

Internship Report



**BRITISH AMERICAN
TOBACCO**



Internship Report
On
“Spare Parts Inventory Management System of British
American Tobacco Bangladesh”

Course Name: Internship

Course Code: BUS 400

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Letter of Transmittal

Date: 30th August 2017

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Subject: Submission of Internship Report on “Spare Parts Inventory Management System of British American Tobacco Bangladesh”.

Dear Sir,

This is my pleasure and a privilege for me to present my internship report on “Spare Parts Inventory Management System of British American Tobacco Bangladesh”. I am delighted that I got the opportunity to do my internship in British American Tobacco Bangladesh. It is also a great honor for me to present my internship report under your supervision. I was to arrange, prepare and submit this report as the complete fulfillment of the course entitled “Internship”.

The objective of this report is to enlighten you about the inventory management of British American Tobacco Bangladesh. I have analyzed as much information as possible and tried to find out about strategy of the firm, why spare parts are so critical, hierarchy of Repair and Renewal Store Department (R&RS) and spares item categorization. I also tried to find out how they use the ERP software and overall improvement of the system.

I sincerely hope that my report will aid you about the Spare Parts Inventory Management System of British American Tobacco Bangladesh.

Sincerely,

A.M. Asif Faisal

Student ID: 12204058



ACKNOWLEDGEMENT

Firstly, I would like to thank almighty Allah for allowing me to submit this internship report with proper health.

Secondly, I wish to offer my sincere gratitude to Dr. Md. Mamun Habib, Associate Professor, BRAC Business School, BRAC University for providing me an opportunity to do my internship report on Spare Parts Inventory Management System of British American Tobacco Bangladesh.

Thirdly, I sincerely thank Nabeela Kauser, Spares Engineer, who was also my Supervisor without her I would have not been able to understand all the processes that are carried out in R&RS Department. I would also like to thank Shayam Arafat, R&RS Officer for sharing his expertise and providing me with guidance and encouragement in carrying out this report. I also wish to express my gratitude to the officials and other staff members of R&RS Department who rendered their help and support.

Finally, I would like to thank BRAC University for providing me with the knowledge to succeed in life and providing a course such as internship, so that we can observe and learn from a real work environment before stepping our foot into the job market.

EXECUTIVE SUMMARY

The objective of the report is to explore and understand the spare parts inventory management system of BAT Bangladesh. Spare parts are defined as parts that are used to replace machine parts which no longer function satisfactorily through wear or breakage. Departments such as Primary Manufacturing Department (PMD), Secondary Manufacturing Department (SMD), Filter Manufacturing Department (FMD), Quality Service Department (QSD) and many others are in constant need of spare parts. Spare parts such as belts and bearings in machines, wear out very quickly and it has to be replaced as quick as possible to keep the machine running. People smoke millions of cigarettes every day and if the production is stopped for a single day due to any machine failure because of unavailability of spares than it will proof to be a huge loss for the company. The job of R&RS Department is to make sure that spares are always in the inventory and also manage the inventory in such a way that it is as less as possible.

BAT Bangladesh is using an Enterprise Resource Planning (ERP) system which is SAP from IBM. This one software has integrated the whole business functions including their spare parts inventory system. This system has included the quantity of more than 15000 stock keeping units, their storage locations, their purchase, issue and inventory holding. All the information regarding every spare part is stored in the software, each having its own unique identification number, and also introduction of new spares is also possible by creating a unique number for it.

BAT has an excellent supply chain system where everything is managed efficiently which is the company's key competitive advantage but there are some recommendations in the end of this report which may proof to be helpful to manage the inventory more effectively and efficiently.

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CHAPTER 1: INTRODUCTION



1.0 The Importance of Supply Chain

Supply chain management is a necessary part of any business and is fundamental to organizational achievement and customer loyalty. In order to sustain in this competitive industry, we require new thoughts, new technology, innovation, better work environment but all this will be of no esteem if appropriate supply chain network is not maintained starting from the manufacturing of the product to the consumers.

1.1 Origin of the Report

Internship is the final course in our BBA program in BRAC University. One has to work under an organization for 3 months and observe the operations and functions carried out in the organization, and thus prepare an Internship report upon his/her learning. The topic of my report is “Spare Parts Inventory Management System of British American Tobacco Bangladesh”, for this I had to observe each individual task every employee in the department carried out in daily basis and at the end attach those tasks to understand the whole inventory management cycle. The topic of the report was chosen with the help of my academic supervisor Dr. Md. Mamun Habib.

1.2 Objective of the Study

The primary objective of this report is to study how inventory is managed, how spare parts in the inventory are ordered, stocked and issued on the other hand keeping the spare inventory as minimum as possible. Finally at the end coming out with recommendations of how to improve further.

1.3 Scope of the Study

The information for the report was collected from the R&RS policy and guidelines, by observing the work of the employees and few from secondary sources.

1.4 Methodology

Methodology defines the approaches taken in order to complete the report . To accomplish the required outcome these two ways were carried out:

Qualitative Analysis: In-depth interview with engineers, team leader, maintenance lead, cell manager, technicians, factory workers and Vendor supervisors were directed to get appropriate knowledge on the Supply Chain at BATB.

Observational Analysis: Observation of the workplace throughout the internship process at BATB.

1.5 Limitations of the Study

There were few limitations that were faced during the completion of this report.

- All the required necessary data could not been gathered due to the confidentiality.
- The supply chain process is huge and could not be properly understood in 3 months time and because of confidentiality detailed information about every aspect could not been gathered.

CHAPTER 2: TOBACCO INDUSTRY OVERVIEW

2.0 Tobacco Industry of Bangladesh

The tobacco business of Bangladesh has a colossal effect over the national GDP of the country. About 1% of our country's GDP is used in consumption of tobacco products making a tremendous market for the contenders of tobacco industry. As these products are both competitive and controversial, so promotion of these items is exceptionally troublesome.

There are numerous tobacco organizations in Bangladesh.

The tobacco industry can be divided into two markets-Biri market and Cigarette market.

2.1 Biri Market

Biri market is the non-filter cigarette market with a very low pricing and it is popular among low earning people. Recent trend has shown that biri market is experiencing decline as it is more harmful than cigarettes which is a favorable sign for the cigarette market. BATB does not operate in this market. The major brand in this market is „Akiz Biri“, product of Dhaka Tobacco Industries. This is by far the most popular Biri in the country.

The main biri manufacturers are:

- ✓ Akij Biri
- ✓ Abul Biri
- ✓ Nasir Biri
- ✓ Karikar Biri
- ✓ Aziz Biri and
- ✓ Hundreds of local biri manufacturers.

2.2 Cigarette Market

Cigarette market is where BATB has all its focus. BATB has over 72% of the total market share. The rest of the market covers 28% of the industry. The market be divided into four segments on the basis of price. They are:

Premium, Medium, Low and Very Low cigarettes.

The main cigarette manufacturers are:



- ✓ British American Tobacco
- ✓ Bangladesh Dhaka Tobacco Industries
- ✓ Abul Khair Tobacco
- ✓ Nasir Tobacco
- ✓ Azizuddin Industries and
- ✓ New Age Tobacco.

Among them British American Tobacco Bangladesh (BATB) is the pioneer and leading multinational cigarette manufacturer.

At the moment, there are two main tobacco industry associations i.e. Bangladesh Cigarette Manufacturers Association (BCMA) and Bangladesh Biri Manufacturers Association (BBMA) representing the industry.

CHAPTER 3: COMPANY OVERVIEW



3.0 BRITISH AMERICAN TOBACCO

The British American Tobacco is one of the world's most well-known global makers of cigarettes. Its products are marketed in practically every nation worldwide and are a predominant pioneer in this focused and quick moving business.

British American Tobacco today is the biggest Tobacco Company in the world. It was the second biggest company few years back however through the recent purchase of U.S. rival Reynolds American Inc RAIN, it effectively climbed its way to the top. The company is situated in London, UK, and it works in more than 55 nations with 85,000 representatives offering more than 300 brands in more than 180 markets around the world. The company started its journey as a joint venture between Imperial Tobacco Company of the UK and the American Tobacco Company of the USA in 1902 and from that point it has broadened its operation in the following countries:

- ✓ América -Pacífico (USA, Japan, South Korea)
- ✓ Asia-Pacific (China, Indo-China, Taiwan, South-East Asia, Australasia)
- ✓ Europe (50 countries including Russia)
- ✓ Latin America (Central & South America, Mexico, Caribbean)
- ✓ Africa (More than 50 countries)
- ✓ MESCA (Middle East, South & Central Asia)
- ✓

British American Tobacco otherwise called BAT, make the cigarettes picked by around one out of eight of the world's one billion adult smokers and are showcase pioneers in more than 55 nations. BAT is consistently among the top 10 companies on the London Stock Exchange. In 2016, BAT sold 665 billion cigarettes, made in 44 industrial facilities in 42 nations. BAT's portfolio incorporates world-famous Global Drive Brands like – Dunhill, Kent, Lucky Strike, Pall Mall and Rothmans – alongside numerous other driving universal brands, such as Vogue, Peter Stuyvesant and State Express 555.

Alongside the traditional tobacco business, BAT is likewise at the front line of creating items that offer buyers possibly less hazardous contrasting options to general cigarettes. They call them Next Generation Products and the portfolio includes Vype, the Vapour Products, and glo, the Tobacco Heating Product.



3.1 BRITISH AMERICAN TOBACCO BANGLADESH (BATB)

British American Tobacco Bangladesh (BATB) Company Limited is the perceived pioneer in Bangladesh cigarette market, with a long established reputation for providing its consumers with reliably amazing brands.

According to the BATB website, BATB was established back in 1910 as Imperial Tobacco Company Ltd. with head office in Calcutta. Initially Imperial Tobacco Company (ITC) launched a branch office at Moulivibazar Dhaka in 1926. Cigarettes were made in Carreras Ltd. Calcutta. Imperial and Carreras merged into a single company in 1943. After the partition of India in 1947, cigarettes were coming freely from Calcutta, but introduction of customs barriers in 1948 between India and Pakistan interrupted the smooth flow of cigarettes from Calcutta to East Pakistan. In March 01, 1949 Pakistan Tobacco Company (PTC) came into existence with the assets and liabilities of ITC Limited held in Pakistan and a head office in Karachi. In 1954 PTC opened its first factory in Fauzdarhat in Chittagong. In 1965, the second factory of Pakistan Tobacco Company went into production in Mohakhali, Dhaka. Thereafter it became Bangladesh Tobacco Company Limited in 1972 immediately after Bangladesh's independence. In 1998, the Company changed its name and identity to British American Tobacco Bangladesh (BAT Bangladesh) aligning the corporate identity with other operating companies in the British American Tobacco Group.

BATB makes high quality tobacco products for the differing inclinations of consumers, spreading the business 'from crop to consumer' and are focused on implanting the standards of corporate social obligation around the world.

3.2 BATB Shareholders

BATB were among the first companies to be recorded on the Dhaka and Chittagong Stock Exchanges and as of now positioned among the top 10 companies in terms of market capitalization. British American Tobacco Group holds 72.91% of BATB's shares; 12.86% is owned by Investment Corporation of Bangladesh; Shadharan Bima Corporation, Bangladesh Development Bank Limited, Government of People's Republic of Bangladesh and a further 14.23% is owned by different shareholders.

3.3 BATB Contributions towards Bangladesh

BATB continues to contribute around 66% of the income derived from the cigarette industry, wherein 2013-14 financial year BAT Bangladesh contributed over BDT 8,436 crore as duties to the National Exchequer. The organization will keep on supporting Government proposition that build up a manageable level of duty commitment to the national exchequer while guaranteeing a practical development for the business.

3.4 BRANDS IN BANGLADESH

British American Tobacco produces some of their brands for Bangladeshi Market. The Brands are:

- ✓ Benson & Hedges
- ✓ John Player Gold Leaf
- ✓ Pall Mall
- ✓ Capstan
- ✓ Star
- ✓ Derby
- ✓ Hollywood and
- ✓ Pilot

Benson & Hedges



Picture: A pack of B&H Regular

Benson & Hedges cigarettes were at first made for the Prince of Wales back in 1873. British

American Tobacco obtained the privileges of the brand in a large number of overseas markets in 1956. Today, British American Tobacco Group companies offer Benson & Hedges in more than 80 nations. In Bangladesh Benson and Hedges was launched in 1997 and it is ruling the premium segment of cigarettes in Bangladesh. B&H has a value of TK 11/ stick and can be found in three different flavors: Special Filters, Blue Gold, and Switch.

John Player Gold Leaf



Picture: A pack of John player Gold Leaf

John Player Gold Leaf is one of the established brands of BATB in Bangladesh that was launched in 1980 and one of the highest selling brands in the Medium Segment in the market. JPGL is mostly found in the Saudi Arabia, Pakistan and Sri Lanka. JPGL has a value of TK 9/ Stick.

Pall Mall and Capstan



Pall Mall is an International Brand operating in more than 60 countries in the world. Pall Mall is the First Global Drive Brand launched in Bangladesh in March 2006. Even though Pall Mall is a premium brand worldwide but it is under Medium Segment in Bangladesh and it can be found in three flavors, Full Flavor, Lights, and Menthol. Pall Mall and Capstan are positioned in the

Aspirational Premium segment.

Pilot, Hollywood and Derby

We have three brands in Low Segment – Derby, Pilot & Hollywood. Derby was launched in 2013 and is the biggest brand among the three, offering taste differentiation to the consumers through its two variants. On the other hand, Pilot offers true and authentic smoke to the consumers. Pilot was launched in 2009 and at present it is the fastest growing brand in the industry. The third brand is Hollywood which was launched in 2011.

Star



Picture: A pack of Star Regular

Star is a local Brand launched 40 years ago and it still generates leading sales in terms of volume. Star is an economy product and it operates in the Low Segment, and following Star, in 2012, Star Next was launched. Star and Star Next occupies the leadership in the low segment outside Dhaka, where it has tremendous popularity among smokers. BATB launches colorful new packets for Star during spring season in Bangladesh to represents true colors of Bangladesh.

CHAPTER 4: ORGANIZATIONAL STRUCTURE

4.0 Structure of the Organization

The organizational structure of BAT Bangladesh is overall quite decentralized with a fair level of delegation. That being said, the parent company however still retains the authority for control in terms of financial aspects together with the strategic direction of the company.

The following functional areas are those in which BAT Bangladesh operates:

- Operations (Production and Supply Chain)
- Leaf
- Finance
- Human resource
- Marketing (Brand and Trade Marketing- Demand Chain)
- Legal & Company Secretarial
- Information Technology
- Corporate & Regulatory Affairs (CORA)

The "Board of Directors" and Executives are responsible for administering and overseeing the overall functioning of the company. 10 members make up the board that is headed by a chairman. The Chief Executive of British American Tobacco Bangladesh is known as the "Managing Director". Usually he will be selected and appointed by "BAT Holdings". The Managing Director of the company is the chairman of the Executive Committee. This committee includes the respective heads of all the functional departments in BAT Bangladesh.

In BAT Bangladesh, the organizational culture is such that it respects the various and diverse views of all employees. The participative system ensures that employees feel they really belong there. This is just another one of those practices that make the Human Resource of BAT Bangladesh one of the best in the nation.

Apart from letting employees in all levels of the hierarchy participate, the top level management also makes sure all decisions are well communicated and taken feedback on. Decisions are made

after discussing all concerns and problems with the linked authority and the grass root level as well. All feedbacks received or opinions collected from each related workforce level are considered before execution of the decision related plan. Since all the plans and decisions are shared with all employees, the aligned objectives of all members aids in achievement of the company vision of being the best tobacco company.

4.1 Operations (Production and Supply chain)

Since British American Tobacco Bangladesh is a manufacturing company, Supply Chain department is the largest as well as the most crucial department in terms of its operations. The Production and Supply Chain department includes all activities ranging from leaf-production to delivery of the final products to the end users or consumers.

Supply chain management is simply the managing of the flow of goods to ensure efficiency, effectiveness, reliability and streamlined functioning of an organization's mechanisms in the regard discussed above. The progress, shifting and storage of raw materials, work-in-process inventory, and finished goods from the point of origin to point of consumption is what it is comprised of. Interconnected or interlinked networks, channels and node businesses are involved in the provision of products and services required by end customers in a supply chain. (Harland)

From the perspective of internal activities of the organization, its supply chain points out a wide range of functional areas through which the firm does all its value adding activities. These embrace Supply Chain Management-related behavior, for instance inbound and outbound transportation, warehousing, inventory control and the like. On the other hand, activities of sourcing, procurement, and supply management fall under the supply-chain category well. Forecasting, production planning and scheduling, order processing, and customer service also comprise the entire mechanism as a whole. Significantly, it is also responsible for symbolizing the information systems that are required in these activities' supervision.



Without question the supply chain system of British American Tobacco is well structured and quite commendable. It contains the following aspects listed below.

- Primary production
- Secondary Production
- Filter Manufacturing Department
- Tech Support
- Maintenance
- Logistic
- Procurement
- Utilities
- R&RS
- Quality Testing etc.

The Main functions of all these sub-departments are:-

- Inventory Management
- Distribution Management
- Channel Management
- Payment Management
- Financial Management
- Supplier Management
- Transportation Management and
- Customer Service Management

CHAPTER 5: REPAIR AND RENEWAL STORE (R&RS)

5.0 REPAIR AND RENEWABLE STORE (R&RS)

Repair and Renewable store has a very important function in the manufacturing process. The stores significant goal is to provide spare machine parts at whatever point there is a machine breakdown or probability of spare parts wearing off thus helping the manufacturing process and managing the spares in a cost-effective approach. R&RS store serves for the manufacturing process and the machine maintenance process.

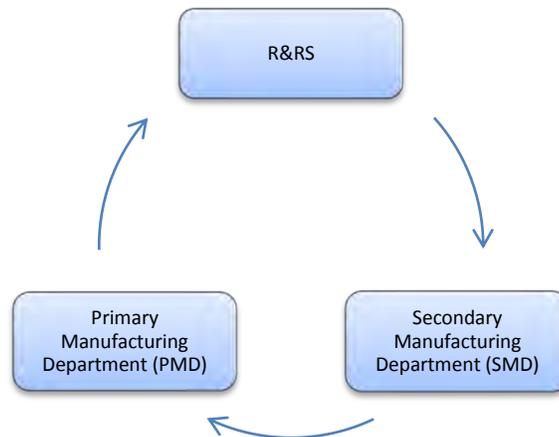


Fig: R&RS role in Production Engineering

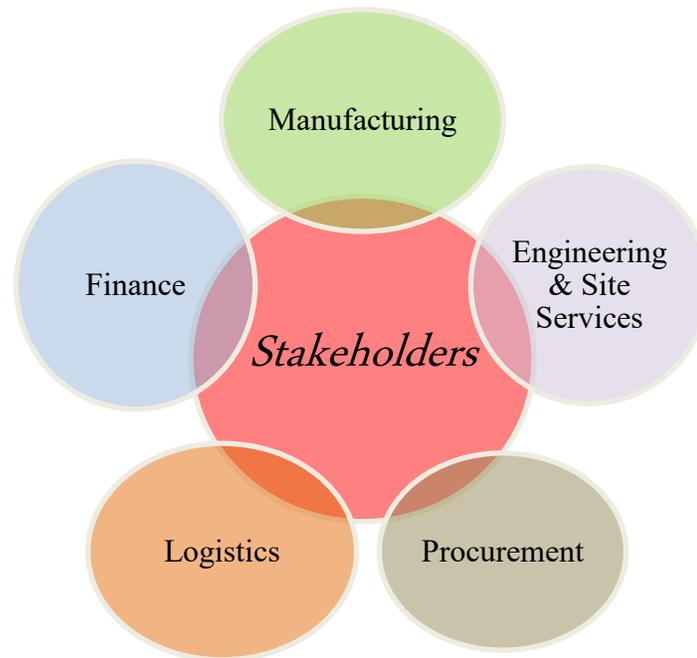
5.1 MISSION OF R&RS

The mission of R&RS is to guarantee the required spares are constantly accessible and if not bring the spares within short time to support the production process, manage the storage of spares proficiently so it can be effortlessly found, limit the stock holding and buying the spares from suppliers in a cost effective way ensuring quality.



5.2 R&RS Stakeholders

The R&RS Department have to work with the following stakeholders in order to complete their day to day activities. The manufacturing department and engineering and site services are in constant need of spares, the Procurement department decides the vendors from whom the spares will be purchased, the Finance department ensures the vendors are getting the money for the spares and the Logistics department ensures the port clearance of the spares at the customs.



5.3 WHAT ARE SPARE PARTS?

The machines that are responsible for production are working 24/7, so it is obvious that some parts of the machine will wear out very quickly such as belts and bearings etc. The machine parts which no longer function are then replaced by spare parts taken from the inventory. R&RS contain spare parts and sub assembly groups for

- Production equipment in
 - ✓ Primary Manufacturing Department
 - ✓ Secondary Manufacturing Department

- ✓ Filter Manufacturing Department
- ✓ Quality Service Department
- ✓ Utility equipment
- Factory supply: boiler house, heating, air-conditioning
- Warehouse supplies
- the BAT manufacturing plant maintenance process (corrective, preventive, predictive and sub-assembly maintenance) or
- production process when the items are worn and the equipment cannot produce the required quality or efficiency

Operating Supplies: R&RS Department alongside spare parts, also maintains operating supplies which are consumable products used to assist production during the manufacturing process, workshop service, and R&D. Categories of operating supplies are:

- Chemical gases for production (laser gas)
- Fuel: for production machines, vehicles
- Laboratory equipment: (such as Supplies and fixtures, Chemicals gases, pipette, test tubes)
- Workshop tools and supplies (such as lubricants, grease, hammer, screwdriver, driller, milling cutter, abrasive disk, jaw chuck)

In the computerized SAP system, spare parts are expressed as **ZERS** and operating supplies are expressed as **ZHIB**.

5.4 R&RS VENDORS

British American Tobacco Bangladesh buys there spare parts from both local and International vendors. The lists of vendors are as follows,

Local Vendors:

- S.S. Corporation
- Blue Ribbon
- AMC

- SAC
- Chemie Int.
- S. Alam
- Sikder Eng.
- Asha Eng.
- Mala Traders
- MJL Bangladesh
- Micro Tools
- Trident Agency
- Bangla CAT and
- Moly Traders

International Vendors:

- Decoufle
- Hauni
- GD
- Focke
- CME
- MFE
- ITM
- Dickinson
- Wellman Robey
- Griffin Cardwell

CHAPTER 6: SPARES INVENTORY MANAGEMENT THROUGH 5S

6.0 What is 5S?

5S is a systematic and precise approach enabling groups to arrange their working environment in the most secure and most productive way. Originated in Japan the 5S incorporates five Japanese words: seiri, seiton, seiso, seiketsu, and shitsuke. These five words have been translated into English and they all start with the letter "S".

The 5S's are:

1. Sort (Seiri): Sort out & separate what is required and not required in the area.
2. Set in Order (Seiton): Arrange items that are needed so that they are ready & easy to use. Clearly identify locations for all items so that anyone can find them & return them once the task is completed.
3. Shine (Seiso): Clean the working environment & equipment on a regular basis in order to maintain standards & identify defects.
4. Standardize (Seiketsu): Define procedures and standardize
5. Sustain (Shitsuke): Keep to the guidelines to maintain the standard & keep on improving each day.

6.1 Sort:

Each and every spare part is recorded in the SAP system with the help of material number, MPN number and sorted by material type and material group.

6.1.1 Part No.

When the original spare part manufacturer produces the spare part, the part has a unique number and that number is called the part number e.g. 0PE236.

6.1.2 Material No.

BAT uses an Enterprise Resource Planning (ERP) framework which is SAP developed by IBM. In SAP every material is characterized by a 8 series material number e.g. 81123496, which is



made using the materials part number. Each spare part has only one material number inattentive of the machine that part is used or vendor from whom it is ordered.

6.1.3 Manufacturer part no. (MPN)

The MPN number is made to comprehend which manufacturing company originally created the spare material. So the MPN is made by consolidating the Part number, Material number and the manufacturing company or vendor number. The MPN is utilized to make Purchase orders when ordering for spare parts.

6.1.4 Material Type

For inventory items related to production machines just the accompanying two SAP material sorts can be utilized as a part of SAP:

- ZERS – for spare parts
- ZHIB – for operating supplies

6.1.5 Material Group

The material groups are basically used for Purchasing records, and are defined in SAP for the appropriate material types.

- ZERS: ZSR Total 34 groups are available in SAP for ZERS type
- ZHIB: ZEB 120000 Chemicals and gases (resins, gases, chemicals)
- ZEB 410000 Laboratory equipment and supplies (chemical gases, pipette, test tubes)
- ZEB 461800 Safety equipment (safety glasses, shoes, uniforms)
- ZEB 231700 Workshop tools and supplies (lubricants, greases, hammer, screwdriver, drill, miller, cutter, abrasive disk, jaw chuck)

6.2 Set in Order

Each spare parts are noted down in the system, labeled and stored in separate boxes called bins so that each item can be found easily. Spare parts are placed in storage locations and are classified upon the demand or usage of those parts.

6.2.1 Inventory storage Locations

In SAP the inventory is stored according to spare parts, motors and sub-assemblies.

A102 Active warehouse where all inventory items are placed (binning system)

R101 Transit for internal repair of motors & sub-assemblies (these are stored inside the factory in inward kanban)

R1V1 Transit for external repair of motors & sub-assemblies (these are stored outside the factory in outward kanban).

For spares, only A102 is the appropriate location. Rest two are mainly applicable for sub-assembly and motors

6.2.2 Stock & Non-stock items

Stock items are those for which an inventory is maintained in R&RS. Each of the items has its material record stored in the SAP. Augmentations to those spare parts like safety level, change of bin location and change in prices can be done. Safety level of a stock item is usually defined during its material creation. Nonetheless it can be changed based on consumption rate or machine replacement.

Non-stock items are those for which no inventory is maintained in R&RS. These are items purchased on once off basis for a rare need and are not bought on standard premise. These items are specifically charged to the pertinent machine head and are issued as soon as received in R&RS and are not kept in the store's inventory.

For the purchase of any non-stock item, a Spares Indent Form has to be filled up by the requester with all required data and has to be sent to R&RS after getting approval from significant head of

department. All indent forms must be signed by the accompanying individual to get approval for the purchase of that item.

- Head of Department (i.e. SMD/PMD Maintenance Coordinator/ Utility Manager/ Quality Manager)
- R&RS Coordinator
- Production Engineering Manager

6.2.3 Stock Classification Code

In view of utilization spares that are in stock are arranged into the accompanying 5 classes.

A – fast moving parts, top **80%** of the annual usage value

B – medium fast moving parts, next **15%** of the annual usage value

C – slow moving parts, final **5%** of the annual usage value

D – parts with no movement in the previous year or past 12 month, but issued between the 13 and 24 month

E – all other parts which have not moved in the past 24 months or longer

The “E” stock items therefore include items that have had no consumption to date or parts with consumption in the past, but no consumption in the last 24 months.

Therefore, a newly created material master will be recorded as “E” as long the item is not used.

6.2.4 Part Status of ‘E’ Category Items

The “E” category items are then further divided into 3 types S, Z or N.

The meaning of S, Z & N are as follows.

S – Strategic items categorized as S are inactive however are being kept in the warehouse in case of an equipment failure or breakdown which would have significant effect on production output or other business deliveries. These items are generally subject to long lead times and are normally high value items.

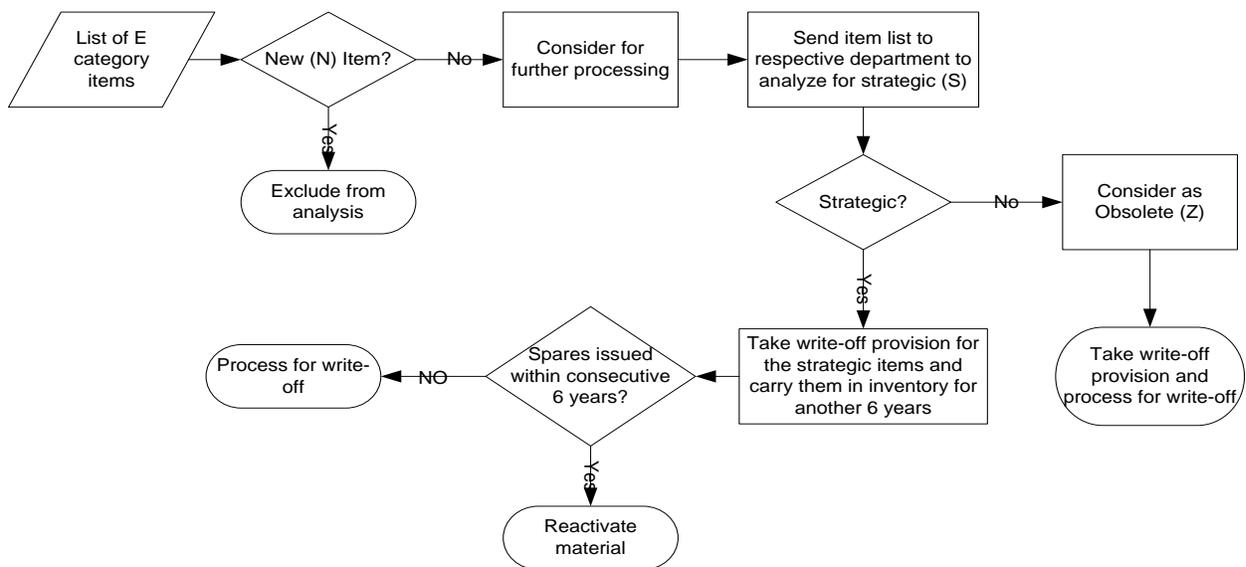
Z – Obsolete spare parts which are unusable in a factory due to non-existing machine or format or the item can be excluded from the inventory because it was not being used in past years.

N – An item which is purchased new to stock with a newly created material master. This item will remain N until the first usage or until the point it achieves 24 months of no use.

6.2.5 Treatment of Stock Classification

The ABCDE report is scheduled to run quarterly to refresh the Stock Classification Code. The list of „E“ category items will be sent to Maintenance team for examination once in a year. Items with „E“ category can be treated by the following rules.

- Items which have been bought recently and have not achieved 24 months of no utilization ought to be classified as "N"
- For items having no usage in last 24 months, criticality of the spare has to be analysed first to check if it needs to be classified as Strategic. Such items should be marked in the list as „S“ to declare them Insurance/ Strategic items with appropriate justification.
- Items which are not strategic will in the end be considered as „Z“ classification and be considered for further treatment.
- Items classified as „Z“ classification will be written-off from the system after having required approval from Factory Finance.

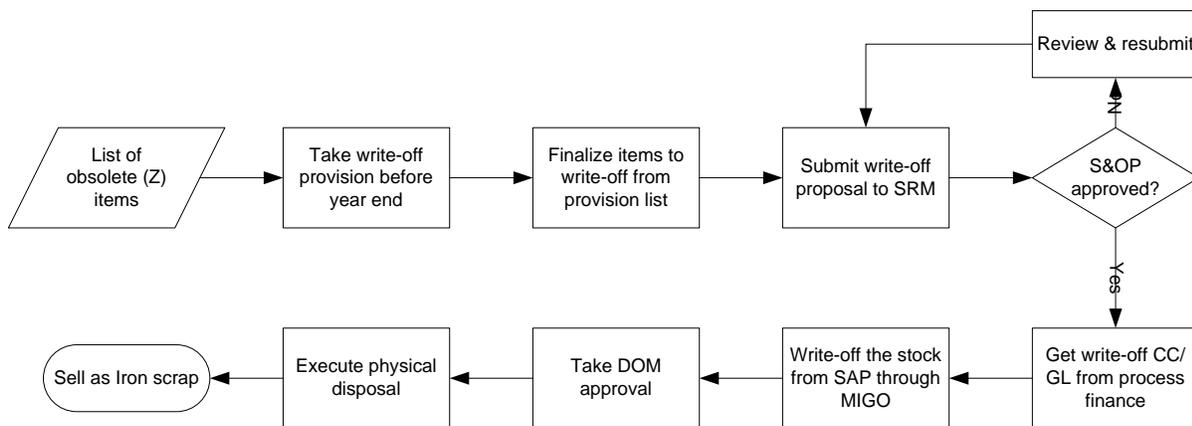


6.3 Shine

The Unwanted materials then goes through the spares write off process and later disposed as scrap to 3rd party vendors.

6.3.1 Spares Write-off Process

After the “Z” class report is created, this report is confirmed by the R&RS and the Production Engineering Department. After confirmation that these items were not used from the regular stock spares it will be transferred to machinery store to keep for another 6 years and the safety level of the items will be made 'zero'. There will be a quarterly audit of any written-off spares been used again on the off chance that it occurred than these spares are composed back to the system for future use. The safety level of the specified items is changed to its original safety level to get them counted in MRP. Spares those will be unused for 6 years after write-off and thus will be unused for 8 consecutive years will be considered for Scrap. There will be an yearly audit of such items which will be prepared for scrap.



6.3.2 Scrap Disposal Procedure

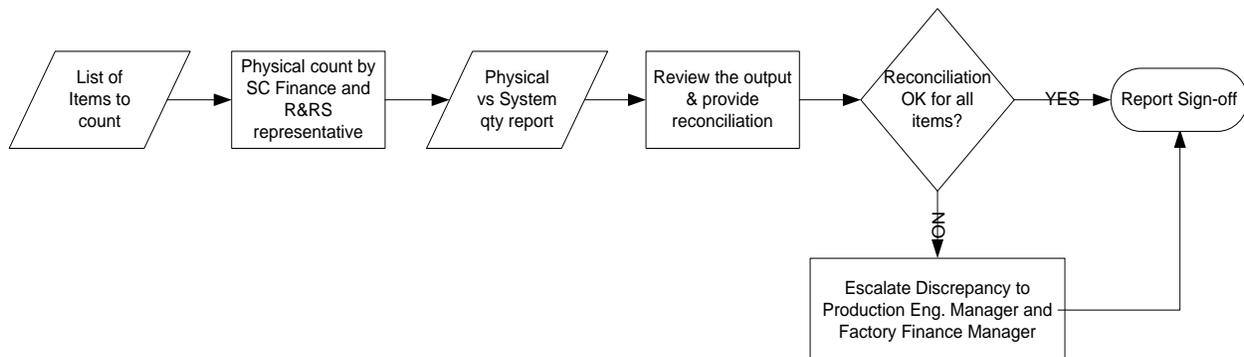
Being unused for 8 consecutive years spares are declared as Scrap. A scrap list is made and a Destruction of Fixed Assets form is issued, then the spares are being scrapped by a third party vendor. Then these scraps are sold as iron scrap to a third party vendor.

6.4 Standardize

6.4.1 Monthly Cycle Count

A monthly stock count will be carried out after each month end facilitated by Factory Finance representative and R&RS representative.

Process Map

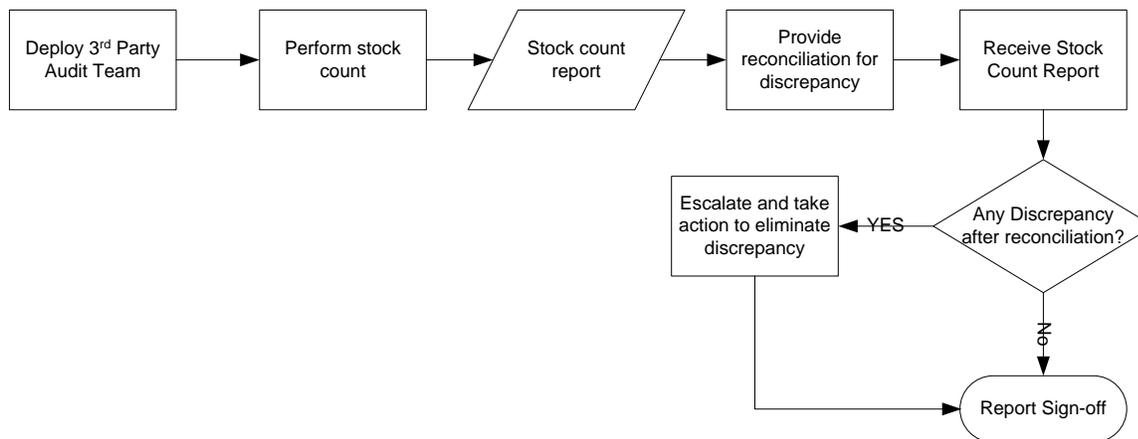


Supply Chain (SC) Finance will prepare the list of spares to count. SC Finance representative will go to R&RS with the list to perform the physical count of the listed items. One R&RS representative will be present during the count to avoid any error while counting. After the physical count, finance representative will send the output of system vs. physical quantity to R&RS Coordinator for review. R&RS will review the result and will provide reconciliation for the items having difference in SAP and actual quantity. Any discrepancy existing after the reconciliation will be reported to the Production Engineering Manager and Factory Finance Manager. A hard copy of the monthly cycle count results will be signed by the Production Engineering Manager and Head of Total SC Finance

6.4.2 Yearly Cycle Count

Cycle count of 100% stock spares should be carried out once in every year facilitated by a 3rd party audit team and monitored by R&RS and SC Finance.

Process Map



SC Finance will deploy a 3rd party audit team for the yearly cycle count. Audit team will perform the cycle count and find out differences between SAP and actual stock quantity. Audit team will inform R&RS Coordinator the differences found to verify. R&RS assistant will verify the findings and provide reconciliation. Upon receiving reconciliation, audit team will submit their report. Any discrepancy found in the audit report will be processed further to eliminate the discrepancy and action plans will be taken to avoid future discrepancy. Upon finalizing action plans on audit outcome report will be signed-off by Production Engineering Manager and Head of Total SC Finance.

6.5 Sustain

6.5.1 Nil Stock Report

Nil stock means that a spare part has its safety level defined but it is not yet ordered. R&RS Coordinator will send a nil stock report by category to all the user departments to be checked for any critical spare. Based on the feedback from user, R&RS coordinator will arrange for urgent purchase of the critical spares to eliminate possible risk of stock out situation.

6.5.2 R&RS Stock Report (Monthly Report)

Each month end R&RS assistant will submit the stock report to R&RS Coordinator which will include information on:

- Month End Inventory Value
- Duration Days
- Total Issue of the Month
- Total Goods Received of the Month
- Savings

R&RS Coordinator will check the report and confirm the inventory value with Factory Finance. After getting confirmation report will be signed by R&RS Assistant and R&RS Coordinator. The hard copy will be filed for record keeping and soft copy will be saved in R&RS folder. These values will further be shared as R&RS update in dashboard.

6.5.3 Inventory Forecast Report (Quarterly Reporting)

Forecast on possible inventory addition and reduction for the year to be shared with Factory Finance each quarter. The analysis will be based on possible technology/machine introduction on production floor, possible write-off from 2 year nil usage, yearly stock review etc.

6.5.4 Local Vendor Spend Performance (Quarterly Reporting)

A quarterly update on spend value for each local vendor to be shared with Procurement to be complied with local procurement policy. Spend data to be provided vendor wise and item wise.

6.5.5 Stock Review Report (Yearly Report)

R&RS Manger will send a report of all stock spares to the user departments to review the safety level. This report will consist all information required for the review i.e. manufacturer part no,



machine type, vendor, annual consumption of last 2 years, avg. lead time to procure.

6.5.6 2 Year Nil Usage Report (Yearly Report)

A report of the spares which have no movement (both In & Out) in last 2 year will be listed and the report will sent to respective departments to check for possible write-off. Departments will review the list and send their feedback to R&RS. R&RS coordinator will then summarize the report and send to Factory Finance for write-off provision after getting approval from Production Engineering Manager. The summarized report has to be sent to Finance by October end.

6.5.7 R&RS KEY PERFORMANCE INDICATORS

Inventory Value

At any given point of time, R&RS inventory is the total value of spares kept in stock. For reporting purpose, R&RS inventory is reported as total inventory value minus the write-off provision provided by Finance.

Duration (Days)

Duration measures the amount of R&RS stock held in relation to actual consumption.

$$\text{Duration (Days)} = \frac{\text{Spares Stock Value (BDT)}}{\text{Last 12 months Consumption Value (BDT)/365}}$$

Service Level

R&RS service level gives a measure of how much stock spares are getting provided as per user requirement. For any store ideal service level should be 100%

$$\text{Service Level} = \left(1 - \frac{\text{Total Spares that could not be provided due to Nil Stock}}{\text{Total Requisition of Spares Received in a Month}} \right) * 100\%$$

R&RS Savings

Savings can be generated through purchase from Spares Finder and Webshop, Alternate sourcing of Commercial items like belt and bearing.

CHAPTER 7: SPARES PURCHASE, ORDER, RECEIPT, PAYMENT AND ISSUE PROCEDURE

7.1 Spares Purchase

7.1.1 Purchase Policy

There are three types of purchase executed by R&RS.

Direct Purchase from OEM through LC

Direct purchase from Original Equipment Manufacturer (OEM) will be followed for all spares except for the commercial items and for locally manufactured spares for which no OEM solution is available (i.e. technology is obsolete at OEM end, machine or some of its parts were locally modified and OEM cannot provide spares for those areas).

Purchase of OEM Spares through 3rd Party

Purchase of OEM spares through 3rd party who is the authorised agent of concerned OEM, can be approached for the following reasons:

- ✓ Spares of Urgent requirement and to be used as direct issue item
- ✓ Urgent requirement of stock spares for nil stock situation
- ✓ Direct issue items of small amount for which L/C is not feasible
- ✓ Fast moving spares for which material is managed by the 3rd party because of the criticality and fast moving nature of the spares.

Purchase of Commercial/ Local Items

Commercial items (i.e. Bearing, Belt, Pneumatic valves, Breaker, Switch, Fuse etc.) will be purchased locally through the agent of the item manufacturer.

In case of the purchase of any local item as a stock spare, material has to be created through Mater Data Governance with an MPN against the local vendor.

If any imported item requires local fabrication because OEM part was not available during breakdown, a parallel order to OEM for the imported part will have to be triggered and the local part will be replaced by the original one once the imported part arrives in next available opportunity.

7.2 Ordering Process

7.2.1 Order of Stock and Non-stock Spares

Stock Spares

Order of Stock spares will be triggered by MRP run. R&RS assistant will run MRP based on source and requirement. MRP run frequency:

- ✓ Local Spares: Once a week
- ✓ Imported Spares: Fortnightly

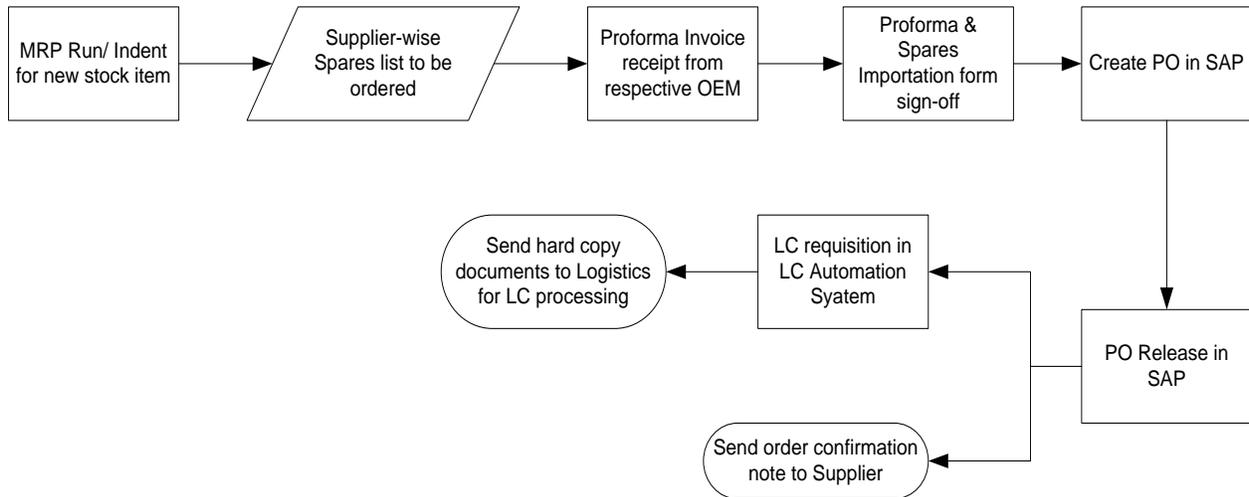
After the MRP run in SAP, MRP recommended Purchase order is analysed against consumption trend of the parts and the order is placed accordingly.

Non-Stock Spares

For any non-stock spares, order will follow Spares Indent process. Depending on the requirement and urgency, order will be triggered on normal or urgent mode.

7.2.2 Order of OEM Spares to Global Vendor

Process Map

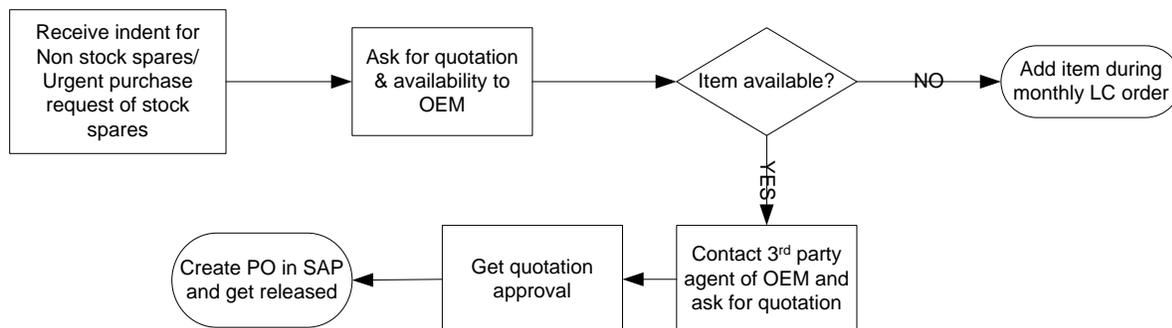


Step	Action	Responsibility
1	R&RS assistant will run the MRP, finalize order requirement and prepare supplier-wise order list. Any new spare request came through Indent for stock will also be included in the list	R&RS Assistant R&RS Coordinator
2	Order requirement lists will be sent to respective vendor for Proforma Invoice.	R&RS Assistant
3	Upon receiving, R&RS Assistant will send the 'Proforma Invoice' and 'Approval Form for Importation of Spare Parts' to R&RS Coordinator & Production Eng. Manager for approval	R&RS Assistant
4	R&RS Coordinator will approve the Proforma and send the 'Approval Form for Importation of Spare Parts' to Production Eng. Manager for final approval.	R&RS Coordinator
5	After receiving approval from Production Eng. Manager, Purchase Order (PO) will be created in SAP	R&RS Assistant
6	PO will go through the SAP Release Strategy based on total value and will get approval from respective approver	PO Approvers

7	After PO being approved & released, order confirmation note/PO copy will be sent to vendor with PO number. R&RS Coordinator will be in copy of all order related communications. No manual sign-off is required in PO hard copy.	R&RS Assistant
8	LC requisition will be given in LC Automation and hard copy documents will be sent to Logistics for the execution of LC opening	R&RS Assistant

7.2.3 Order of OEM Spares to 3rd Party Vendor

Process Map

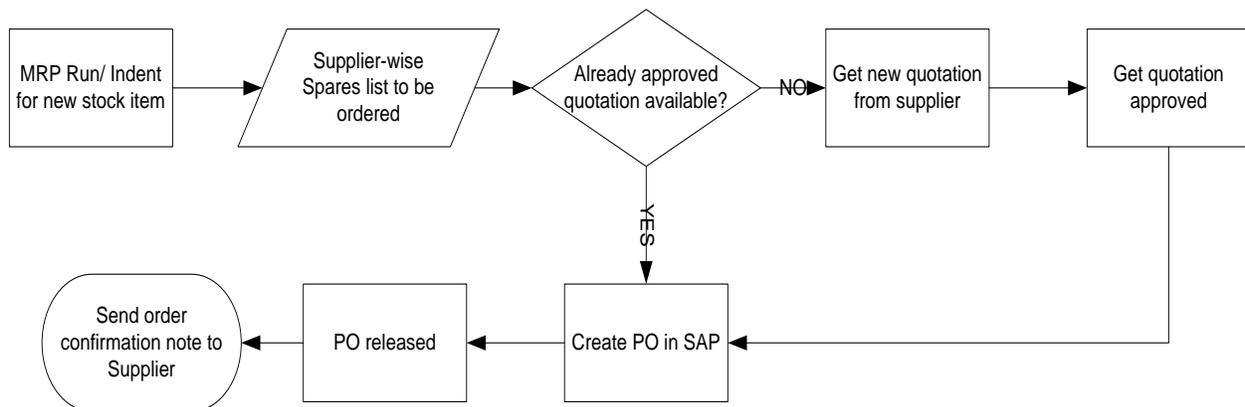


Step	Action	Responsibility
1	R&RS assistant will receive indent for urgent purchase of non-stock items or request of urgent purchase for stock item	Requesting Dept.
2	R&RS Assistant will ask for quotation mentioning price & availability to the OEM	R&RS Assistant
3	Depending on the availability spare will be ordered to the 3 rd party vendor	R&RS Assistant
4	3 rd party vendor will place the quotation based on OEM offer and their margin	3 rd Party Vendor
5	Quotation will follow approval strategy based on “BATB Procurement Policy”	R&RS Assistant

6	After having approved quotation, PO will be created in SAP	R&RS Assistant
7	PO will go through the SAP Release Strategy based on total value and will get approval from respective approver	PO Approvers
8	After PO being approved & released, order confirmation note/PO copy will be sent to vendor with PO number. R&RS Coordinator will be in copy of all order related communications. No manual sign-off is required in PO hard copy.	R&RS Assistant

7.2.4 Order of Commercial/Local Spares to Local Vendor

Process Map



Step	Action	Responsibility
1	R&RS assistant will run the MRP once in every week	R&RS Assistant
2	From the MRP report, vendor wise spares list will be prepared and checked for already approved Quotation	R&RS Assistant
3	If quotation is available, PO will be created in SAP. If Quotation is not available, quotation will be asked to the vendor	R&RS Assistant

4	Quotation will follow approval strategy based on “BATB Procurement Policy” and PO will be created after having the approved quotation	R&RS Assistant
6	PO will go through the Release Strategy based on total value and will get approval from respective approver	PO Approvers
7	After PO being approved & released, order confirmation note/PO copy will be sent to vendor with PO number. R&RS Coordinator will be in copy of all order related communications. No manual sign-off is required in PO hard copy.	R&RS Assistant

7.3 Spares Receipt Procedure

Process Overview

After shipping the goods, supplier will send the shipping documents directly to BATB Import-Export Department, Logistics keeping R&RS Coordinator in copy. Import-Export Department will be responsible for clearing the goods from airport and any communication with supplier regarding shipping details.

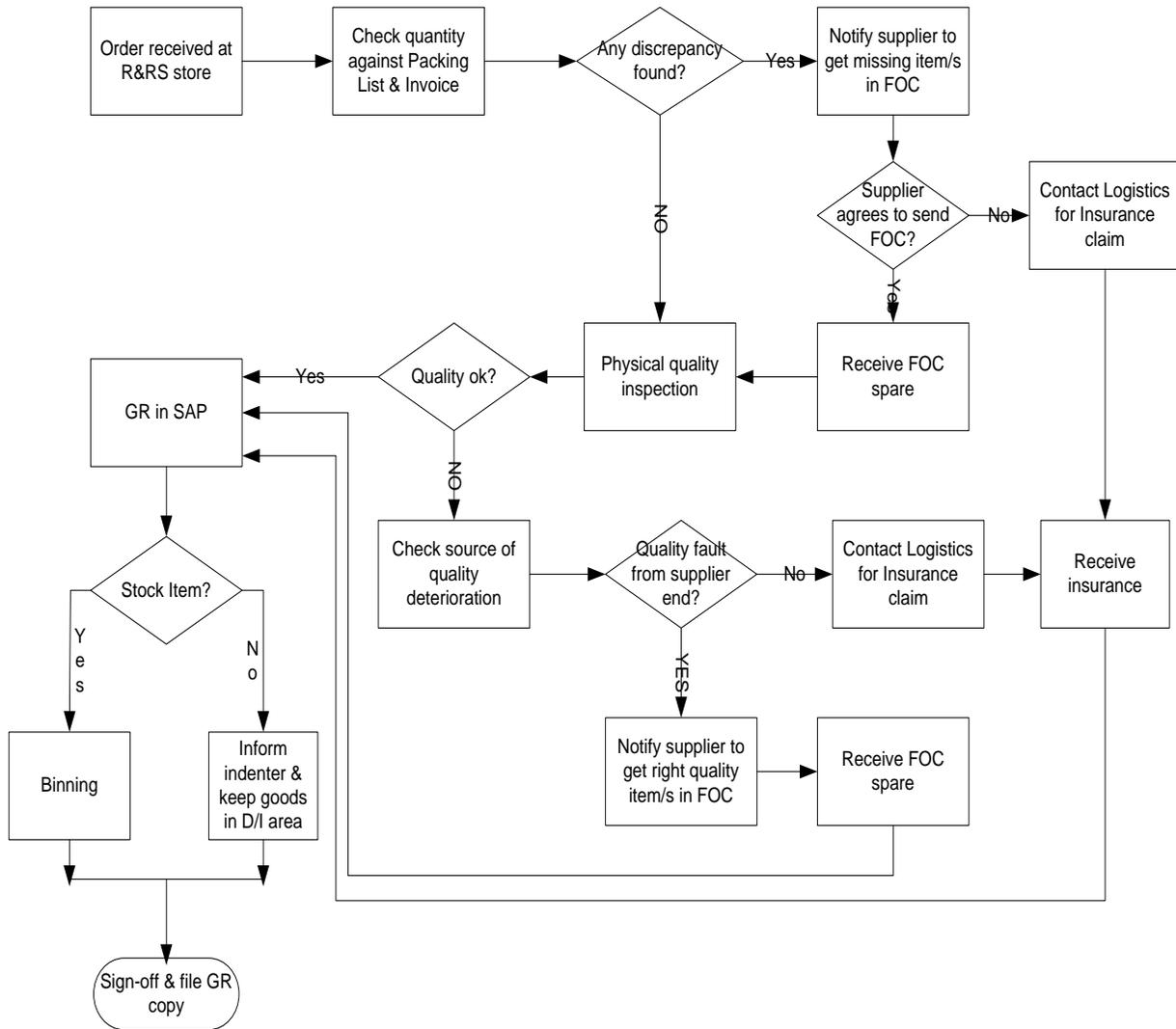
After getting the clearance from port, goods will directly be sent to R&RS. Receiving will follow a 4-step procedure.

- ✓ Quantity Check against Invoice & Packing list
- ✓ Physical Quality Inspection
- ✓ Goods Received (GR) in system
- ✓ Binning

System GR should be completed within 7 working days from physical goods receipt. If any spare is required to issue before GR, it will be treated as an exception and in case of any emergency the spare will be issued informing R&RS coordinator and through manual requisition paper. Immediately after GR is done, the part has to be issued in SAP against proper maintenance order.

7.3.1 Procedure for Receipt of Imported Spares

Process Map

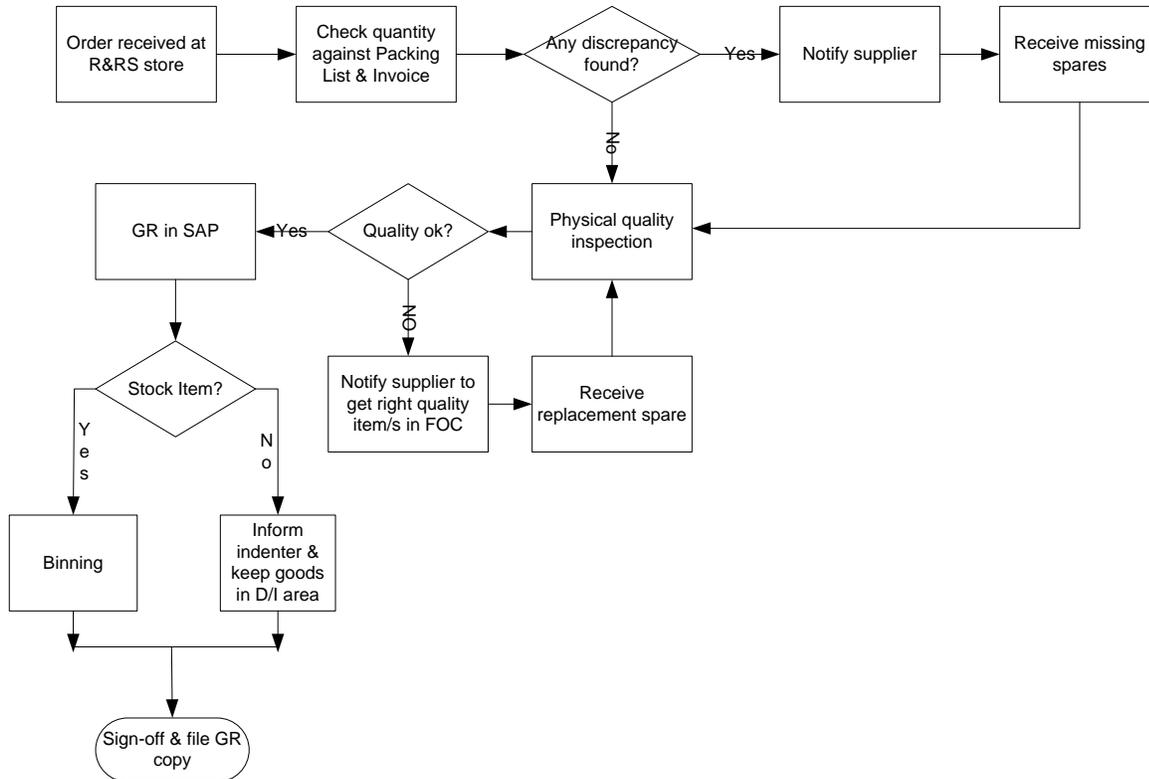


Step	Action	Responsibility
1	Received items will be checked against packing list and commercial invoice to confirm the quantity	R&RS Assistant
2	<p>If any discrepancy found between dispatched item/quantity and received item/quantity, supplier will be notified immediately to send the wrong/missing item as Free of Cost (FOC). Until receiving the FOC item, GR for that specific material will be held.</p> <p>If supplier confirms that complete quantity was dispatched, Export-Import dept. will be communicated for Insurance claim.</p>	<p>R&RS Assistant Import-Export Department</p>
3	If no discrepancy is found, order will be proceeded for quality inspection	R&RS Assistant
4	<p>Quality Inspector will check the physical quality of 100% materials.</p> <p>As and when necessary, maintenance/technical stuffs will be called to evaluate whether the items received would fit into the machine. This will specially be applicable for electrical and irregular items</p>	R&RS Inspector
5	<p>If any quality non-conformance is found, type and source of damage/poor quality will be analyzed to determine the reason.</p> <p>1) If damage/quality deterioration is suspected to be caused after shipment and during transportation, Export-Import dept. will be communicated for Insurance claim. GR will be held for such faulty items</p> <p>2) If spares are suspected to be damaged or having poor quality from supplier's end, supplier will be communicated immediately for replacement of faulty parts. GR will be held for that specific part</p>	<p>R&RS Inspector Import-Export Department R&RS Assistant</p>

6	After passing through quality inspection, R&RS assistant will enter the receipt into SAP. For partial delivery of order, partial GR will be done.	R&RS Assistant
7	<p>Upon completion of GR,</p> <p>1) If spares are stock item, individual items will be packed with labels mentioning part no and kept in Bin. For new stock item, a new Bin will be assigned for the part and will be updated in SAP</p> <p>2) If spares are non-stock item ordered through direct issue, indenter to be informed immediately and items to be kept in designated D/I area with proper labeling.</p>	R&RS Inspector
8	A receipt note should be obtained as proof of the entry and filed in the order receipts file together with the PO copy after signed by R&RS coordinator	R&RS Assistant

7.3.2 Procedure for Receipt of Commercial/Local Spares

Process Map



Step	Action	Responsibility
1	Received items will be checked against packing list & invoice to confirm the quantity/right material	R&RS Assistant
2	If any discrepancy is found between dispatched item/quantity and received item/quantity, supplier will be notified immediately to replace with the correct item/quantity. GR will be held till the receiving of replacement.	R&RS Assistant
3	If no discrepancy is found, order will proceed for quality inspection	R&RS Assistant
4	Quality Inspector will check the physical quality of 100% materials. As and when necessary, maintenance/technical stuffs will be called to evaluate whether the items received would fit into the	R&RS Inspector

	machine. This will specially be applicable for electrical and irregular items	
5	If any quality non-conformance is found, Supplier will be notified immediately for replacement with correct quality. GR will be held till receiving of replacement.	R&RS Inspector
6	After passing quality inspection, R&RS assistant will enter the receipt into SAP. For partial delivery of order, partial GR will be done.	R&RS Assistant
7	Upon completion of GR, 1) If spares are stock item, individual items will be packed with labels mentioning part no and deposited to its designated Bin. For new stock item, a new Bin will be assigned for the part and will be updated in SAP 2) If spares are non-stock item ordered through direct issue, indenter to be informed immediately and items to be kept in designated D/I area with proper labeling.	R&RS Inspector
8	A receipt note should be obtained as proof of the entry and filed in the order receipts file together with the PO copy after signed by R&RS coordinator	R&RS Assistant
9	After GR being done, supplier will collect their copy of Bill signed by R&RS Coordinator and submit to Corporate Finance	Respective Supplier

7.4 Payment Process

7.4.1 Payment for Imported Spares

Payment will be done through Letter of Credit.

For stock spares, additional charges (i.e. Import Duty, Insurance etc.) will be included in the Purchase Order as a matrix considering a fixed percentage of goods price of Proforma Invoice.

For non-stock spares, PO will be created only on the goods price. Additional charges will follow non PO coding process. Approval of non PO invoice will follow BATB Delegation of Authority in SAP.

7.4.2 Payment for Local Spares

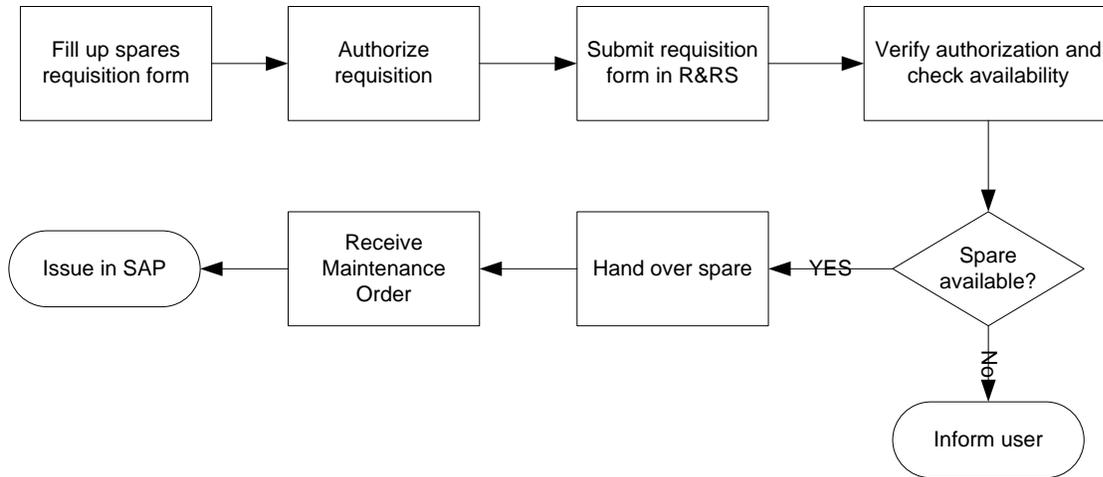
After the received spares pass quality inspection, suppliers can submit their Bill copy to R&RS. The Bill copy will be checked by R&RS Assistant against PO and Delivery Challan and will be signed by R&RS Coordinator after GR completion.

Supplier will then collect the Bill copy from R&RS and submit to Corporate Finance.

Payment will follow BATB payment terms.

7.5 Spares Issuance from R&RS

Process Map



Step	Action	Responsibility
1	Machine operatives will fill up the 'Spare Requisition Form' mentioning spare's part no, description, required quantity, module no & machine type, date & dept.	Machine Operative
2	The machine operative will sign in the 'Received by' field and will take an authorization signatory from Dept. Management.	Machine Operative
3	Dept. management will check the form and authorize the requirement	Respective Dept. Manager
4	With filled up requisition form signed by management of respective dept. , machine operative will go to R&RS	Machine Operative
5	R&RS Assistant will verify the authorized signature against the list of specimen signature. Upon verification, R&RS Assistant will check the availability and location of the required items in SAP	R&RS Assistant
6	R&RS Assistant will bring the available items from Bin and write the provided quantity in the 'Issued Quantity' field.	R&RS Assistant
7	R&RS Assistant will then hand over the spares to the machine operative	R&RS Assistant

8	After physical issuance of spares, requisition papers will be sent to respective dept. for Maintenance Order.	R&RS Assistant
9	Respective dept. will create maintenance order, take the print out of 'Spares Request Form' and send it to R&RS	Respective Dept. Manager
10	R&RS assistant will issue the spares in SAP against the Maintenance Order	R&RS Assistant

CHAPTER 8: RECOMMENDATIONS AND CONCLUSIONS

8.1 Recommendations

R&RS Department manages their inventory in a very efficient way but there are some problems that I figured out during the internship program that can prove to be effective in the future

- When giving indent for the need of spares the engineers do not check in the system that the spares they are searching for are available or not. Sometimes even if the spares are in the stock they still come to the R&RS department to look for those spares.
- Most of the engineers want their spares to be delivered urgently but they do not know that the urgent order spares cost an extra 25%. The engineers need to know about the loss and should tell the R&RS Department beforehand that they are need of the spares, so that we can order through OEM directly.
- There is a communication gap between the R&RS and engineers as all are too busy with their own work.
- The number of spares is increasing but the storage system is same, so it is often seen that one or more spares are kept in the same bin which becomes difficult for workers to find out the spares.
- The HR department of BAT Bangladesh has a tendency to recruit first or second year International students as Interns who have not even decided their major subjects yet. They often do not completely understand the work place and there line managers often complain about it. Also as the whole manufacturing department is linked with one another if they make a mistake the whole process has to be rectified and start all over again.
- The safety stock level has to be revised more often because there has been a lot of change in the usage of spares but in order to do that both the engineers and the R&RS need to sit together, rather it is often seen that the engineers are too busy with their own machines and thus do not have time to sit.



8.2 Conclusion

British American Tobacco is now the world's biggest tobacco company after the recent purchase of a tobacco company in U.S.A. BAT Bangladesh contributes a lot of share to BAT as they have managed to create a somewhat monopoly business in the country. Everything starting from the leaf to the end product goes through a complete process and every worker and employee plays an important role in the process. At first BAT had only other cigarette manufacturers as competitors but now e-cigarettes have started to become a trend in many countries. People like e-cigarettes because it provides less health risk than cigarettes. The amount of nicotine in cigarettes is constant but in e-cigarettes or vape a smoker can change the amount of nicotine to zero or more according to their preference. This is why BAT has recently launched e-cigarettes in USA and Britain and soon it will be launched in Bangladesh as well. BAT should also contribute extensively on research and development for better variety of tobacco leaves that will be less injurious for health and more cost effective for the customers.



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R&RS Policy