRALIA PTY LTD	AU-SWAROVSKI
	5	New NOK	152i	936152700000304	2021/05	s	d	0		Leidos Australia Pty Limited	AU-LEIDOS
	0	New	152i	936152700000303	2021/05	s	d	0		Leidos Australia Pty Limited	AU-LEIDOS
	5	New NOK	152w	936152500000002	2021/05	s	d	0		ADIDAS AUSTRALIA PTY LTD	AU-ADIDAS
	5	New NOK	152w	936152500000001	2021/05	s	d	0		ADIDAS AUSTRALIA PTY LTD	AU-ADIDAS

Fig 2.2.3: Document printing from TMS.

Notes

UNIT 2.3: Information Feeding

Unit Objectives



At the end of this unit, participant will be able to:

1. Discuss about Tracking system/TMS
2. Explain data collection and information feeding in Tracking system/TMS

2.3.1 Information Feeding

From above chapter on “Operations Planning”, we understand what all operation we need to perform as a transport coordinator and what all data need to be collected and how they are used.

Now, once we collect all data, we need to feed those on some portals/platform/template, so that either it could be visible to authorized authorities, and they could take timely actions on their part, or we can get set of outputs from system which we could use for our further actions.

From above chapter, we can see that following data is required for vehicle planning:

- Vehicle type and quantity available with vendors
- Dispatch cartons along with stop, route, and destinations

This information shall be feed into any load planner tool and we shall get a result containing vehicle size, cartons loaded, stops, route etc. and accordingly we shall proceed for next steps.

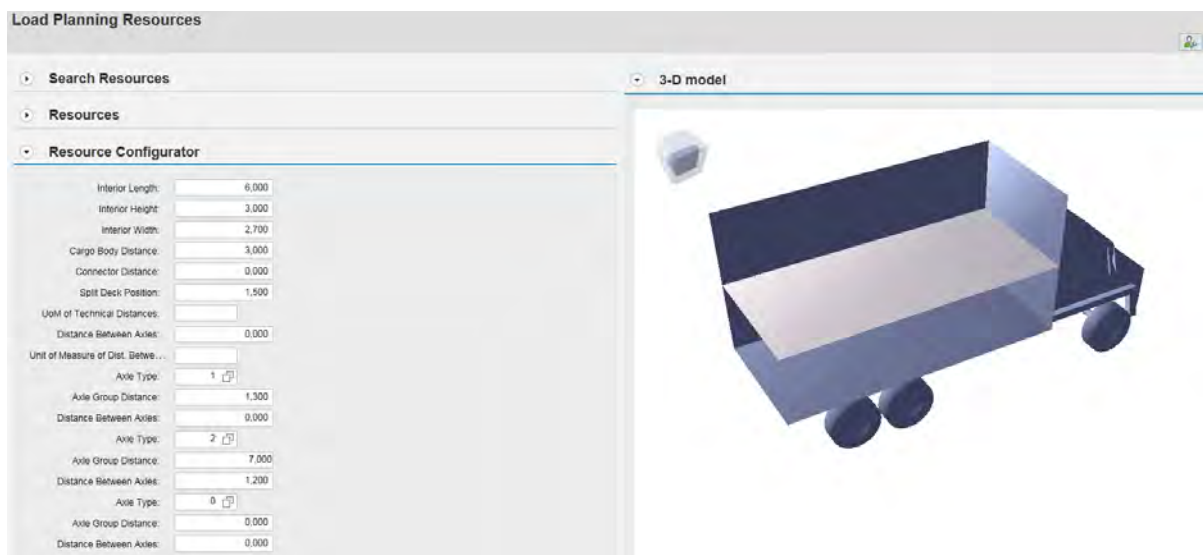


Fig 2.3.1: Vehicle type information feeding in Load Planner

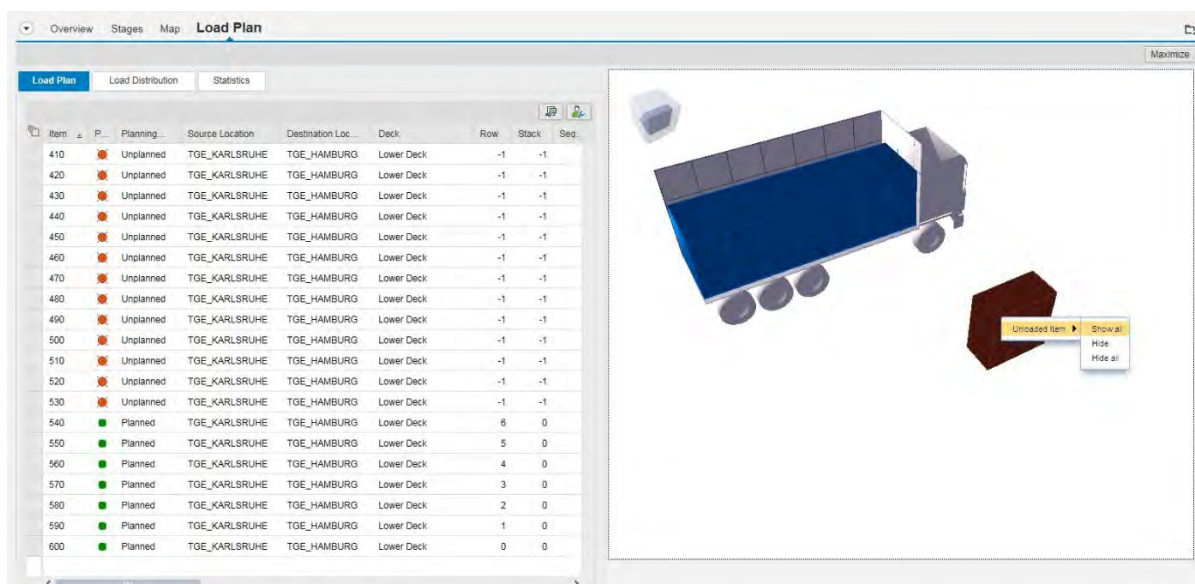


Fig 2.3.2: Box level information feeding in Load Planner

Similarly, once vehicles are planned and we create shipment/trip for those along route and destinations as per below:

IOT Alert	Status	Status description	Department	File number	Period no	Handling	Type	Order number	ETA	Principal	Customer s
	5	New NOK	152i	936152700000338	2021/05	s	d	0		FIRE CONTROL SYSTEMS	AU-FCS
	120	Not full pl	152i	936152700000313	2021/05	g	d	0		SWAROVSKI AUSTRALIA PTY LTD	AU-SWAROVSKI
	5	New NOK	152i	936152700000309	2021/05	s	d	0		SWAROVSKI AUSTRALIA PTY LTD	AU-SWAROVSKI
	10	New OK	152i	936152700000308	2021/05	s	d	0		PENTEN PTY LIMITED	AU-PENTEN
	10	New OK	152i	936152700000307	2021/05	s	d	0		FUJITSU AUSTRALIA PTY LIMITED	AU-FUJITSU
	10	New OK	152i	936152700000306	2021/05	s	d	0		Leidos Australia Pty Limited	AU-LEIDOS
	120	Not full pl	152i	936152700000305	2021/05	g	d	0		SWAROVSKI AUSTRALIA PTY LTD	AU-SWAROVSKI
	5	New NOK	152i	936152700000304	2021/05	s	d	0		Leidos Australia Pty Limited	AU-LEIDOS
	0	New	152i	936152700000303	2021/05	s	d	0		Leidos Australia Pty Limited	AU-LEIDOS
	5	New NOK	152w	936152500000002	2021/05	s	d	0		ADIDAS AUSTRALIA PTY LTD	AU-ADIDAS
	5	New NOK	152w	936152500000001	2021/05	s	d	0		ADIDAS AUSTRALIA PTY LTD	AU-ADIDAS

Fig 2.3.3: Shipment/trip creation

Tips



- Operations planning is very critical activity for a transport coordinator role.
- Accurate and correct load planning always save effort and money for any company in transportation.
- Shipment data should be feed correctly so that tracking of orders/shipments could be easy.

Notes

Summary

In this chapter we discussed about different activities involved in life of a transport coordinator along with operations planning, different type of data required and their usefulness. We also discussed briefly about how these data could be used in system for useful results and actions.

Exercise

1. Why transport coordination is critical role in transportation?
2. Explain all those activities involved in transport coordination.
3. Which data are required for load planning?
4. Shipment tracking is part of load planning or not?
5. Shipment is created by vendor or transport coordinator.

Scan the QR codes for the related video's



Importance of confidential data
<https://youtu.be/uwNbiTOM04k>



3. Monitoring Status of Consignment



Unit 3.1 – Coordinate with trucking companies
Unit 3.2 – In-transit consignment follow-up



Key Learning Outcomes



At the end of this module, participant will be able to:

1. Detail the process of coordinating with trucking companies.
2. List the various tasks to be done while following on consignments.

UNIT 3.1: Coordinate with Trucking Companies

Unit Objectives

At the end of this unit, participant will be able to:

1. Explain transport requirement to transporter and get vehicle arranged
2. Discuss about Follow-up on scheduled vehicles

3.1.1 Place new Vehicle Requirement

In above chapters we understood how vehicle size, capacity and type is determined by mathematical modelling and consignment behavior along with their route planning and loading pattern.

Now, once we are ready with above information, the next step is to coordinate with nominated trucking company and place your requirement for vehicle placement at warehouse. While, coordinating for vehicle placement with trucking company we need should feed sufficient information to transporter so that our requirement is fulfilled correctly. At high level, transport coordinator should discuss following data points with trucking company while placing new vehicle requirement:

1. Origin location
2. Destination location
3. Vehicle type
 - a. Open body
 - b. Close body
 - c. Refer
4. Vehicle size
 - a. Body size
 - b. Loading capacity
5. Vehicle cleanliness
6. Scheduled arrival time at origin location
7. Scheduled departure time from origin
8. Scheduled arrival time at destination location
9. Scheduled departure time from destination

After discussion on above data points with transporter, transport coordinator should ask for confirmation about right vehicle availability and schedule the same and seek written confirmation. from transporter on same.

3.1.2 Follow up on Scheduled Vehicle

In above chapter, we discussed in detail about all data points which need to be discussed with transporter while placing a new requirement. Once the new vehicle requirement is placed, transport coordinator should follow up with transporter on scheduled vehicle booking well in advance so that any deviation from schedule could be easily managed.

Now, the question is when and how many times we should follow-up for new bookings before arrival. So, it mostly depends upon when we placed booking and how much time gap is there between booking time and scheduled arrival time along with travel time between transporter parking to origin location. If the difference between booking and scheduled arrival time is more than transporter parking to origin location travel time, then we could follow-up 2 or more time but transport coordinator must follow up once near the time when vehicle is expected to leave transporter premises and update the actual status of scheduled arrival and take necessary precaution if transport coordinator can foresee any expected delay in scheduled arrival. If we explain the same in form of mathematical formula, then it will look like:

t_b = new vehicle booking time

t_s = scheduled vehicle arrival time at origin location

t_t = vehicle travel time between transporter parking to origin location

Now, if

$t_s - t_b \gg t_t$; then 2 or more follow up

$t_s - t_b = t_t$; then 1 follow up, this is necessary follow up to make sure transporter is adhering to schedule and we can make necessary arrangements in case of any deviation from schedule is foreseen.

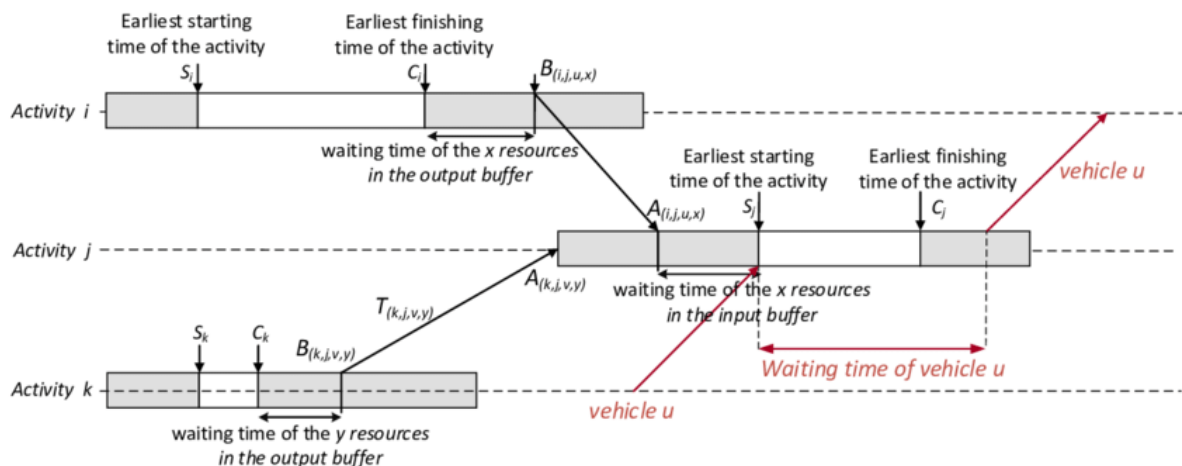


Fig 3.1.1: Schematic representation of transport coordination for scheduled vehicle

Notes



UNIT 3.2: In-transit consignment Follow up

Unit Objectives

At the end of this unit, participant will be able to:

1. Discuss the in-transit follow up and its significance
2. Discuss the challenges faced by transporter in-transit
3. Discuss the delivery process and trip closure

3.2.1 In-transit Follow up

Once goods are dispatched from warehouse, it falls under custody of transporter and transporter ensures safe delivery of consignment in right condition at right time. Although, timely delivery of consignment is in scope of transporter but ensuring that transporter adhere with service level agreement (SLA) is warehouse responsibility and so we follow up on consignment in-transit as well. In-transit consignment follows up has one more benefit that preventive and corrective measures can be taken well in advance for any unfavorable circumstances arisen on the way. Follow up of in-transit consignment can be divided in following categories:

Track public gathering and road closure/blockage:

Transport coordinator should be tracking political/public gathering conditions through various sources including representative at delivery location and keep driver updating if (s)he finds any unfavorable situation.

Follow up on road condition of route:

Transport coordinator should keep engaging with driver on various followed road and highways and monitor their status. Monitoring road/highways status may help transport coordinator to estimate expected delay in case of there are closures/blocks and accordingly necessary preventive measures could be followed.

Follow up on driver's health, safety and location:

Driver's health and safety must be utmost priority in-transit and transport coordinator should keep follow up on driver health and safety status along with his current location. It helps transport coordinator updated about route progress and SLA achievement long with alertness against any unfavorable situation.



Fig 3.2.1: A schematic representation of in-transit transport coordination

Exercise

1. List down all information needed for booking of new vehicle/consignment?
2. Why shall transport coordinator follow up for scheduled vehicles?
3. Who shall follow up for in-transit consignment?
4. List down categories of information should be monitored during in-transit vehicle follow up?

Scan the QR codes for the related video's



In-transit

<https://youtu.be/DL0kkqPIILM>





Skill India
कौशल भारत - कुशल भारत



सत्यमेव जयते
GOVERNMENT OF INDIA
MINISTRY OF SKILL DEVELOPMENT
& ENTREPRENEURSHIP



N S D C
National
Skill Development
Corporation

Transforming the skill landscape

4. Reporting



Unit 4.1 – Consignment Handover

Unit 4.2 – Faulty Consignment Reporting

Unit 4.3 – Escalation Matrix



LSC/N1112

Key Learning Outcomes



At the end of this module, participant will be able to:

1. Detail the list of steps to be performed while closing deliveries with client.
2. Discuss the documentation and reporting requirements
3. Discuss the escalation matrix for reporting deviations.

Unit 4.1: Consignment Handover

Unit Objectives

At the end of this unit, participant will be able to:

1. Identify consignment delivery handover process at destination location
2. Explain documents required to signed-off as proof of delivery

4.1.1 Consignment Handover

In chapter number 2 and 3, we discussed about vehicle planning, vehicle scheduling, vehicle placement, consignment loading and in-transit tracking. Now, next step involves handover of consignment to representative at destination location. Although, it's transporter task to deliver material safe at destination, otherwise transporter shall be held liable for any mis-happening. But, for transport coordinator is link between transporter and destination location representative and transporter need to ensure that consignment handover process proceed smoothly. To ensure, smooth consignment handover process, transport coordinator instruct transporter to adhere following process:

- Document verification at security gate
- Placement of vehicle at right place in parking yard/dock
- Opening of container seal by destination location representative in-front of transporter only
- Transporter to ensure all material is unloaded in-front of him/her and PoD is issued

In below sections, we will talk in detail about above explained process:

Document verification at security gate:

Transport once reaches to destination; they should inform the security at place about consignment and ask to verify their respective documents containing intended receipt address. Once, security confirm address and its rightness, ask security to enter vehicle details in inbound security register. After security check is done and details are registered in inbound security register, inform transporter about your arrival at destination location and then transport coordinator will coordinate with destination location representative for placement of vehicle.



- ✓ Transport team ID proofs
- ✓ Consignment invoice/STN/IRN containing address of intended destination location
- ✓ Any other document belonging to consignment/destination location

Figure 4.1.1: Documents to be produced by transporter at security gate for verification

Placement of vehicle at right place in parking yard/dock:

Once vehicle placement is confirmed after verification at security gate, transporter should place vehicle at designated place/location only. Vehicle placement at right place is critical as it shall play a role in vehicle placement to dock time and ultimately unloading of consignment along with effective movement/blocking of other vehicles in schedule.

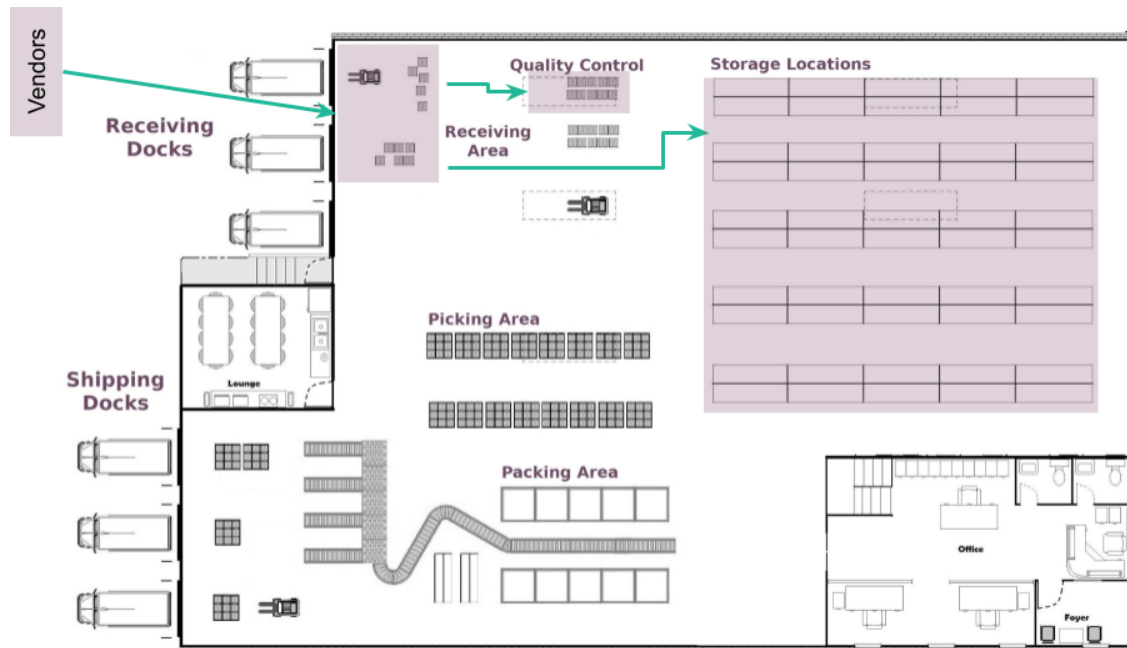


Fig 4.1.2: A schematic representation for vehicle placement location.

Opening of container seal by destination location representative in-front of transporter only:

This is very important step in handover process of consignment to destination location representative. This is the only step which ensures that transporter is delivering all the goods received from origin location and there is not theft and exchange of goods.



Fig 4.1.3: Different type of container seals used in-transit

Transporter to ensure all material is unloaded in-front of him/her and PoD is issued:

The last step of consignment handover to destination location representative is to receive PoD from them containing all information about consignment like number of SKU and their respective quantities received. This is the only legal document regarding material handover and for any future reference, it shall be used. So, transporter should make sure that they have read and verified all the details mentioned on PoD. One copy of PoD must be sent to transport coordinator for record keeping and shipment closing purpose.

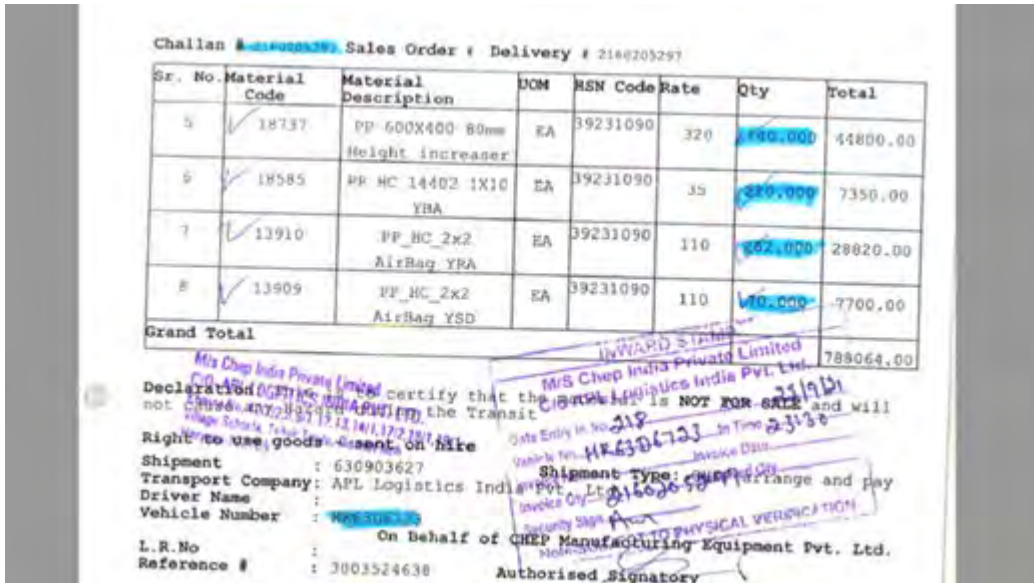


Fig 4.1.4: Sample PoD

Notes

Unit 4.2: Faulty Consignment Reporting

Unit Objectives

At the end of this unit, participant will be able to:

1. Explain the different type of faulty consignment
2. Elaborate the necessary remedial action required

4.2.1 Faulty Consignment

Once goods are delivered to destination location, transporter receives PoD which states about SKUs and their quantities, but it does not mention any point regarding quality of goods. During quality check, actual quality of goods is tested and reported and if any/some goods do not meet quality standards they fall under “Damage Goods”. So, here we can categories faulty consignment in following broad categories:

- Consignment with damaged goods
- Consignment with excess goods for respective SKUs
- Consignment with short goods for respective SKUs
- Wrong consignment

Detailed explanation of above categories is as per below for better understanding so that it could help in remedial actions:

- Consignment with damaged goods
 - In this category product is damaged inside the box and further not salable or usable. Such type of products is send back per agreement for detailed check and then segregated in repairable, refurbishment and scrap category and processed accordingly.
 - Such type of incidents needs detailed RCA (root cause analysis) if damage is caused because of origin location mistake, transporter mistake or destination location mistake. Once RCA is done and findings are mutually concluded among concerned stakeholders, concerned authority shall proceed for debit as per agreement.
- Consignment with excess goods for respective SKUs
 - Although there is always check points at origin warehouse on what goods are being dispatched. But, sometimes due to human/technical error more than expected goods are dispatched. So, this need to be reported and stock must be adjusted along with invoice.
- Consignment with short goods for respective SKUs
 - Although there is always check points at origin warehouse on what goods are being dispatched. But, sometimes due to human/technical error less than expected goods are dispatched. So, this need to be reported and stock must be adjusted along with invoice.

- Wrong consignment
 - Although there is always check points at origin warehouse on what goods are being dispatched. But, sometimes due to human/technical error consignment is dispatched. So, this need to be reported and stock must be adjusted along with invoice.

4.2.2 Reporting of Consignment

Till last chapter, we discussed about vehicle planning, vehicle scheduling, vehicle placement, consignment loading and in-transit tracking and consignment handover. Now, next step involves reporting of consignment to all stake holders including warehouse, transporter, and destination location representative. Reporting of consignment could be of two types:

- Reporting of correctly delivered consignment
- Reporting of faulty consignment; what faults could be there for a consignment is explained in chapter 4.2.1.

Let's have a detailed discussion on consignment reporting and its necessity in below section.

Reporting of correctly delivered consignment:

As we have already discussed in last chapter, all type of delivered consignment must be followed by PoD as it is only legal document which will referred in later stage.

In case of correctly delivered consignment, no additional report needs to be produced and shipment shall be closed by transporter.

Reporting of faulty consignment:

In chapter 4.2.1, we have discussed about possible types of faulty consignment and each type of faulty consignment needs different treatment in mutual interest of supplier, transporter, and consignee.

In this section, we will discuss in detail about faulty consignment reporting and remedial actions.

Consignment with damaged goods:

Consignment with damaged goods is most debatable faulty consignment type. This involves all three stakeholders, i.e. shipper, transporter, and consignee. Consignees arrange photographs of damaged goods while unloading of goods and share with transport coordinator, if not so it could be claimed that damage took place at consignee end.

So, if consignee arrange photographs of goods while unloading, then transport coordinator check at shipper end and investigate if damage is caused by mishandling at shipper end. In this case damage goods are sent back to shipper and shipper issues credit not to consignee.

If, both of above cases are not valid then it shall be assumed that goods are damaged in-transit and a debit note is issued to transporter.

Consignment with excess goods for respective SKUs

In this type of faulty consignment, consignee marks excess quantities on PoD and send a separate report to transport coordinator for verification and further actions. Once transport coordinator receives excess report, (s)he verifies details with shipper/warehouse and ask respective team for stock adjustment and raise additional invoice for excess goods.

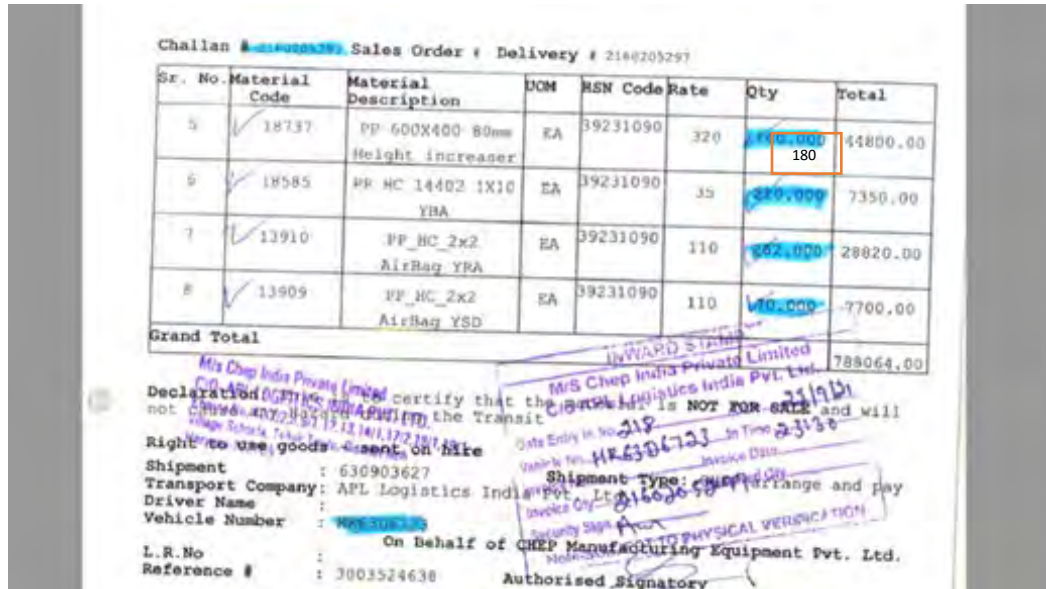


Fig 4.2.1: Sample PoD for consignment with excess goods

Consignment with short goods for respective SKUs

In this type of faulty consignment, consignee marks short quantities on PoD and send a separate report to transport coordinator for verification and further actions. Once transport coordinator receives shortage report, (s)he verifies details with shipper/warehouse and ask respective team for stock adjustment and credit note for short goods.

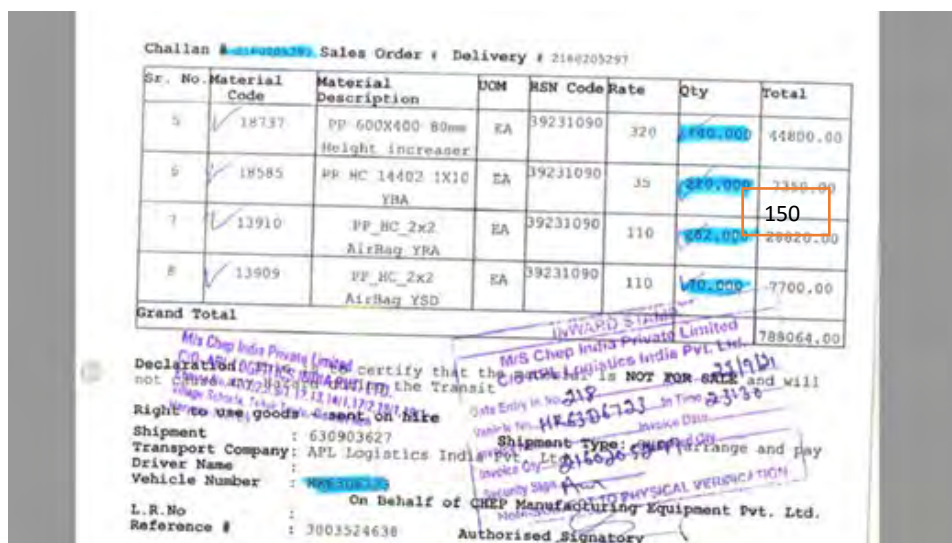


Fig 4.2.2: Sample PoD for consignment with short goods

Wrong consignment

Wrong shipment dispatch by shipper is very rare and at time of goods unloading at consignee end, consignee can reject the consignment if goods of consignment is of no use for consignee. Otherwise he can accept the consignment with mutual consent with shipper mediated by transport coordinator. In this case consignee issues a separate receiving note to transporter instead of PoD. And fresh consignment is shipped to consignee on original order and separate invoice is raised for wrong shipment.

Notes



Unit 4.3: Escalation Matrix

Unit Objectives

At the end of this unit, participant will be able to:

1. Explain the different type of faulty consignment
2. Elaborate the necessary remedial action required

4.3.1 Escalation Matrix

Any consignment as per above mentioned criteria must be reported to respective transport coordinator and project In-charge. And, in case of unsatisfactory actions against incident, following escalation matrix should be followed.

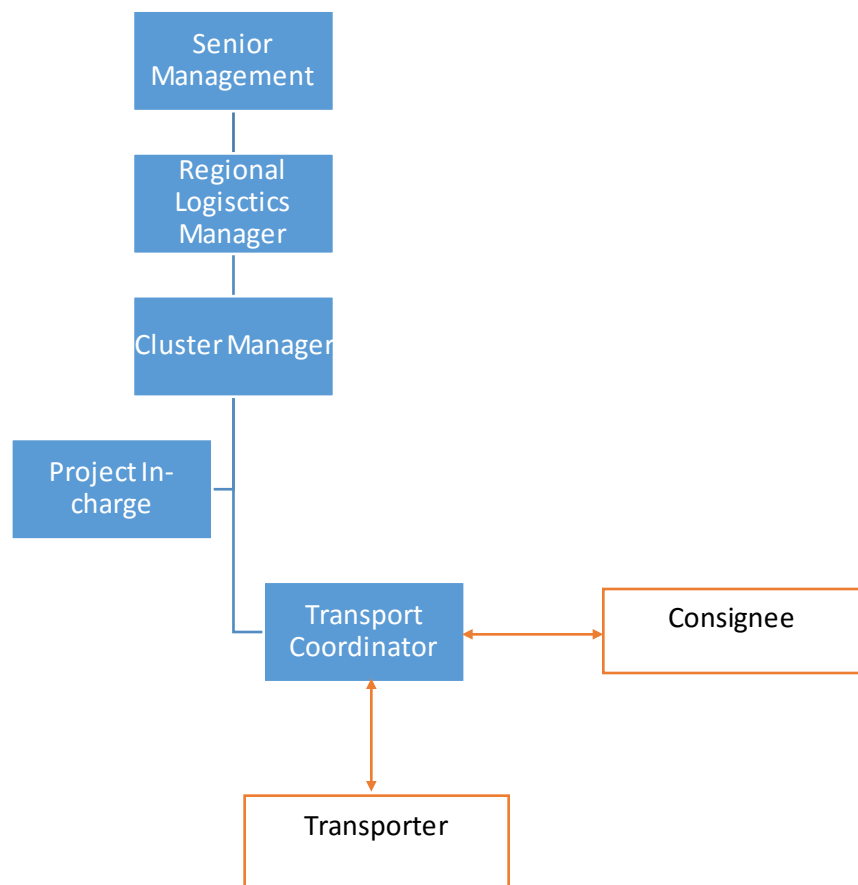


Fig 4.3.1: Escalation Matrix

Tips



PoD is critical document for consignment delivery closing and to resolve any incident in future. So, transport coordinator should always be very careful in verifying PoDs and should keep these documents in very secure manner.

Summary



Consignment delivery and reporting is 3-way communication process which involves shipper, transporter, and consignee. PoD is issued by consignee as proof of goods receipt and keep as record by shipper and transporter as record for future reference. Faulty consignments are discussed among all 3 stakeholders and incidents are resolved per agreement for mutual benefit in business.

Exercise



1. List down consignment handover activities
2. At consignee security check, which documents transporter should produce to security?
3. Vehicle seal should be opened in front of
4. List down different types of faulty consignment.
5. Resolution of which type of faulty consignment is most tedious.
6. For which type of faulty consignment, shipper issues credit note to consignee?

Scan the QR codes for the related video's



Escalation Matrix

<https://youtu.be/ccAZ9nCZSLc>





5. Shift Handover Activities

- Unit 5.1 – Pre-dispatch Log
- Unit 5.2 – Post-dispatch Log
- Unit 5.3 – Special Log



Key Learning Outcomes



At the end of this module, participant will be able to:

1. Demonstrate setting up of computer and tracking system for operations
2. Detail the list of information to be collected such as departure times, consignment underway, consignment with special priority etc.
3. List the necessary documentation to be prepared

UNIT 5.1: Pre-dispatch Log

Unit Objectives

At the end of this unit, participant will be able to:

1. Discuss of work-in-progress/completed for pre-dispatch activities
2. Explain task completed vs work-in-progress log for pre-dispatch activities

5.1.1 Pre-Dispatch Log

In unit 1, we discussed about overview of supply chain. from unit 2 to 4, we discussed various activities transport coordinator needs to perform and process of performing and essence of those process.

In this chapter, we will discuss about creating a task log for easy reference to anyone who needs to access it.

Transport coordinator should create a logbook in which (s)he should mark timestamp and remarks for all discussions/coordination. Below is a sample logbook for easy reference.

S.No	Shipment #	Destination Location	Vehicle type	Vehicle size	Booking time	Vehicle placement time	Vehicle dispatch time	Remarks
1	Demo_01	XYZ	Open body	32'	2022/08/19 10:35AM	2022/08/19 01:20PM	2022/08/19 04:10PM	2022/08/19 11:50 AM Vehicle has departed from transporter parking yard

Table 5.1.1: Pre-dispatch log

In above illustrated list, we can clearly see, all the events with time-stamp and last followed up status which will help us for any further status update and easy handover at end of shift.

Notes



A large rectangular area with a thin orange border, containing 25 horizontal lines for writing notes.

UNIT 5.2: Post-Dispatch Log

Unit Objectives

At the end of this unit, participant will be able to:

1. Discuss about work-in-progress/completed log for post-dispatch activities
2. Explain task completed vs work-in-progress log for post-dispatch activities

5.2.1 Post-Dispatch Log

Post-dispatch log is extended form of pre-dispatch log, which is basically used in tracking in-transit milestones of consignment along with consignment delivery status at consignee place. Below is a sample logbook for easy reference:

S.No	Shipment #	Vehicle dispatch time	Mileston 1	Mileston 2	Mileston n	Vehicle reporting time at consignee security gate	Vehicle relieving time after consignment handover	PoD status with copy of PoD	Remarks
1	Demo_01	2022/08/19 04:10PM	Vehicle dispatched on time. Next follow up is set to 10:00PM, once no entry is open and vehicle touches highway

Table 5.2.1: Post-dispatch log

In above illustrated list, we can clearly see, all the events with time-stamp and last followed up status which will help us for any further status update and easy handover at end of shift.

Notes



A large rectangular area with a thin orange border, containing 25 horizontal lines for writing notes.

UNIT 5.3: Special Log

Unit Objectives

At the end of this unit, participant will be able to:

1. Identify tasks/shipments which need special attention.
2. Explain Document and brief special log with specific requirement.

5.3.1 Special Log

In general, process for any activity is always defined and sequence of tasks are performed in order for smooth and seamless operations. But, in real time businesses have many exceptions basis urgency and other business and financial parameters. So, transport coordinator must ensure all exceptions with respect to shipment and consignee location are listed for easy reference and timely actions with any breach.

Some of such exceptions are mentioned below, there may be many more:

- Two different shipments need to be consolidated.
- Consignment of a shipment needs to be hold.
- A consignment of a shipment needs to be re-routed on other location.
- A consignment needs special handling care

In above illustrated list we can any request which is unusual and deviated from standard operating procedure, should be mentioned in special log so that it is always available for concerned to take necessary actions.

Tips

Logbook should be mentioned regularly, if we delay entries in logbook, it starts piling up and never-ending task. So, transport coordinator should act upon this task sincerely and should have clean logbook which is easy to read and understand for every concerned audience.

Summary

Always, activity logs for all completed and work-in-progress tasks should be mentioned in logbook. Logbook is easy reference to have a glance on status of completeness of tasks, completed and pending tasks. It is also work as a handover tool in handover meeting at end of shift.

Notes



Exercise



1. Why log is necessary what information is logged in logbook?
2. What is special log and how we can recognize it?

Scan the QR codes for the related video's



Shift handover

https://youtu.be/7sScZd5X_Fw

6. Compliance to health and safety measures



Unit 6.1 - Implementing Safety at Workplace

Unit 6.2 - Handling Dangerous and Hazardous Goods

Unit 6.3 - 5S Concept

Unit 6.4 - Managing Breach of Safety, Accidents and Emergency Situations



Key Learning Outcomes



At the end of this module, participant will be able to:

1. Detail health, safety and security procedures in warehousing, land transport etc.
2. Explain the concept of 5S at workplace
3. Detail the standard operating procedure for handling dangerous and hazardous goods
4. Discuss the standard protocol in case of emergency situations, accidents, and breach of safety
5. Explain escalation matrix for reporting deviation

UNIT6.1: Implementing Safety at Workplace

Unit Objectives

At the end of this unit, participant will be able to:

1. Explain the criticality of Safety
2. Elaborate the various safety precautions during the various warehousing activities
3. Elaborate the importance of Training to team

6.1.1 Safety and its Criticality

“Nothing is more important than the safety of the people and goods stored inside the warehouse”.

Working in warehouse creates several health and safety risks. In case we do not control them, it may lead to accidents, injury to people, illness. High employee turnover lost working hours and at worst even fatalities. Safety rules and procedures are often disregarded to save money, cut corners, lack of focus or insufficient time. Well implemented safety procedures lead to minimum risk of injury, fewer disruptions, lesser absenteeism, higher employee satisfaction and finally better productivity.

As discussed in earlier chapters, companies store their Finished Goods inventory in the warehouse, they store Raw Materials on the manufacturing side. The nature of the products stored in the warehouse determine the rules and practices to be adopted to save the people from injuries of any mishaps.

As a corporate, companies are also officially bound to implement and maintain safety procedures. The safety procedures should protect the workers from any danger and ensure that they operate in safe and comfortable environment. However, the companies should maintain safety procedures not just for legal compliance, well implemented safety rules indicate the concern the company carries for its people well-being.

Safety Rules In a Warehouse -

1. Ensure Safety Equipment is Used at all Times.
2. Eliminate Any Potential Safety Hazards.
3. Clearly Label Designated Hazardous Zones.
4. Always Use Safe Lifting Techniques.
5. Provide Training and Refresher Courses.
6. Promote Safety Awareness in the Warehouse.

6.1.2 Safety Procedures to be observed in a Warehouse

A. Vehicle Safety

When Forklifts and reach trucks are used in the warehouse it is essential to prevent an injury due to impact or crush. It is observed that most of the times the accidents happen while reversing. Following are some of the safety procedures for using Forklifts:

Rules for Forklift Safety

1. Only trained personnel can drive the vehicles
2. Make sure operators follow speed limits
3. Install mirrors to assist the driver's vision when cornering or reversing
4. Keep pedestrian crossings away from obstacles
5. Organize regular inspections and maintenance work on the vehicles
6. Provide drivers with a daily checklist
7. Display driver warnings and safety signs
8. Support the floor to prevent the vehicle from tipping over or being damaged



Fig 6.1.1 Rules for forklift safety

B. Slips, Trips, and Falls

Various reports indicate Slips and Falls are the single biggest reason for work related injuries across the world.

To prevent slips, trips, and falls, Company should:

Slips, Trips, and Falls

1. Good housekeeping. Clean up spillages, remove obstructions from paths, etc
2. Ensure cleaning staff display appropriate warning signs
3. Use anti-slip paint
4. Use anti-slip tape and shoes
5. Make sure floors are level
6. Train staff to work at height safely



Fig 6.1.2 Slips, Trips, and Falls

C. Lifting

Lifting can be done both manually and using MHE. Both the situations pose safety hazards if not done properly.

To minimize lifting risks, Company should:

Lifting



1. Ensure operators know the maximum safe working load of lifting equipment.
2. Train staff in manual handling safety
3. Avoid the need for manual handling if possible
4. Train how to use proper handling techniques to minimize strain.
5. Ensure staff use and store chains properly

Fig. 6.1.3 Lifting

D. Fire Safety

Fire is the biggest hazard Warehouse faces. Along with loss of valuable material stored in the warehouse, Fire can even lead to injuries or fatalities to the people working there.

To maintain fire safety, company should:

Fire Safety



1. Carry out fire drills at least once a quarter.
2. Test fire alarms weekly
3. Create a fire evacuation and emergency plan
4. Designate a fire warden
5. Fire escape routes, exits, and signs need to be well-lit .
6. Handle hazardous substances with extreme care. Make sure you know how to store chemicals safely in a warehouse.

Fig 6.1.4 Fire safety

E. Charging Stations

Charging stations in warehouse facilities are used to recharge Forklifts, BOPT and other Power Equipment. If proper guidelines are not followed, fires and explosions can occur.

Charging Station

- Charging stations should be away from open flames.
- Smoking should be prohibited.
- An adequate ventilation system must be installed to disperse harmful gases.
- Proper PPE should be worn.

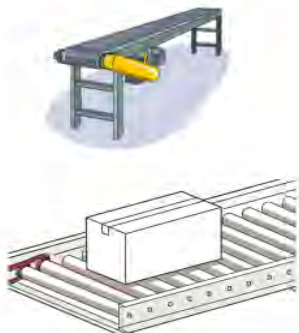


Fig 6.1.5 Charging station

F. Conveyors

Conveyor equipment is commonly used in warehouse facilities to move goods within the premise. However, conveyors pose serious dangers to workers including getting caught in equipment and being struck by falling objects. To remain safe, it is important to:

Conveyors



1. Ensure proper safeguarding equipment between the conveyor and the worker .
2. Periodic conveyor maintenance and repairs
3. Ensure that belts are checked and inspected regularly.
4. Place adequate guards on pinch points
5. Use lockout options so employees can shutdown conveyor operations quickly

Fig 6.1.6 Conveyors

G. Docks

Warehouses use docks to load and offload material from the trucks. The hazards that exist with docks include driving forklifts off docks and equipment accidents involving products improperly placed that fall on employees.

Docks

- Clearly mark the edge of the dock
- Ensure that docking plates can safely support the load weight of equipment, inventory or raw materials.
- Stay clear of dock edges and don't use forklifts in reverse near the edge of a dock.
- Post warnings at eye level for employees.
- Dock stairs and ladders must meet standards.
- Prohibit employees from jumping between docks.



Fig. 6.1.7 Docks

Beside the above precautions, two very important points in Safety are usage of PPE and Employee Training.

H. Personal Protective Equipment

Employees need to wear PPE all the times while working in the warehouse. If PPE is not worn and an accident occurs, it can lead to serious injuries or even fatalities.

We have seen in previous sections PPE to be used to protect Head, Fingers, Feet, Eyes and the rest of the body.

One need to assess the risks in the warehouse to determine which type of PPE the Data feeders need to wear.

I. Training to Staff

Sense of awareness about Safety is the most important factor in Safety Implementation. Most of the companies run formal Safety training programs where all safety related measures are explained and formally practiced. There are regular refresher courses to further reinforce the concept of Safety.

- Ensure That all employees are trained and carry up to date knowledge on safety procedures
- Employee should be educated about the consequences which originate by following unsafe work practices
- Any employee not following Safety procedures should be strongly dealt including terminating services if required.
- All staff members should be encouraged to be constantly aware of what's around them and to communicate where they are to ensure the avoidance of collision accidents.
- Companies may implement incentives for zero-accidents and zero Near-misses.

6.1.3 Inspection of Work Area

A Warehouse is an active place and its fast-paced nature often leads to injuries. The safety management program should ensure safety of the employees at all times.

The warehouse must continually inspect all areas of the warehouse, identify unsafe operating conditions and properly correct them for safe operation. Tools and equipment should be checked, cleaned and repaired regularly, and damaged or worn tools should not be used.

- The stored materials must not block corridors, stairs, exits, fire extinguishers, emergency wells, emergency showers or first aid stations. All storage areas must be clearly marked.
- Check the fire hoses and fire extinguishers regularly. Remove all obstacles and make these articles available immediately. Only personnel trained in appropriate firefighting methods should handle this equipment.
- Ensure that approved containers are used to store flammable, combustible, toxic and other hazardous materials in designated areas.
- Make sure that all power cables are disconnected by holding the connector and pulling it gently. Never pull on the rope. If the power cord is broken or the cables are exposed, take it out of service.
- Warehouse should not store highly combustible chemicals in a warehouse. There should be a separate location for it.
- Inspect the dock area daily to ensure that fire extinguishers are not blocked or damaged.
- Check the conveyor belts regularly to ensure that they are not damaged and in a safe condition.
- Check the sprinkler systems every month and conduct flow and alarm testing. Document inspections.
- If pulleys or hoists are used lift heavy material, inspect pulley and hoisting slings. Ensure that hook latches and appropriate PPE are available.
- Inspect all ladders on weekly basis for any damage. All types of ladders, whether wooden, metal, or fiberglass, should be checked frequently for possible defects resulting from prolonged wear and necessary repairs and/or replacements must be made.



Continuous Inspection



Fig 6.1.8 Inspection of Work area and Equipment

General unsafe working environment

- Slip or trip of the employee caused by spillages or wet floors.
- Uncovered power cords or hoses.
- Working overtime, much beyond scheduled hours can also cause accident due to fatigue.
- Lack of proper ventilation.
- Broken windows, damaged doors, defective plumbing and broken floor surfaces can cause accidents and affect work practices.
- No proper usage of PPE by the employees while carrying out warehousing activities. It is Warehouse Data feeder's responsibility to ensure that all the workers are using all the required Personal Protective Equipment (PPE) for safe working.

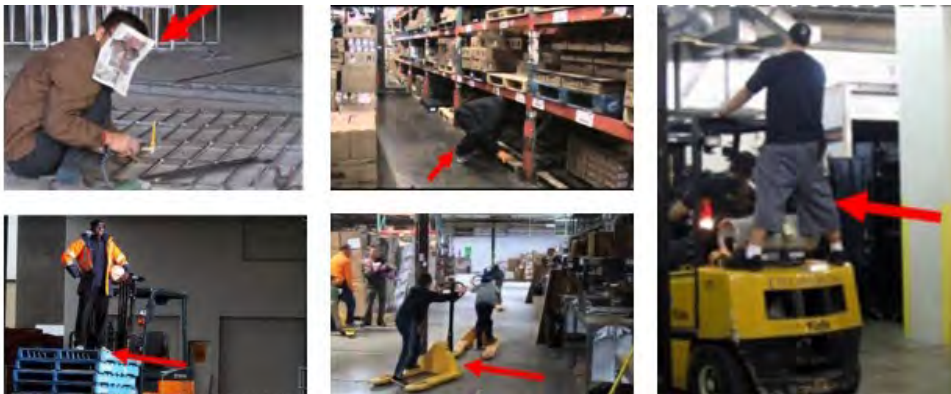


Fig 6.1.9 Unsafe working environment

6.1.4 Transport Coordinator HSS Measures

Safety measures in land transportation starts from placement of right type/size of vehicle at warehouse dock followed by correct loading pattern and lashing & choking of goods in vehicle along with right and effective planning of routes. To understand these points in detail, please follow below explained section:

Vehicle Placement:

Once load planning has been done, transport coordinator works together with transport companies for scheduling and placement of vehicles at right time. Transport coordinator always state transport/vehicle requirement very clearly to transporter like size & capacity of vehicle (example- 10ton/32 Ft) along with type of vehicle (example- open body/closed body/trailer/freezer). Vehicle, itself plays vital role in safety and security of goods and person because right capacity vehicle minimizes vehicle breakdown in-transit and right size along with proper lashing & Choking ensures goods are intact in vehicle and no unwanted forces are exerted during trip while right type of vehicle ensures that there is no change in state of goods while in-transit and no unwanted chemical reaction take place.

Loading Pattern:

Loading pattern is critical in goods safety and ultimately consignment safety (damaged goods may cause mishappening to consignment). So, always ensure loading/transportation instructions are followed strictly while loading goods in vehicle like follow stacking norms, follow “this side up” and other such instructions, do not put “non-mixable goods (reactive materials/goods)” together and other instructions provided.

Route Planning:

While planning route for any shipment, transport coordinator should ensure following:

Safe and standards road network to be followed: to make sure consignment is safe and reaches at destination on time with any mis-happening.

Last stop material should be loaded first: to avoid multiple touch points which ensures goods packaging is intact and risk of damage could be avoided.

Reactive goods must not be kept together: While planning route and loading goods in vehicle, it must be insured that reactive goods are not kept together in interest of consignment (consignment may damage because of explosion) and public safety (contaminated goods may cause severe health issues to consumers).

Notes



UNIT 6.2: Handling Dangerous and Hazardous Goods

Unit Objectives

At the end of this unit, participant will be able to:

1. Discuss the hazards present in handling certain chemicals.
2. Explain the concept of Safety Data Sheet.
3. Explain the various Do's and Don'ts in Handling Hazardous Chemicals.

6.2.1 Handling Procedures for Dangerous Goods

Dangerous and Hazardous materials require special handling and attention whenever they are stored in warehouse. A specific Standard Operating Procedure (SOP) is set for each type of such cargo and strict adherence to it only ensures safety of the employees and the warehouse. Following are some of the key points that should be taken care of when dangerous goods are kept in warehouse. Material Safety Data Sheets (MSDS) and Container Labels will be the basis of reference to conduct the evaluation -

All articles or substances considered as dangerous goods must be identified, classified, and assigned to one of the standard names used in the transport and storage of dangerous goods.

Warehouse must identify the material which cannot be stored together and create separate designated places for them.

Hazardous Material are generally assigned to one or more of the following classifications.

- Flammable Liquid - any liquid having a flash point below 100 degrees Fahrenheit.
- Combustible Liquid - any liquid having a flash point between 100 and 200 degrees Fahrenheit and the liquid produces enough vapors to ignite if exposed to an ignition source.
- Flammable Solid - a substance that can cause a fire through friction, absorption of moisture or spontaneous chemical changes and, when ignited, will burn so vigorously that it creates a hazard.
- Oxidizer - a substance that readily yields oxygen to stimulate the combustion of organic matter.
- Corrosive - a liquid that corrodes steel (SAE 1020) at a rate greater than 0.250 inches at a test temperature of 130 degrees Fahrenheit or has a pH less than 2 or greater than 12.5.
- Organic Peroxide - an organic compound containing the chemical bond, oxygen joined to oxygen.
- Poison - a substance so toxic that it presents a risk to life or health.

- Compressed Gas - a substance in gas or liquid form contained in a vessel under pressure. This includes cylinders, lecture bottles, and aerosol cans. These substances may be flammable, non-flammable, or poisonous.
- Cryogenics - substances that are extremely cold such as liquid nitrogen, liquid helium, and dry ice. These substances may also become asphyxiation hazards if spilled in non-ventilated areas.
- Radioactive - any material having a specific activity greater than 0.002 micro curies per gram (uCi/g).
- Biomedical - tissues, organs, and blood from humans and primates.



Fig 6.2.1 Dangerous goods classification

Safety Data Sheet

Safety data sheet (SDS), material safety data sheet (MSDS) or product safety data sheet (PSDS) is a document that contains information on safety and health protection when working with various substances and products.

- Safety data sheet (formerly known as material safety data sheet) contains information such as the properties of each chemical. Risks to health, health and the environment; Safety measures; and precautions when handling, storing, and transporting the chemical.
- Provides clues for each chemical:
 - o Personal protective equipment (PPE)
 - o first aid procedure
 - o Spill cleaning procedure

All employees must be trained to read, understand and access safety data sheets.

The safety rules and procedures to be followed in a warehouse Hazardous Cargo:

Hazardous material is one which is capable of producing effects like fire, explosion, sudden release of pressure and may cause acute health effects like burns, injuries, convulsions or even organ damage. In spite of several challenges Hazardous material is required in various stages of manufacturing and need to be stored in a warehouse.

Following are some of the suggestions for handling hazardous material in the warehouse:

✓ **Framing the right procedures as per the regulations**

Procedures are created to ensure that the company's direction and requirements are met at the warehouse. There could be procedures around safety, handling of cargo, putaway, picking, packing, labeling etc. Carrying the procedures for all activities ensures that warehouse is operating within the company's norms.

✓ **Training and certifying the staff**

Storing, handling and transporting dangerous goods is a complex process. It requires a very detailed understanding of various procedures and regulations. All the people working in the warehouse must be properly trained and certified in handling Dangerous goods. Without training it is extremely difficult to achieve a detailed understanding of the Regulations.

✓ **Storing goods as per their classification**

Many hazardous goods are incompatible with each other. Their interaction can create serious risks of accidents It is a regulatory requirement to separately store such goods. A god warehouse carries complete knowledge of such goods and ensures that such material is stored at a distance and barriers are created between them

✓ **Proper documentation and Display**

The Warehouse team should be aware all the quantity and location of hazardous goods being stored all the time. In case any untoward incident happens there should be precautionary statements displayed all along instructing people what to do.

Hazardous Material Check List	
1	Product Name
2	Hazard Class
3	PPE required to handle
4	Engineering Controls/ Ventilation
5	Special Handling Procedures
6	Storage Requirements
7	Special Containment
8	Accident Procedures
9	Waste Disposal
10	Special Precautions
11	Decontamination
12	Designated Areas
13	Approved by

Table 6.2.2. Hazardous material checklist

Notes



UNIT 6.3: 5S Concept

Unit Objectives

At the end of this unit, participant will be able to:

1. Discuss the concept of 5S at workplace.
2. Implement 5S at your workplace in the Warehouse.

6.3.1 5S at Workplace

5S is a system for organizing workplaces that allows employee to work efficiently, effectively and safely. This system is designed to put everything-in-its-place and keep the workplace clean so that people can make their job easier without wasting time or risk of injury.

The term 5S comes from five Japanese words:

- Seiri
- Seiton
- Seiso
- Seiketsu
- Shitsuke

In English, these words are often translated to:

- Sort
- Set in Order
- Shine
- Standardize
- Sustain

Each S represents part of a five-step process that can improve the overall function of the operating location.

The 5S methodology offers many benefits, including:

- Low cost
- High quality
- Increased efficiency
- Increase staff satisfaction
- A safer work environment

5S involves assessing all available areas, deleting unnecessary items, organizing things logically, performing cleaning tasks, and maintaining this cycle. Organize, clean, repeat. Let's take a closer look at each part of the 5S.

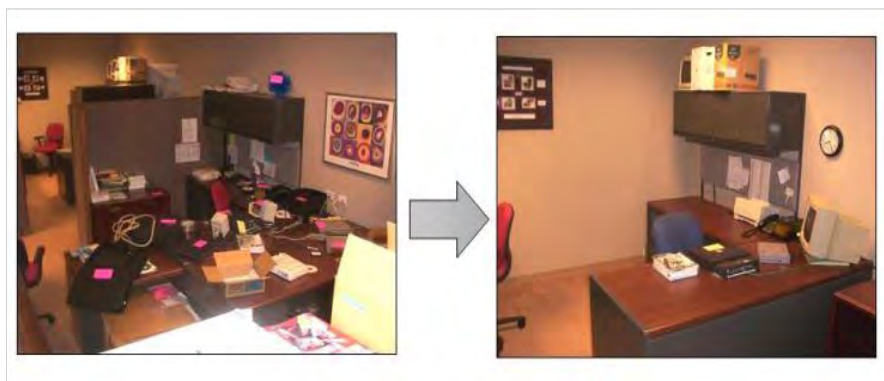


Fig 6.3.1 5S at Workplace

1. **Sorting** - The Act of discarding away all unwanted, unnecessary, and unrelated materials in the warehouse.

- Classify & sort out
- Remove unnecessary items
- Store as per Frequent use/ rare use/ not used at all
- Designate locations for storage
- Monitor progress

Examples: waste strapping Patti and clip, broken pieces of wooden pallets, torn boxes, waste packing material, peeled off BOPP tapes, shrink/stretchable wraps, waste office stationery, waste paper.

2. **Set in Order / Stabilize** - It consists of putting everything in a designated place so that everything can be quickly accessed and quickly returned to the same place.

- Position the items in the warehouse according to their frequency of use.
- Put the frequently used items next to the workplace
- Keep uncommon parts away from the operating location

Examples: GRN, Invoice, STN, POD, Road permit, LOI and Agreement etc. Equipment and Assets like HPT, stackers, forklifts, fresh stocks, DOA stocks, restricted and unrestricted stocks, FEs, dust bin, etc. Electrical wiring and fittings should be in intact conditions.

3. **Shine / Cleaning** - Seiso consists of cleaning up the workplace and giving it a 'shine'.

- Cleaning must be done by everyone in the warehouse, from Data feeder to managers (regarding their workplace)
- Every person should ensure that his surrounding place is clean and tidy.
- It works best if every area of the workplace is assigned to a person or a group for cleaning.

Examples: Office area, Security area, outside premises, loading and unloading dock/bay, shutters, windows and safety grills, operation table and area, toilets, pantry, DG & meter room, cobwebs, dusting of racks and stock boxes, corners and flooring of warehouse, desks, computers, dustbins, etc.

4. **Standardize** - Standardize is the result that exists when the First Three 'S' - Sort, set in Order and Shine Are Properly Maintained.

- Proper symmetry (regularity) should be maintained for labeling, nomenclature (categorization), filing, report names, stock boards, signage's, safety posters, stationery management, packing material, pallet size, white boards, address boards, etc.
- Provide a means for preventing recurrence of errors and minimizing variability.

5.Sustain/Discipline - Sustain means making a habit of properly maintaining correct procedures.

- Self-awareness and discipline are necessary to carry out and support all activities.
- A checklist should be drawn up to monitor any activity under 5S
- Make sure everyone follows the rules and makes it a habit
- Creates a common understanding about 5s
- Training for all Standards development and success monitoring

Notes



UNIT6.4: Managing Breach of Safety, Accidents and Emergency Situations

Unit Objectives



At the end of this unit, participant will be able to:

1. Discuss how to handle emergency situations.
2. Explain what actions to be taken in case of any accident.
3. Discuss what documentation to follow in case of any accident
4. Explain the details on evacuation plan and safe assembly point.

6.4.1 Protocol in case of Emergency Situations

In ideal warehouse should try to prevent accidents from happening as far as possible. Despite all precautions, if accidents still occur, following action needs to be taken.

At the time of incident

- Take control at the scene and try to restore order.
- First aid and emergency calls. Provide immediate assistance to the injured if you can; else call for help. Caring for injured personnel is the top priority.
- Monitor any secondary accidents. This includes banning people who should not be on area. For example, if the spill happened, you don't want other employees to pass by.
- Identify people and conditions on the scene. The people are the witnesses to the event. Have someone else take down their names. If you're alone on scene, at least try to look around and see who's there.
- Keep material evidence. Protect the scene and control access again. You do not want to modify or delete any evidence.

Once the immediate emergency is stabilized, the following measures must be taken:

- Assess how much damage is, how severe it can be, and that you need additional resources to investigate.
- Make proper notifications. Make sure senior management is aware. Also call the affected families, any regulatory agencies you need, and your insurance companies.

Other Actions

- The initial report should be completed and submitted for all assessments within 24 hours of the accident.
- Subsequent reports, including recommended actions, should be completed within 48 hours and 30 days.

Finally

- If an accident occurs, it is best to follow a written procedure and learn about the process from staff and management.

- The learning from the incident and how to prevent it in future should be clearly documented.

Below is the standard protocol to be implemented in case of any emergency situation -

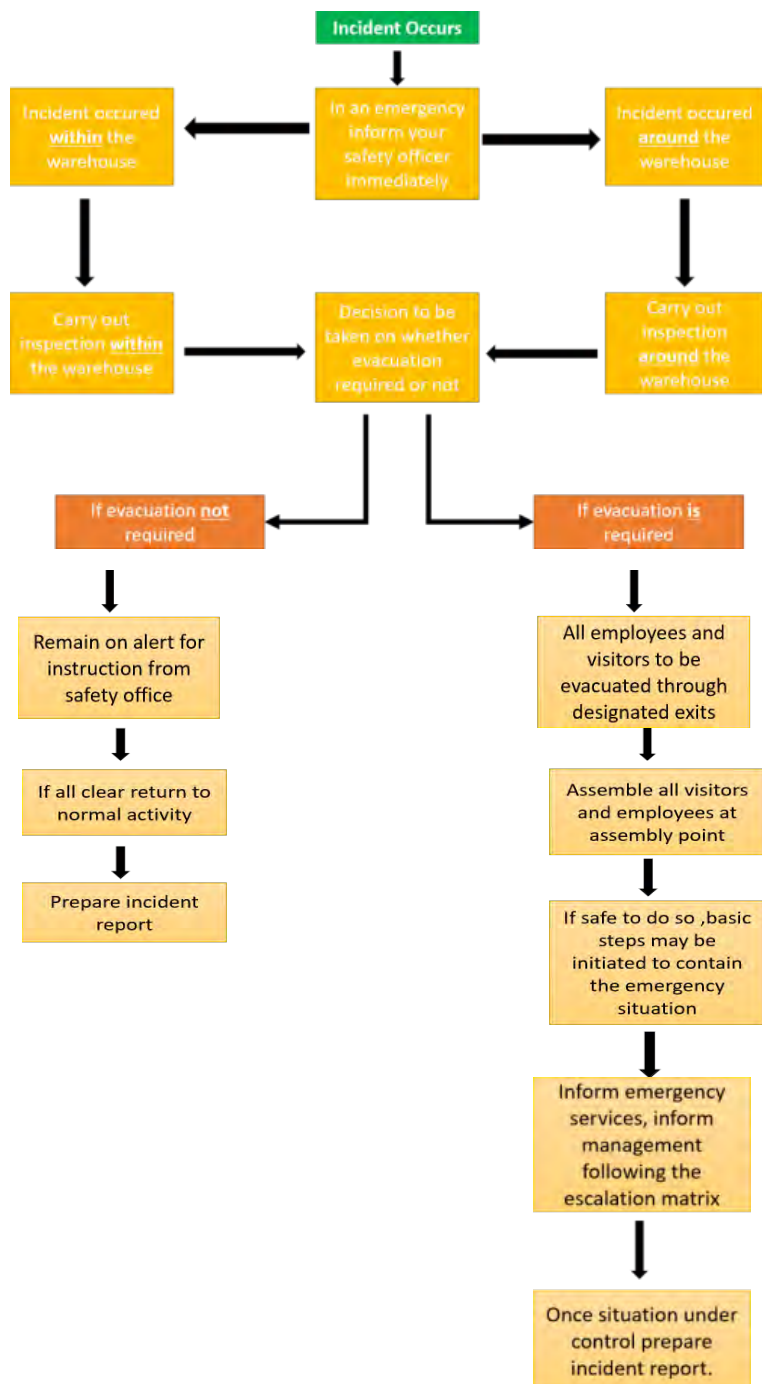


Fig 6.4.1: Flowchart for emergency situation

INCIDENT REPORT FORMAT

To be completed by staff within 12 hours of incident/accident

Incident Date: _____ Incident Time: _____
 Injured Person Name: _____
 Address: _____
 Phone Numbers: _____
 Male/Female: _____ Date of Birth: _____

Details of Incident:

Who was injured person? _____
 Injury Type: _____

Does Injury require Hospital/Physician? Yes: _____ No: _____
 Hospital Name: _____
 Address: _____
 Hospital Phone Numbers: _____
 Injured person/Party Signature/Date: _____ / _____

Important Notes and Instructions:

Prepared By: _____ Date: _____
 Name of Approved By: _____ Signature: _____

Fig 6.4.2 Incident Report Format

Escalation Matrix –

Any incident as per above mentioned criteria must be reported to respective supervisor and site HSSE In-charge. And, in case of unsatisfactory actions against incident, following escalation matrix should be followed.

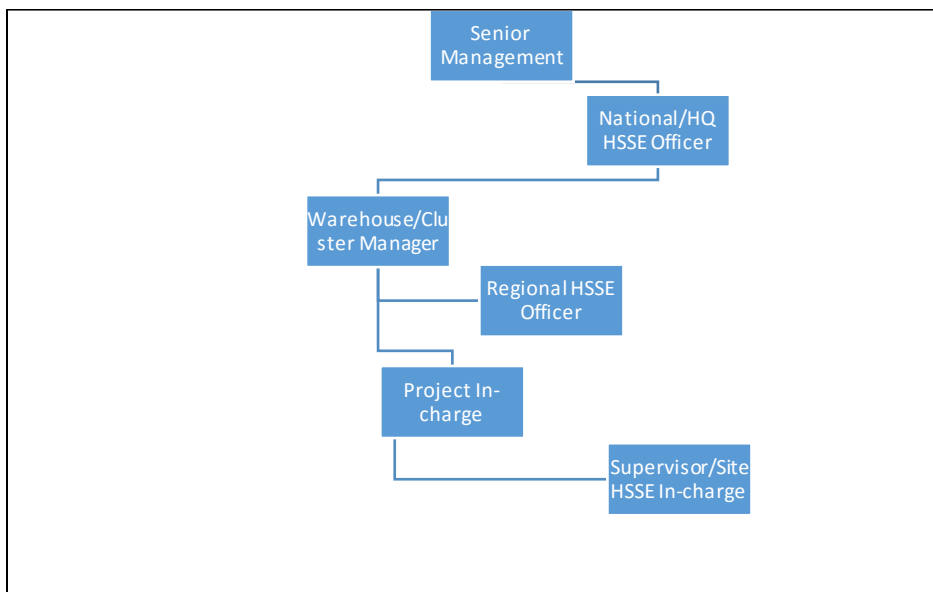


Fig 6.4.3: Escalation Matrix

Managing Deviations in Health, Safety and Security -

Warehousing with its whole range of activities can result in various hazards and risks. An effective Safety and Health management system tries to assess every possible safety risk and tries to put in measures to prevent them. By doing this the management is trying to protect its most valuable asset, employees, as well as other members of the public from harm. Safety measures not only protect premises, goods, equipment but the reputation too.

- There should be a regular inspection with regards to safety and security of the warehouse.
- A periodic checklist should be asked to fill in by the employees with regards to following the safety procedures and their personal hygiene.
- Any employee seen violating health and safety norms should be immediately warned. In case if he still does not improve, appropriate actions may be taken.

Tips

- Following healthy and hygienic practices every day will make you feel good mentally and physically.
- Hygiene is two-thirds of health – so good hygiene will help you stay strong and healthy!
- Perform your duty with due-diligence your task is critical in making whole process safe and secure.

Summary

This chapter deals with the health, safety and security norms to be followed within the warehouse and by transport coordinator to avoid any accidents. 5S is clearly explained in this chapter and is a very helpful tool in organizing the warehouse along with safety measure for transport coordinator. Process to be followed while handling hazardous goods is very much important. And it is also critically explained the importance of loading of goods in vehicle and related instructions for safe consignment delivery.

Exercise

Multiple Choice Questions:

- Which of the following is not an activity to maintain fire safety in the warehouse?
 - Banning the entry of any Match boxes and Lighters
 - Building an Emergency Response Team
 - Identify the escape routes
 - Regular Inspection and maintenance of Forklifts
- Assigning every area of the workplace to a person or a group for cleaning is part of which S in the 5S methodology
 - Set in Order
 - Shine
 - Standardize
 - Sort
- Which of the following is not a part of Material Safety Data Sheet?
 - Properties of the Chemical
 - Storage and handling instructions of the Chemical
 - Price of the Chemical
 - Risk to Health of the Chemical
- Which of the following is not a Safety Hazard?
 - Employee working for long hours much beyond the shift hours
 - Employee not being trained on Safety Procedures
 - Safety signs not being displayed in the warehouse
 - Not holding a Sunrise or Sunset Huddle meeting
- To ensure safety of consignment, transport coordinator should?
 - Ensure placement of vehicle with right size, capacity and type
 - Ensure stacking norms and other loading/transportation instructions are followed
 - Ensure proper route planning is done
 - All of above
- Stacking norms stand for?
 - Loading of goods floor
 - Loading of goods using pallet
 - Loading of goods on one-another in vertical direction
 - None of above
- Proper route planning insures?
 - Last stop goods are loaded first
 - Reactive goods are not kept together
 - Safe and standard road/route is followed
 - All of above

Fill in the Blanks:

1. _____ are the single biggest reason for work related injuries across the world.
2. Removing unnecessary items is the part of _____ S in the 5S at the warehouse.
3. _____ in warehouse facilities are formal locations used to recharge Forklifts, BOPT and other Power Equipment.
4. An employee not following safety procedures should be _____.
5. "This side up" sign is used for
6. Keeping reactive goods together may cause.....

Notes 

Scan the QR codes for the related video's



Warehouse health and safety hazards
<https://www.youtube.com/watch?v=kcM9u4heDVk>



5S Workplace organization
<https://youtu.be/QNgPKBcZuwk>









Handling of hazardous chemicals or substances or Chemical safety
<https://youtu.be/e2KV1ateKUQ>







7. Annexure



Annexure – QR Codes

S.No	Chapter No.	Unit No.	Topic Name	URL	Page No.	QR code(s)
1	Chapter 1- Introduction to transport coordinator	UNIT 1.1: Logistics and Supply Chain Management	1.1.1 Supply Chain and Logistics Management	https://youtu.be/bzNAcfFW-8c	25	 Logistics vs supply chain management
2	Chapter 1- Introduction to transport coordinator	UNIT 1.3: Introduction to Land Transportation	1.3.1 Land Transportation Activities	https://youtu.be/SFIDSn5TbAk	25	 Transportation in supply chain management
3	Chapter 1- Introduction to transport coordinator	UNIT 1.5: Equipment used in a Warehouse	Warehouse Handling Equipment	https://youtu.be/sj-8Smf62EU	25	 warehouse handling equipment
4	Chapter 2- Operations Planning	UNIT 2.1: Operating System Setup & Login	2.1.2 Importance of Confidential Data	https://youtu.be/uwNbiTOM04k	41	 Importance of confidential data
5	Chapter 3 - Consignment Status Monitoring	UNIT 3.2: In-transit Follow up	3.2.1 In-transit Follow up	https://youtu.be/DL0kkqPIILM	50	 In-transit
6	Chapter 4- Consignment Delivery & Reporting	UNIT 4.3: Escalation Matrix	4.3.1 Escalation Matrix	https://youtu.be/ccAZ9nCZSLc	62	 Escalation Matrix

S.No	Chapter No.	Unit No.	Topic Name	URL	Page No.	QR code(s)
7	Chapter 5 - Shift Handover Planning	UNIT 5.1: Pre-dispatch Log	5.1.1 Pre-Dispatch Log	https://youtu.be/7sScZd5X_Fw	71	 Shift handover
8	Chapter 6 - Compliance to Health, Safety and Security Norms	UNIT 6.1 Implementing Safety in the Warehouse	6.1.1 Safety and its Criticality	https://www.youtube.com/watch?v=kcM9u4heDVK	94	 Warehouse health and safety hazards
9	Chapter 6 - Compliance to Health, Safety and Security Norms	UNIT 6.3: 5S Concept	6.3.1 5S at Workplace	https://youtu.be/QNgPKBcZuwk	94	 5S Workplace organisation
10	Chapter 6 - Compliance to Health, Safety and Security Norms	UNIT 6.2: Handling Dangerous and Hazardous Goods	6.2.1 Handling Procedures for Dangerous Goods	https://youtu.be/e2KV1ateKUQ	94	 Handling of hazardous chemicals or substances or Chemical safety



Skill India
कौशल भारत - कुशल भारत



Scan the QR code to access the ebook



Address: No. 480 A, 7th floor Khivraj Complex 2, Anna Salai,
Nandanam, Chennai – 600 035
Email: reena@lsc-india.com
Web: www.lsc-india.com
Phone: 044 4851 4605

Price:

