INVENTORY MANAGEMENT

AT INDIAN OIL CORPORATION LIMITED, BARAUNI

PROJECT REPORT ON-

"INVENTORY MANAGEMENT"

AT

INDIAN OIL CORPORATION LIMITED, BARAUNI

SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF

MASTER OF BUSINESS ADMINISTRATION

SUBMITTED BY-

BIPUL KUMAR

MBA (Finance)

CERTIFICATE FROM THE GUIDE

This is to certify that the project work done on

"INVENTORY MANAGEMENT AT IOCL,

BARAUNI", submitted to SRM UNIVERSITY NCR CAMPUS GHAZIZBADby Bipul Kumarin partial fulfilment of the requirement for the awardof degree of PG Diploma in Management, is a bonafidework carried out by herunder my supervision andguidance.

Mr Mukesh Kumar

Date: Senior

Accounts officer

IOCL, Barauni

Bihar

DECLARATION

I , BIPUL KUMAR,student of SRM UNIVERSITY NCR CAMPUS GHAZIABAD DELHI here by solemnly declare that the project titled "INVENTORY MANAGEMNT AT IOCL ,BARAUNI" is my original work and all the information, facts and figures in thisreport are based on my own experience and study during my summer training procedures.

Date: **Bipul Kumar**

Place: (SRM UNIVERSITY)

ACKNOWLEDGEMENT

My indebtedness and gratitude to the individuals who have helped to shape this report in its present form cannot be adequately conveyed in just a few sentences. Yet I must record my immense gratitude to the brains and hands that worked overtime to support my efforts in making a near comprehensive report on a topic as broad as "**INVENTORY MANAGEMENT AT IOCL BARAUNI".**

I am highly obliged to **Mr Mukesh Kumar (SACO)** for giving me this opportunity to work on this challenging project and lending me their learning over the months and his continuous guidance in his capacity as my project guide. Iam also grateful to **Mr Himanshu Shekhar** (Accounts Officer), IOCL for his extraordinary support and guidance.

Next in line I thank all the **faculty members of SRM UNIVERSITY** for apprising me of their specific requirements and the nuances of the system and helping me immensely with their phenomenal and participative responses during the interviews I had with them.

Last but not the least I am thankful to **Almighty God**, my**Parents**, my**Sisters** and **Brother** for their immense support and cooperation throughout.

Bipul Kumar

PREFACE

Summer Internship plays a vital role in the development of future managers. Notonly does it provide insights about the organisation concerned, it also bridges thegap between theory and practical knowledge. I was fortunate that I

wasprovided with an opportunity of undergoing summer internship at INDIAN OILCORPORATION Ltd., Barauni, one of the leading refineries in India. Theexperience gained during this short period was fascinating to say the least. Itwas a tremendous feeling to observe the working of Finance Department. It was overwhelming for us to notice how such a big refinery isbeing managed with proper co-ordination to obtain desiredresults. During my training I realized that in order to be a successful manager one needs to possess a sound theoretical base alongwith the acumen for effective practical application of the theory. Thus, I hopethat this summer internship will serve as a stepping-stone for me and will help mein being successful in future.

CONTENTS

INTRODUCTION

PROJECTTITLE: Inventory Management at Indian Oil Corporation Limited, Barauni

DURATION:8 Weeks (from 16/06/2011 to 10/08/2011)

ORGANSATION AND PLACE: IndianOil Corporation Limited, Barauni Refinery, Barauni, Bihar

ORGANISATIONAL GUIDE: MrMukesh Kumar,SACO

INTRODUCTION OF THE ORGANISATION

Milestones

1948: Indian government passes the industrial policy resolution, which states that itsoil industry should be state owned and operated.

1958: The government forms its own oil refining company, **IndianRefineries Limited.**

1959: IndianOil Company is founded as a statutory body to supply oil products to government enterprises

1964: IndianRefineries andIndianOil Company merge to form the **IndianOil Corporation**

1965: 'Indane' brand LPG launched for the first time in the country at Kolkata

1967 Haldia Barauni product pipeline commissioned. Bitumen and marine bunkering businesses commenced. Maiden export of petroleum products, to the Far East.

1975: The world's highest altitude retail outlet commissioned at Leh in Ladakh

1995: Listing of equity shares on Bombay Stock Exchange

1998:Indian Oil is the largest commercial organization in India, the only Indian company to feature in the Fortune Global 500 list, it isranked 30th in term of sales and profits among the world's petroleum companies.
1999-2000 turnover crossed Rs. l, 00,000 crore – first corporate in India to do so.
2001:IOCL also has the largest marketing network in the country

2002: The Indian Oil Corporation launched the country's first high-octane petrol and superior quality diesel 'IOC Premium' and 'SuperiorDiesel'.

2005: Mathura Refinery becomes first Indian refinery to produce Euro-III compliant diesel

2008: Indian Oil Chairman elected as President of World LP Gas Association. First LPG pipeline commissioned from P an pat to Jalandhar

2011: Indian Oil breaks into Top 100 of Fortune Global listing, ranked 98th

HISTORIC MOMENTS

Form I.R.

CERTIFICATE OF INCORPORATION

No. 11388 of 1959-'60.

I hereby certify that INDIAN OIL COMPANY LIMITED

* * * * * * * * *

* * * * * * * *

is this day incorporated under the Companies Act, 1956 (No. I of 1956) and that the Company is Limited.

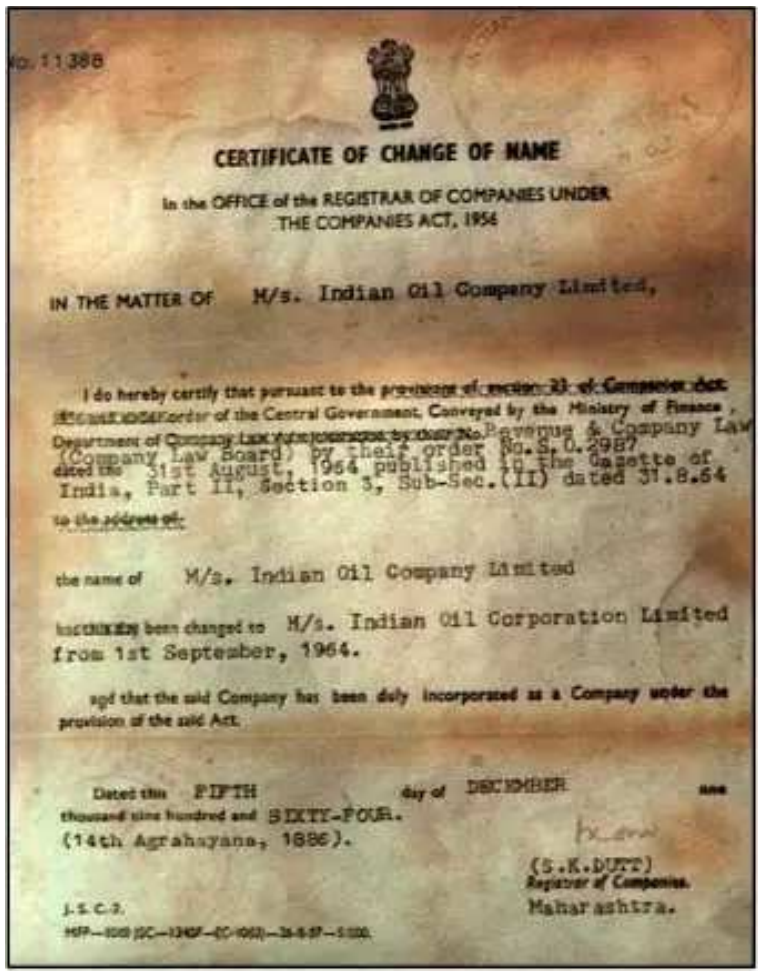
Given under my hand at BOMBAY

this THIRTIETH day of JUNE

One thousand nine hundred and FIFTY-NINE (9th Asadh, 1881)

(S. VENKATARAMAN)
Registrar of Companies.
BOMBAY.

30th June 1959
the commencement of the golden journey



No. 11388

CERTIFICATE OF CHANGE OF NAME

In the OFFICE of the REGISTRAR OF COMPANIES UNDER THE COMPANIES ACT, 1956

IN THE MATTER OF M/s. Indian Oil Company Limited,

I do hereby certify that pursuant to the provisions of section 23 of Companies Act, 1956 and order of the Central Government, Conveyed by the Ministry of Finance, Department of Revenue & Company Law (Company Law Board) by their order No.S.O.2987 dated the 31st August, 1964 published in the Gazette of India, Part II, Section 3, Sub-Sec.(II) dated 31.8.64 the name of M/s. Indian Oil Company Limited has been changed to M/s. Indian Oil Corporation Limited from 1st September, 1964.

and that the said Company has been duly incorporated as a Company under the provision of the said Act.

Dated this FIFTH day of DECEMBER one thousand nine hundred and SIXTY-FOUR. (14th Agrahayana, 1886).

(S.K.DUTT)
Registrar of Companies,
Maharashtra.

J.S.C.3.

1st September 1964

Indian Oil Company Limited renamed as Indian Oil Corporation Ltd.

HISTORY

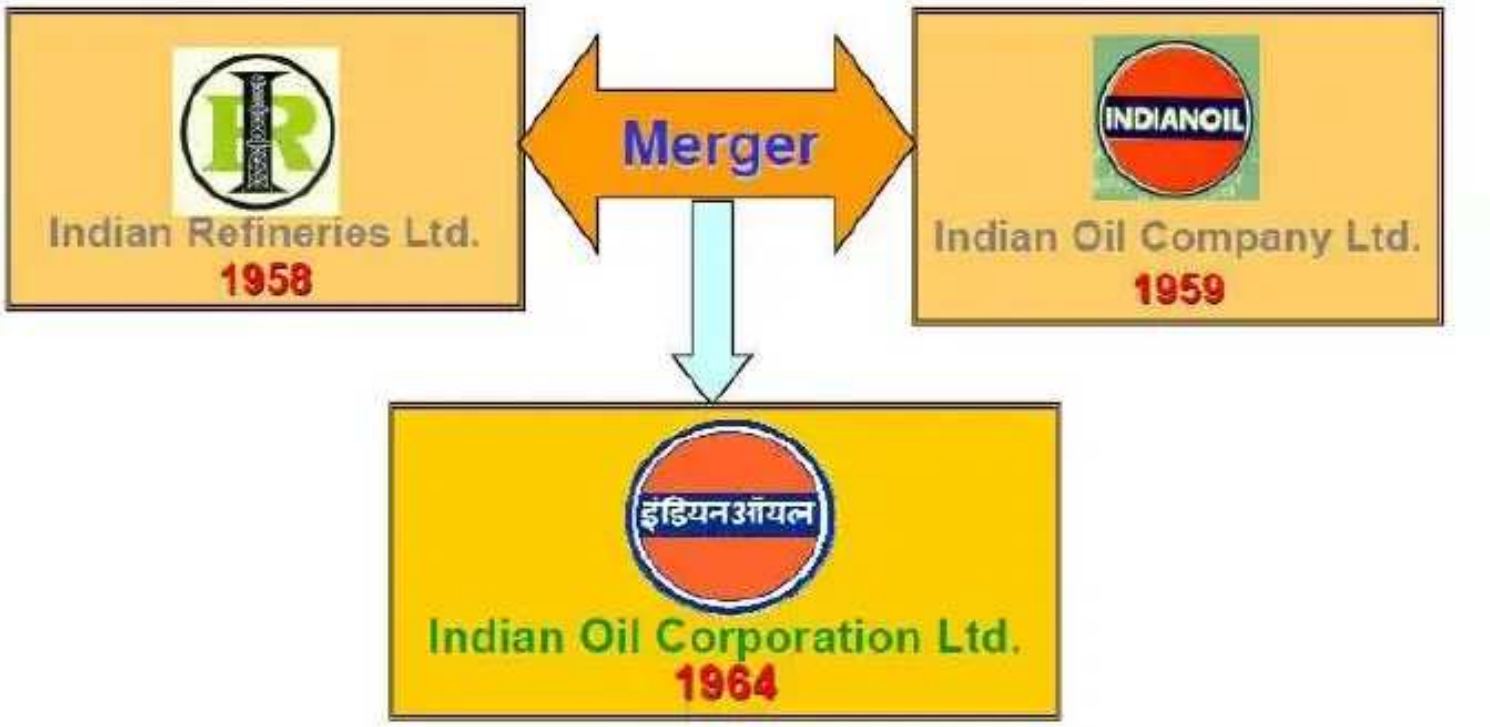
Beginning of Petroleum Refining in India

In 1881, Assam Railway & Trading co. began laying of tracks in Assam. They used elephants in place of cranes. One day, one of the elephants wandered away, to come back with its feet smeared by slimy oil. Backtracking led to the discovery of oil in Borbil near present day Digboi.A Canadian driller, Willey Leove hollered at native boys, “Dig boy dig”. Oil was struck and the name ‘Digboi’ stuck. Digboi became the birth place of India’s oil industry In 1890s, crude oil distillate at Margherita, 16 Km away from Digboi, in cast iron pans, called ‘Stills’Digboi Refinery of Assam Oil Company (AOC) commissioned at its present location in 1901 with 500 bbl./day capacity AOC nationalised and its Refining and Marketing functions merged with IOC in October, 1981.Digboi refinery is one of the oldest refineries in the world that is still working.

Fig. "Betch-still" used in Margherita RefineryUnit

COMPANY HISTORY

Beginning in 1959 as IndianOil Company Limited, IndianOil Corporation Limited was formed in 1964 with the merger of Indian Refineries Limited (Estd. 1958)



Wartime rationing lasted until 1950, and a shortage of oil products continued until well after independence. The government's 1948 industrial policy resolution declared the oil industry to be an area of the economy that should be reserved for state ownership and control, stipulating that all new units should be government owned unless specifically authorized.

In 1959, theIndianOil Company was founded as a statutory body.Indian oil owes its origin to the Indian government's conflict with foreign oil companies in the period immediately following India's independence in 1947.the leaders of the newly independent state found that much of the country's oil industry was effectively in the hands of a private monopoly led by a combination of British owned oil companies Burmah and Shell and U.S At first, itsobjective was to

supply oil products to Indian state enterprises .Then it was made responsible for the sale of the products of state refineries. After a 1961 price war with the foreign companies, it emerged as the nation's major marketing body for the export and import of oil and gas.

The oil companies undercut IndianOil's prices and left it with storage problems. Indian Oil then offered even lower prices. The foreign companies were the ultimate losers because the government was persuaded.

In September 1964, Indian Refineries Limited and the Indian Oil Company were merged to form the Indian Oil Corporation .The government announced that all future refinery partnership would be required to sell their products through Indian Oil.

It was widely expected that Indian Oil and India'sOil and Natural Gas Commission(ONGC) would eventually be merged into a single state monopoly company. Bothcompanies grew vastly in size and sales volume but, despite close links they remained separate

A policy of state control was reinforced byIndia's closer economic and political links with the Soviet Union and its isolation from the mainstream of the western multinational capitalism.

India and the USSR entered into a number of trade deals.one of the most important of these trade pacts allowed Indian Oil to import oil from the USSR and Romania at price lower than those prevailing in world markets and to pay in local currency, rather than dollars or other convertible currencies.

The government decided to nationalize the country's remaining refineries.

By the end of the 1980s, India'soil consumption continued to grow at 8% per year, andIndian Oil expanded its capacity to about 150 million barrels of crude per annum.in1989, Indian Oil announced plans to build a new refinery Para deep and modernize the Digboi refinery, India's oldest.

By the early 1990s, IndianOil refined, produced, and transported petroleum products throughout India. Indian Oil produced crude oil, base oil, formula

products, lubricants, greases, and other petroleum products .it was organized into three divisions. The refineries and the pipelines division had six refineries located at Guwahati,Barauni,Gujarat, Haldia, Mathura and Digboi. Together, thesix represented 45% of the country's refining capacity. The division also laid and managed oil pipelines .the marketing division was responsible for storage and distribution and controlled about 60% of the total oil industry sales .the

Assam oil division controlled the marketing and distribution of the formally British - owned company.

In early 2002, Indian Oil acquired IBP, a state owned petroleum marketing company. The firm also purchased a 26 per cent stake in financially troubled Haldia Petrochemicals Ltd. InApril of that year,Indian Oil's monopoly over crude imports ended as deregulation of the petroleum industry came into effect .As a result; the company faced increased competition from large international firms as well as new domestic entrants to the market .During the first 45 days of deregulation, Indian Oil lost Rs. 7.25 billion, a signal that the India's largest oil refinery would indeed face challenges as a result of the changes. Nevertheless, Indian Oil management believed that the deregulation would bring lucrative opportunities to the company and would eventually allow it to become one of the top 100 companies on the Fortune 500- and in 2001 the company was ranked 209 and since then Indian Oil has maintained its position in the list with ever improving performance. Indian Oil, India's flagship energy corporate, continued to lead the set of Indian companies in the prestigious Fortune Global

500 listing of the world's largest companies by sales for the year 2011 with an overall ranking of 98.

COMPANY PROFILE

Indian Oil Corporation Ltd. is India's largest company by sales with a turnover of Rs. 3, 28,744 crore and profit of Rs. 7445.48 crore for the year 2010-11.

IndianOil is the highest ranked Indian company in the latest Fortune 'Global 500'

listings, ranked at the 98th position. IndianOil's vision is driven by a group of dynamic leaders who have made it a name to reckon with.

IndianOil is India's flagship national oil company, withbusiness interests straddling the entire hydrocarbonvalue chain and the highest ranked Indian corporate in theprestigious Fortune 'Global 500' listing. With over a 34,000-strong workforce, IndianOil has been meeting India's energydemands for over five decades. The company's operations arestrategically structured along business verticals - Refineries, Pipelines, Marketing, R&D and Business Development. To achieve the next level of growth, IndianOil is currently forgingahead on a well laid-out road map through vertical integration – upstream into oil exploration & production (E&P) anddownstream into petrochemicals and diversification intonatural gas marketing and alternative energy, besidesglobalisation of its downstream operations. Having set upsubsidiaries in Sri Lanka, Mauritius and the United Arab Emirates (UAE), IndianOil is simultaneously scouting for newbusiness opportunities in the energy markets of sia and Africa. IndianOil and its subsidiaries have a dominant share of thepetroleum products market share, national refining capacityand the downstream sector pipelines capacity in India. With asteady aim of maintaining its position as a market leader andproviding best quality products and services,

IndianOil iscurrently investing Rs. 47,000 crore in a host of projects foraugmentation of refining and pipelines capacities, expansionof marketing infrastructure and product quality up gradation.

The IndianOil Group of companies owns and operates 10 ofIndia's 20 refineries and the largest network of crude oil andprofile product pipelinesin the country,meeting the vitalenergy needs ofthe consumers inan efficient,economical andenvironmentfriendlymanner.

It has a portfolio ofpowerful and much-loved energy brands that includes Indane, LPGas, SERVO lubricants, XTRAPREMIUM petrol, XTRAMILEdiesel, etc.

IndianOil has a keen customer focus and a formidable networkof customer touch-points dotting the landscape across urbanand rural India, backed for supplies by bulk storage terminalsand depots, aviation fuel stations and LPGas bottling plants.IndianOil's ISO-9002 certified Aviation Service commands adominant market share in aviation fuel business, successfullyservicing the needs of domestic and international flag carriers,private airlines and the Indian Defence Services.

IndianOil has a sprawling world-class R&D Centre that isperhaps Asia's finest. It conducts pioneering work in lubricantsformulation, refinery processes, pipeline transportation andalternative fuels, and is also the nodal agency of the Indianhydrocarbon sector for ushering in a Hydrogen fuel economyin the country.

In Exploration & Production, IndianOil's domestic portfolioincludes nine oil & gas blocks and two Coal Bed Methaneblocks while the overseas portfolio consist of nine blocksspread across Libya, Iran, Gabon, Nigeria, Timor-Leste andYemen. In addition, as part of a consortium, IndianOil has beenawarded Project -1 in the Carabobo heavy oil region ofVenezuela. IndianOil has entered into franchise agreements with severalCity Gas Distribution (CGD) players to market CompressedNatural Gas through its retail outlets. IndianOil has forayedinto alternative energy options such as wind, solar, bio-fuelsand nuclear power. A

wind power project is currently operationalin the Kutch district of Gujarat while a solar power initiative isbeing spearheaded on a pilot basis in Orissa, Karnataka andthe Northeast. IndianOil has one of the largest captiveplantations underway for bio-fuel production in Chhattisgarh andMadhya Pradesh.

As a leading public sector enterprise of India, IndianOil hassuccessfully combined its corporate social responsibilityagenda with its businessofferings, meeting the energy needsof millions of people every day across the length and breadthof the country, traversing a diversity of cultures, difficult terrainsand harsh climatic conditions. The Corporation takes pride inits continuous investments in innovative technologies andsolutions for a sustainable energy flow and economic growthand in developing techno-economically viable and environment-friendlyproducts & services for the benefit of its consumers

GROUP COMPANIES

IndianOil is currently metamorphosing from a pure sectorial company with dominance in downstream in India to a vertically integrated, transnational energy behemoth. The Corporation is already on the way to becoming a major player in petrochemicals by integrating its core refining business with petrochemical activities, besides making large investments in E&P and import/marketing ventures for oil and gas in India and abroad

NAME	BUSINESS
Chennai Petroleum Corporation Limited	Refining of petroleum products
IndianOil (Mauritius) Ltd.	Terminal ling, Retailing & Aviation refuelling

Lanka IOC PLC.	Retailing, Terminal ling& Bunkering
IOC Middle East FZE	Lube blending & marketing of petroleum products
IndianOil - CREDA Biofuels Limited	Plantation of Atrophy and extraction of oil for Bio-diesel

VISION AND VALUES

VISION

Ethics
Setting high standards for ethics and values

Customers
Fostering relationships for a lifetime

People
Leading with passion to excel

IndianOil

The Energy of India

A Globally Admired Company

Technology
Harnessing frontier technology

Innovation
Pioneering the spirit of creativity and research

Environment
Caring for the environment and community

VALUES

Care • Innovation • Passion • Trust

VALUES

Indianoil nurtures the core values of Care, Initiative, and Passion& Trust across the organization in order to deliver value to its stakeholders.

Care *Stands for*

- Concern
- Empathy
- Understanding
- Co-operation
- Empowerment

Innovation *Stands for*

- Creativity
- Ability to learn
- Flexibility
- Change

Passion *Stands for*

- Commitment
- Dedication
- Pride
- Inspiration
- Ownership
- Zeal & Zest

Trust *Stands for*

- Delivered promises
- Reliability
- Dependability
- Integrity
- Truthfulness
- Transparency

OBJECTIVES

- To serve the national interests in oil and related sectors in accordance and consistent with Government policies.
- To ensure maintenance of continuous and smooth supplies of petroleum products by way of crude oil refining, transportation and marketing activities and to provide appropriate assistance to consumers to conserve and use petroleum products efficiently.
- To enhance the country's self-sufficiency in crude oil refining and build expertise in lying of crude oil and petroleum product pipelines.
- To further enhance marketing infrastructure and reseller network for providing assured service to customers throughout the country.
- To create a strong research & development base in refinery processes, product formulations, pipeline transportation and alternative fuels with a view to minimizing/eliminating imports and to have next generation products.
- To optimise utilisation of refining capacity and maximize distillate yield and gross refining margin.
- To maximise utilisation of the existing facilities for improving efficiency and increasing productivity.
- To minimise fuel consumption and hydrocarbon loss in refineries and stock loss in marketing operations to effect energy conservation.

- To earn a reasonable rate of return on investment.
- To avail of all viable opportunities, both national and global, arising out of the Government of India's policy of liberalisation and reforms.
- To achieve higher growth through mergers, acquisitions, integration and diversification by harnessing new business opportunities in oil exploration & production, petrochemicals, natural gas and downstream opportunities overseas.
- To inculcate strong 'core values' among the employees and continuously update skill sets for full exploitation of the new business opportunities.
- To develop operational synergies with subsidiaries and joint ventures and continuously engage across the hydrocarbon value chain for the benefit of society at large.

OBLIGATIONS

- Towards customers and dealers: - To provide prompt, courteous and efficient service and quality products at competitive prices.
- Towards suppliers: - To ensure prompt dealings with integrity, impartiality and courtesy and help promote ancillary industries.
- Towards employees: - To develop their capabilities and facilitate their advancement through appropriate training and career planning. To have fair dealings with recognised representatives of employees in pursuance of healthy industrial relations practices and sound personnel policies.

- Towards community: - To develop techno-economically viable and environment-friendly products. To maintain the highest standards in respect of safety, environment protection and occupational health at all production units.

- Towards Defence Services:- To maintain adequate supplies to Defence and other Para-military services during normal as well as emergency situations

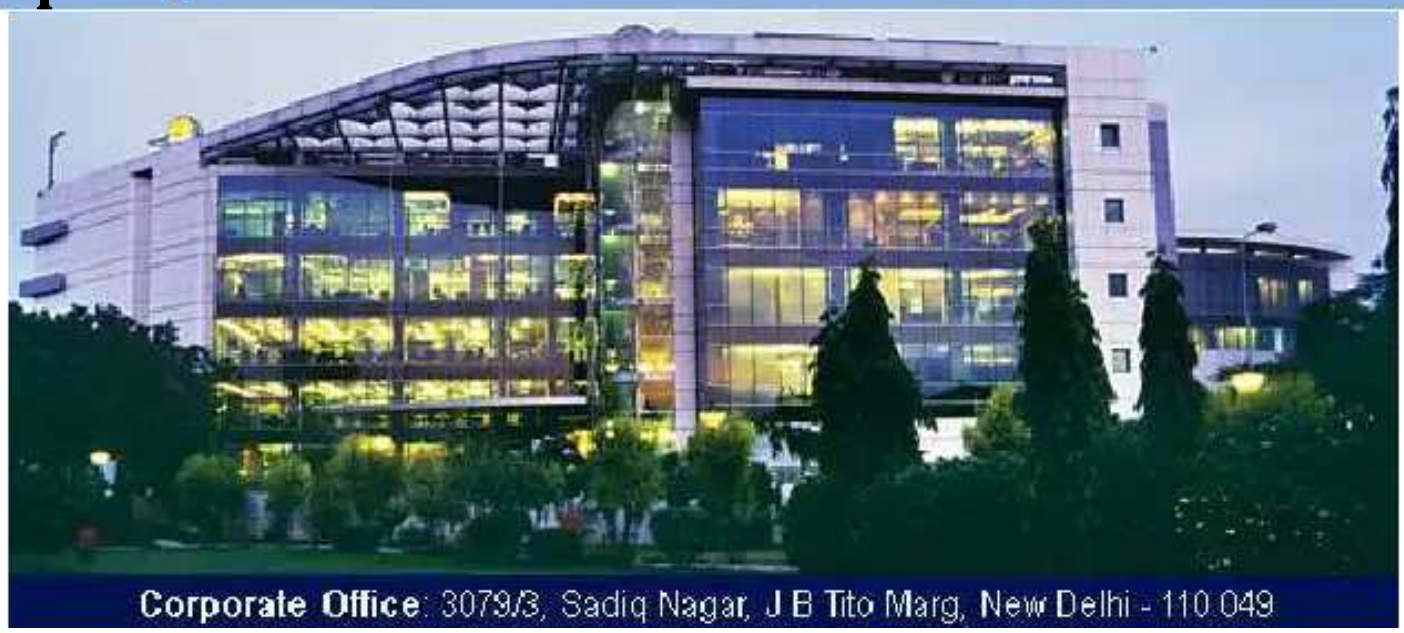
FINANCIAL OBJECTIVES

- To ensure adequate return on the capital employed and maintain a reasonable annual dividend on equity capital.
- To ensure maximum economy in expenditure.
- To manage and operate all facilities in an efficient manner so as to generate adequate internal resources to meet revenue cost and requirements for project investment, without budgetary support.
- To develop long-term corporate plans to provide for adequate growth of the Corporation's business.
- To reduce the cost of production of petroleum products by means of systematic cost control measures and thereby sustain market leadership through cost competitiveness.
- To complete all planned projects within the scheduled time and approved cost

IndianOil Major Units

Registered Office	
Registered Office	IndianOil Bhavan, G-9, Ali Yavar Jung Marg, Bandra (East), Mumbai -400 051

Corporate Office



Pipelines Division	
Head Office	A-1 Udyog Marg, Sector-1, Noida-201301(Uttar Pradesh)
Northern Region	P.O. Panipat Refinery Panipat -132 140 (Haryana)
Western Region	P.O. Box 1007,Bedipara, Morvi Road,Gauridad, Rajkot-360 003 (Gujarat)
Southern Region	139, Nungambakkam High Road Chennai - 600034
Eastern Region	14, Lee Road, Kolkata-700020

Refineries Division

Head Office	SC Complex, Core-2 7, Institutional Area, Lodhi Road New Delhi -110003
Barauni Refinery	P.O. Barauni Refinery, Dist. Begusarai -861 114 (Bihar)
Gujarat Refinery	P.O. Jawahar Nagar, Dist. Vadodara -391 320(Gujarat)
Guwahati Refinery	P.O. Noonmati, Guwahati-781020 (Assam)
Haldia Refinery	P.O. Haldia Refinery Dist. Midnapur-721 606 (West Bengal)
Mathura Refinery	P.O. Mathura Refinery, athura -281 005 ttar Pradesh)
Panipat Refinery	P.O. Panipat Refinery, Panipat-132140(Haryana)
Bongaigaon Refinery	P.O. Dhaligaon, Dist. Chirang, Assam - 783 385

M a rketin g Di v ision

Head Office	IndianOil Bhavan, G-9, Ali Yavar Jung Marg, Bandra (East), Mumbai -400 051
Northern Region	IndianOil Bhavan, 1, Aurobindo Marg, Yusuf Sarai New Delhi -110016
Eastern Region	IndianOil Bhavan, 2, Gariahat Road, South (Dhakuria) Kolkata -700 068
Western Region	254-C, Dr. Annie Besant Road, Worli Colony, Mumbai -400 030
Southern Region	IndianOil Bhavan 139, Nungambakkam High Road Chennai -600034

R&D Centre				
R&D Centre	Sector 13 (Haryana)	Faridabad	-121	007

Assam Oil Division				
Assam Oil Division	P.O. (Assam)	Digboi	-768	171

IBP Division				
IBP Division	34-A, Nirmal Chandra Street, Kolkata - 700 013			

Group Companies	
Chennai Petroleum Corporation Ltd.	536, Anna Salai, Teynampet, Chennai - 600 018
IndianOil (Mauritius) Ltd.	Mer Rouge Port Louis Mauritius
Lanka IOC PLC	Lanka IOC Head Office Level 20, West Tower, World Trade Centre, Echelon Square, Colombo - 01, Sri Lanka.
IOC Middle East FZE	LOB- 12 114, Jebel Ali Free Zone, P.O.Box: 261338
IndianOil - CREDA Biofuels Limited	

~~MAJOR PRODUCTS~~

Indian Oil Corporation Limited is responsible manufacturing many products,

some major products are as follows

1. Indane Gas
2. Auto Gas
3. Natural Gas
4. Petrol/Gasoline
5. Diesel/Gas oil

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IOCL BARAUNI REFINERY – *THE JEWEL OF BIHAR*

Barauni Refinery is the second public sector refinery of the Indian Oil Corporation Limited which was set-up under the collaboration of erstwhile USSR and limited participation of Romania. It is located near the northern bank of the river Ganga at Begusarai District town of Bihar state. The refinery is strategically located on the crossroads of two important national highways, NH-30 and NH-31 and two important railways, Eastern Railways and North Eastern Railways. The river Ganga flows around 8 km from the refinery.

The Barauni Refinery takes its crude oil from foreign countries through Barauni–Haldia Crude Pipeline (BHCPL).Barauni Refinery is one of the biggest size oil refinery owned and managed by IOCL. The refinery is located about 8km from the town Begusarai and is surrounded by villages.

The construction activity of the refinery commenced in 1962 and it went on Stream in the year 1964 facing insurmountable hurdles, heavy equipment, menand machinery was moved into a predominantly agrarian district of Begusarai. Barauni Refinery was formally inaugurated by Prof. Humayun Kabir, the then Union Minister of Petroleum and Chemicals, Government of India on January 15, 1965. It started with a refining capacity of processing two 2 Million Metric Tonnes Per Annum of Assam Crude through the Nahar-Katia-Barauni pipeline. The capacity was subsequently enhanced to 3 million metric tonnes per annum. The refinery consists of three crude oil Distillation unit, two Coker units, CRU, LRU and BXP. The oil movement and storage section of refinery does the storage and dispatch of all the products. An LPG bottling plants has also been provided which is able to fill 3500 to 4000 cylinders per day. A captive power plant has been provided to meet the steam and power requirements of the refinery. Under the expansion program following process units and facilities are put up:

- The ResideFluidised Bed Catalytic Cracking Unit (RFCCU) yielding LPG, Diesel and Petrol.
- Diesel Hydro Treated (DHDT) for improving Cetone no. and to meet the Euroemissions norms.

Primarily, the refining technology was sourced from eastern countries like Russia. Later as the refinery grew over the years, it drew upon technologies From rest of the world. In February 16, 1999 the 498 km long Haldia-Barauni Crude Oil Pipeline commenced its crude supply position of the refinery, which

Was dependent on Assam crude alone. At the beginning of the new millennium, Barauni Refinery is poised to touch stellar heights in modernizing its refining technology. Barauni refinery is among the few refineries in the world to have scored the coveted ISO 9002 Certification.

The refinery processes imports the low sulphur and high sulphur crude oil to produce the following:

- Motor Spirit (MS) Petrol.
- Liquefied Petroleum Gas (LPG).
- Naphtha.
- Superior Kerosene Oil (SKO).
- High Speed Diesel (HSD).
- Light Diesel Oil.
- Carbon Black Feed Stock (CBFS).
- Bitumen.
- Low sulphur heavy stock.

Barauni Terminal catering to the needs of the customer of 29 districts of Bihar , bridging for Mughalsarai for XtraPremium MS and LDO and other IOC locations as well as various consumers situated in different part of the country and OMC by rail loading at refinery premises and OMC situated at Barauni through dedicated product pipeline.

Barauni terminal, Barauni is committed to comply Corporation's mission to Achieve standards of excellence in petroleum marketing and transportation with concerned for customer satisfaction and to adopt sale and environment friendly practices by:

- Supplying ONSPEC product in correct quantity at administered prices.
- tendering prompt and courteous service to all customers.
- Emphasizing concern for safety.

FOUNDATION

The sixth Refinery and the second state owned oil refinery,Barauni Refinery was establiushed in the midway of its feeding zone,Assam and its catering zone-North and North Central India.this second jewel of indian oil corporation limited was born in 1964,on the nortern banks of holy ganga,at barauni.on the periphery of the district town begusarai,bihar.the country had just come out from a traumatic war with its mercurial neighbour and against that backdrop

was the birth of this strategically located refinery at barauni located at the crossroads of two very important national highways-nh-30 and nh -31- connecting the east end of our country to its west end.

Built in collaboration with limited participation from romania, at a cost of Rs. 49.4 crores,this vision of the first chief minister of bihar , dr. shri krishna singh , baraubi refinery went on stream in july 1964.

Prof. humayun kabir the then union minister for petroleum and chemicals, government of india dedicated Baraunu Refinery to the Nation on January 15, 1965

MAJOR FEATURES.

Starting from a humble crude processing capacity of 1 Million Metric Tonne per annum of sweet crude from Assam oil fields , it has steadily added and expanded its capacity to the current 6 MMTPA capacity with caapbility of processing partial sour crude also.the 3.3 MMTPA capacities since 1969 were augmented to 4.2 MMTPA capacity in 2000 and then subsequently to 6 MMTPA capacities in 2002. To enhance productivity and thereby profitability in the competitive scenario , a Resid Fluidised Catalytic Cracking Unit was commissioned in the year 2002 to upgrade the heavy ends from Distillation unit.The expansion project , fondly referred as the BXP , consists of primarily Residue Fluidised Catalytic Cracker Unit (RFCCU), Diesel Hydro Treating Unit (DHDT),Sulphur Recovery Unit (SRU) ,Amine Regeneration Unit (ARU), Sour Water Stripper Unit (SWSU) and Hydrogen Generation Unit apart from associated utilities and offsite facilities to take care of additional storage of feed and generation and distribution of utilities. The main objective of this

unit is to produce market – oriented pattern of environment friendly high value products like LPG ,diesel and motor spirit.

Moving through the years , Barauni Refinery has made concerted efforts to add to the country's coffers in terms of products and earn valuable foreign

exchange.this is while ensuring safety of plant and person and in keeping with the commitment to environmental and energy conservation.

In its continuous endeavour to supply eco-friendly fuel, barauni refinery is implementing the MS Quality Upgradation Project at an estimated cost of Rs. 1492 crore.

MAJOR PRODUCTS

THE VARIOUS PRODUCTS PRODUCED BY BARAUNI REFINERY ARE:		
LPG	ATF	LOW SULPHUR HEAVY STOCK
NAPHTHA	SUPERIOR KEROSENE OIL	CARBON BLACK FEED STOCK
MOTOR SPIRIT	HIGH SPEED DIESEL	RAW PETROLEUM COKE
MOTOR SPIRIT (PREMIUM GRADE)	LIGHT DIESEL OIL	BITUMEN

MAJOR CUSTOMERS

- NEPAL OIL COMPANY
- IFFCO PHULPUR
- CCIL GHAZIABAD
- BARAUNI THERMAL POWER STATION
- NALCO
- BALCO
- HINDALCO
- INDIAN RAILWAYS

Major objectives and goals

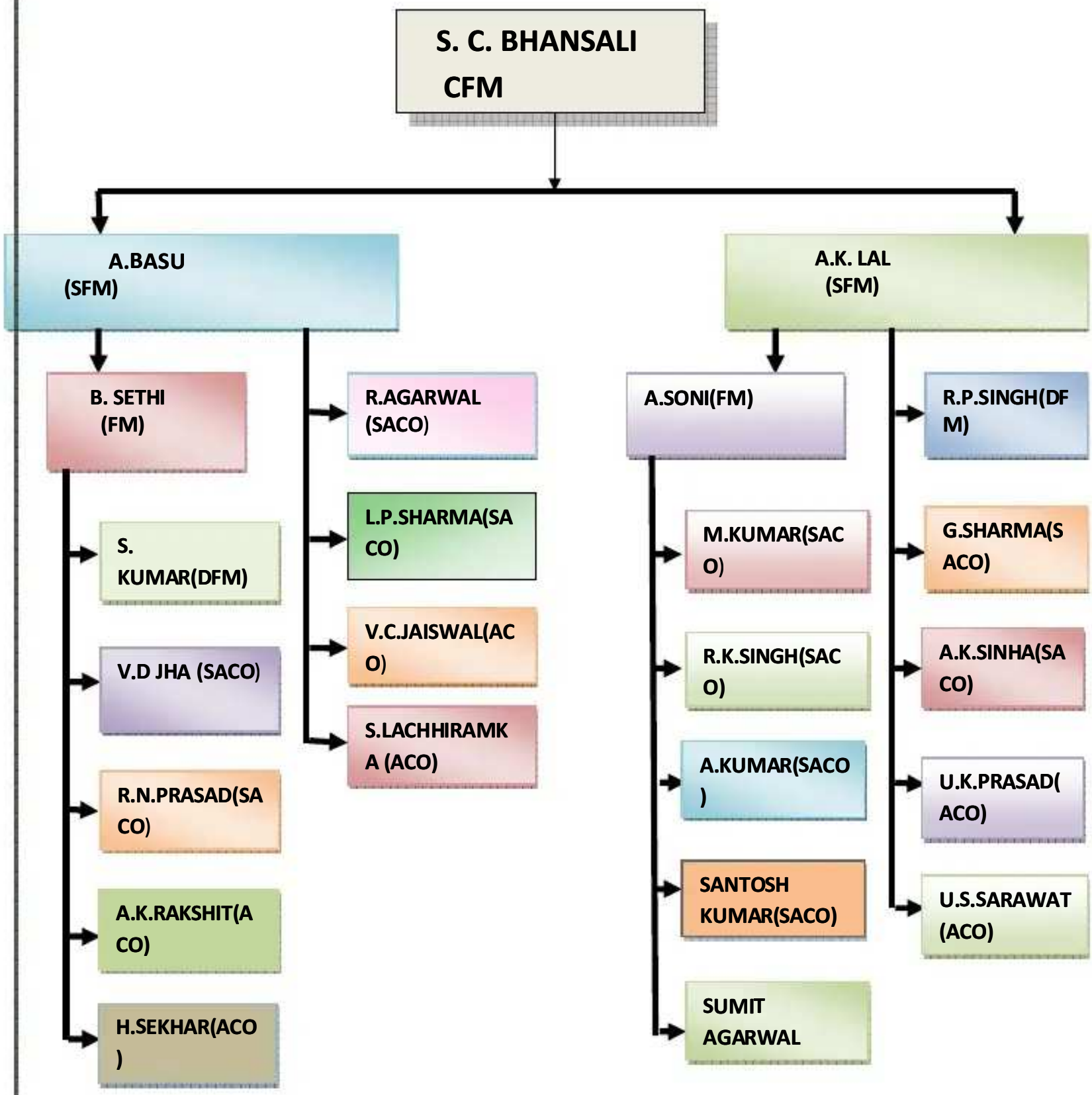
Financial mission

- to provide high quality financial satff support for decision making and control to all levels of management: corporate,divisional ,unit and location to enable the achievement of overall corporate objectives and goals
- to play alead role in scanning the domestic and international financial environment , the formulation and implementation of all financial policies

and plans for different time spans consistent with and conducive to the business plans for expansion, diversification,productivity,etc

FINANCE DEPARTMENT ORGANOGRAM

2011-2012



AWARDS AND ACCREDITIONS

1999-2000

- NPMP Award for excellence in Project management for CRU
- Runner's Up trophy of "Golden Peacock Environment Management Award"
- Accredition for OHSMS (Occupational Health and Safety Management System) under BS-8800 by DNV
- National Safety Award from British Safety Council,UK ,1999 for demonstrating the commitment to the best practice in work place Health and Safety

2000-2001

- Audit of the Safety System of the Refinery by British Safety Council - awarded 4 Star Rating
- Joint winner of "ShriAV OGALE SHIELD" ,1999-2000 for the lowest fire incident in refinery
- Awarded "ShreeANIL RAJ TROPHY",1999-2000 for energy conservation
- The indo german greentech environmental excellence award 1999-2000
- wOn the national safety award 1999 from the british safety council uk

2001-2002

- received indo german greentech environmental excellence award 2000-2001
- Received jawaharlal nehru memorial national award for environmental excellence from international green land society hyderabad
- Won the national safety award for the second o
- Received OIST Award 1999-2000 for best safety performance

2002-2003

- Sword ofhonour" 2002 conferred by the british safety council uk
- Won the occupational health and safety award for 2002 from RSPA (royal Society for prevention of accident,uk)-becoming the only indian company in the oil sector to achieve this recognition
- Received jawahar lal nehru memorial national award, 1999-2000 for achieving the best improvement in energy conservation
- Quality control laboratory received NABL accredition certificate effective august 1,2002 as per standard ISO/IEC 17025 :1999

2003-2004

- recertified ISO -9001-2000 and ISO -14001 certifications
- Won "greentech safety award from greentech foundation
- 2004-2005
- Receved TERI corporate environmental award adjudged the winner of "shree AV ogale trophy for safety in operations
- Won OSIT Award ,2002-2003 for refineries in group 1
- Won greentech safety award 2002-2003 for the best performance in safety
- Won "indo german greentech environmental excellence award for the year 2003-2004

2005-2006

- First prize winner in safety (refinery category) by OIST for the year 2003-2004 and 2004-2005

2006-2007

- Accorded the " highest security indexn in the division for 2005-2006 by corporate security

2008-2009

- First prize for the year 2007-07 for best safety performance in group 1 refinery by OIST
- Declared joint winner of shree AV Ogale shield 2008 for zero fire and no fatality in 2007 2008
- TPM excellence award in category –A (under 8 pillars category" the most stringent category

2009-2010

- Barauni Refinery added another feather to its cap by winning the "Best Kaizen Award" at the 15th TPM National Conference held in Pune during June 24-25, 2010. The conference was organised by the Confederation of Indian Industry (CII), TPM Club of India and JIPM-Solutions Company Limited,.

INVENTORY MANAGEMENT

INVENTORY MANAGEMENT

Inventory-A physical resource that a firm holds in stock with the intent of selling it or transforming it into a more valuable state.

Petroleum - oil is the lifeline of modern civilization. It is needed equally foe both domestic and industrial purpose. Its demand has increased multiple-folds and yet to increase on war scale due to rapid industrialization and fast urbanization. Both developed and developing countries are utilizing oil resources continuously for their progress and prosperity. In such a situation, oil product management become very important because oil resources are non-renewable or conventional sources of energy.

~~**Inventory Management-**~~ inventory management is vital in an oil plant. This project **"inventory management"** has been completed in IOCL,

Barauni. It deals with proper purchase operation, handling of materials and oil management processes. Purchase procedures play a very important part in inventory management. Very important methods involves in inventory management have been studied. Thousands of spare parts are stored by material management department. Their proper upkeep and maintenance are important for the refinery. Here the material is classified on the basis of ABC analysis based on monetary value. This method is applied because of materials are quite large. They are more than 30,000 in number. Other basic concepts of inventory have also been used. Efficient purchase can add to the profitability of the company. The company maintain the storage of several finished goods for further distribution.

MEANING

Inventory management is concerned with keeping enough products on hand to avoid running

out while at the same time maintaining a small enough inventory balance to allow for a

Reasonable return on investment. Excessive level of inventory results in

large inventory
Carryingcost. An efficient system of inventory management will determine:-

A) What to purchase?

B) How much to purchase?

C) From where to purchase?

D) Where to store?

configured to ware house, retail or product line will help to create revenue for the company. Inventory management is the active control program which allows the management of sales,

Purchases and payments. Inventory management software helps create invoices, purchase orders, receiving lists, payment receipts and can print

bar coded labels. An inventory management software system
The petroleum refining industry has effectively embraced the software solutions to optimize

the business supply chain to maximize the profit margins and create order in the chaos of

Numerous opportunities and challenges. The supply chain of a typical petroleum refining

company involves a wide spectrum of activities, starting from crude purchase and crude

Transportation to refineries, refining operations, product transportation and finally delivering the product to the end user.

WHO SHOULD ATTEND

Factory and inventory control professionals, manufacturing and production control

managers, industrial engineers, plant managers, material and purchasing managers,

Factory superintendents and customer/technical service managers who can benefit fromenhancing their inventory management techniques.

WHAT WILL COVER

- The strategic role of inventory management techniques.
- Establish the optimal inventory level.
- Inventory planning and replenishment.
- Distribution centre and warehousing operations.
- Inventory accuracy and audits.
- Inventory management, measurement and reporting.
- Inventory forecasting and demand management.
- Lead-time analysis and reduction.

TYPES OF INVENTORY

- **Raw Material:** An inventory of raw material allows separation of production schedulingfrom arrival of basic inputs to the production process.
- **Work –In – Progress:** An inventory of partially completed units allows the separationof different phases of the production process.
- **Finished Goods:** An inventory of finished goods allows separation of production fromselling.
- **Cash & Marketable Securities:** Cash & Marketable Securities can be thought of as aninventory of liquidity that allows separation of collection from disbursement.

OBTECTIVES OF INVENTORY MANAGEMENT

Inventory of finished goods should be maintained at sufficient high level so that theDemand of customers may be fully satisfied .Similarly,inventory of raw – materials shouldalso be sufficient so that

manufacturing process can be run smoothly. In case ofinadequate inventory of finished goods, there is always risk of being out – of – stock andin case of inadequate inventory of raw materials; there is always a risk of manufacturingprocess being halted. Therefore the major responsibility of inventory management is todetermine the sufficient level of inventory required in business. Since inventory is a major asset and it involves a lot of funds, inventory level should not beexcessive. Excessive inventory increases costs because extra funds are involved in it.Therefore, inventory management also tries to minimize the sufficient level of inventory.Thus, both inadequate & excessive quality of inventory is undesirable in the business.Inventory management should maintain the inventory at sufficient level so that it is neitherexcessive nor short of requirement.

The Term inventory management includes two conflicting tasks:-

1) To maintain a sufficient large size of inventory to meet the demand of finished goods

& to meet the demand of raw material by production department. 2) To keep the investment in inventories at minimum level by efficiently organizing thepurchase & sales operations.

MAIN OBJECTIVES

- To ensure a continuous supply of raw material.
- To maintain sufficient inventory of raw materials in periods of short supply.
- To maintain sufficient inventory of finished goods so that the demand of the customersare duly met.
- To minimize the carrying costs of inventory namely cost of godown insuranceexpenses, cost of funds involved in inventory etc.

- To arrange for sale of slow moving items.
- To control investment in inventory & keep it at an optimum level.

RISKS & COSTS OF EXCESSIVE INVENTORY

- Excessive carrying cost.
- Risk of loss of liquidity.
- Risk of price decline.
- Risk of deterioration of goods.
- Risk of obsolescence.

RISKS OF INADEQUATE INVENTORY

- Risk of break – down in manufacturing process.
- Risk of not meeting demand of customers.

COST OF INVENTORIES

Relevant inventory costs which change with the level of inventory are listedbelow:-

Ordering Cost: - The cost of ordering includes:

- Paper work costs , typing & dispatching
- Order inspection cost, checking & handling.

Carrying Cost: - Carrying cost involves:

- Capital Cost.
- Storage & handling cost.
- Insurance.
- Taxes.
- The cost of funds invested in inventory.

Stock out cost: - Stock out cost involves:

- Expenses of placing special orders.
- Expediting income orders.
- Cost of production delays.

NEED OF INVENTORIES

- Trans active Motive
- Precautionary Motive
- Speculative Motive

ACCOUNTING OF STORES

a GENERAL OUTLINES OF STORES FUNCTIONS

The Authority for receipt, storage and issue of all materials is centralized in the

Materials Department subject to exception permitted in certain cases. The user departments shall not be permitted to have any stock of materials with them in the formof sub-stores...Details procedure as prescribed in the Materials Management Manual is to be followedfor all

functions of the stores section of the Materials. A general outline of the functionsis as under:

- Receipt & Transportation.
- Custody & Issue.
- Inventory Control.
- Surplus Stores.
- Disposal of surplus, unserviceable assets & scrap materials.

3.1.11bFUNCTIONS OF FINANCE – STORES SECTION

The section dealing with accounting of stores in the Finance. Shall have following functions:

- **PASSING AND ACCOUNTING OF TRANSPORTATION BILLS**

All railway/streamer/air freight inward receipt and the road transport consignment notes shall be received in the stores Section of Materials. For taking the delivery of the consignments. The Stores shall enter these documents in a Daily Receipt Register. Transport bills will be initially received by the Materials, and sent to Finance. Duly verified with reference to the purchase order and also linking the same with the GR

Notes the certified bills of freight received from stores section shall be priced doing YMIROOTH transactions wherever the freight bill is directly linked to a Purchase order. The Finance will release payment only after due checking of bills with reference to the transport contract and other relevant documents. In case the freight bill cannot be linked to Purchase order the same shall be charged to freight expenditure account. For all freight bills, passed payment vouchers shall be prepared and signed by the authorized officers after whom the same shall be forwarded to the Cash Section forpreparation of cheque and payment to vendor.

- **ACCOUNT OF RECEIPTS, ISSUES, RETURN AND TRANSFER OF MATERIALS**

In SAP the reservations are prepared through a Maintenance order in case ofmaintenance job (TCODE IW31). The same captures the total details of location,equipment, etc. For issue of chemicals and misc. materials direct reservations arecreated (T-CODE MB21). In case of capital job reservations are created by givingNetwork No. which is attached to a Project No. (TCODE CN21).

- **NON-MOVING ITEMS AND DISPOSAL OF SURPLUS AND SCRAP MATERIALS**

All items (except for non-valuated stock items) which are not moving for two years shallbe classified into three categories as under:-

a) "Category I" shall contain all items with inventory value exceedingRs.10, 00,000 andabove...

b) "Category II" shall contain all items with inventory value above Rs.1, 00,000 and up toRs.10, 00,000

c) "Category III" shall contain all items with inventory value above Rs.50, 000 and up to

Rs.1, 00,000

d) “Category IV” shall contain items with inventory value up to Rs.50, 000

- **FREQUENCY OF STORES VERIFICATION**

Stock verification should be so arranged that:

a) All items, the stock value of which exceeds Rs.1, 00,000/- are verified at least twice ayear.

b) All items, the stock value of which exceeds Rs,25,000 and up to Rs.1

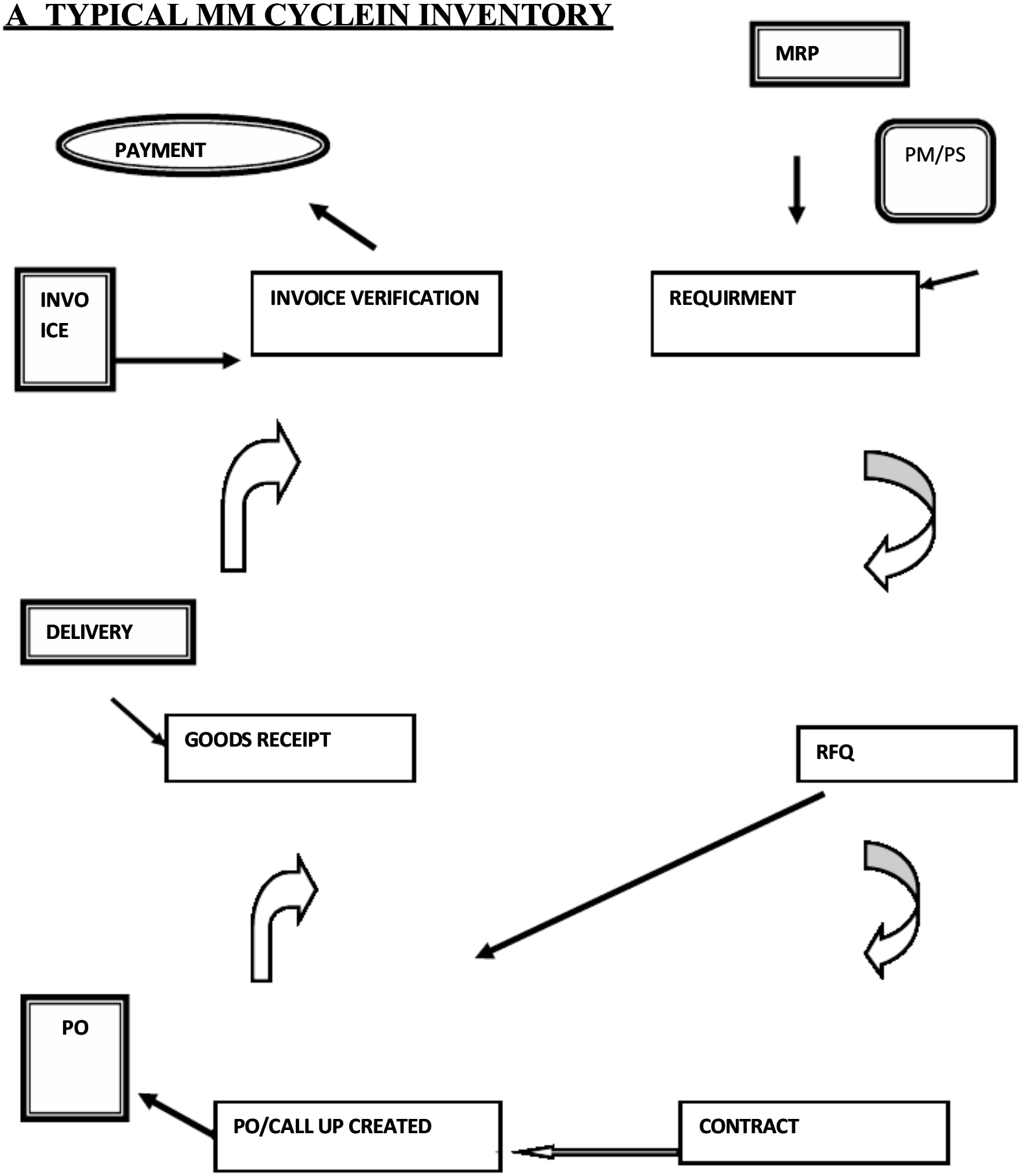
laces are verifiedat least once in two years, and

c) All remaining items below Rs.25, 000/- are verified once in five years. The AccountsOfficer will draw up annual and monthly schedules for the above verification inconsultation with the Stores Officer in accordance with the value given in annualinventory statements.

The Accounts Officer will arrange to maintain proper records of the stock verificationsheets for the discrepancies prepared by stock verifiers.

Inventory System- A set of policies and controls that monitors levels of inventory and determines what levels should be maintained, when stock should be replenished, and how large orders should be maintained

A TYPICAL MM CYCLEIN INVENTORY



IMPORTENT CONCEPTS IN INVENTORY MANAGEMENT

Models for Inventory Management:

- ABC ANALYSIS

1. Classifies items based on the annual usage value (AUV)
2. Identifies a small percentage of items which account for most of the total inventory value

Pareto's law applied to inventories

The relationship between the percentage of items and the percentage of AUV follows a pattern

A – about 20 % of items account for about 80 % of the AUV

B - about 30 % of items account for about 15 % of the AUV

C - about 50 % of items account for about 5 % of the AUV

Different Controls used with different classes

An Items: High priority – Tight control including complete accurate records, regular and frequent review by management, frequent review of demand forecast and close follow-up and expediting to reduce lead time

B Items: Medium priority – Normal Control

C Items: Lowest priority – Simplest possible control. Periodic review system. Order larger quantities and carry sufficient safety stock.

List of selected Class A items

Material	Amount(Value)		Quantity	
2-ETHYL-HEXYL-NITRATE	158,668,140.00	INR	1,614.37	TO
FRESH FCC CATALYST	29,572,183.13	INR	192.871	TO
ROTOR,DYN BALANCED,W/CPLG HUB	17,686,323.00	INR	1	EA
PLATINUM IN SPENT CATALYST	16,105,348.00	INR	14,607.00	KG
ROTOR ASSY	14,756,045.00	INR	1	EA
RANDOM PACKING FOR COLUMN	9,121,340.00	INR	1	M3
BUCKET,TURBINE STAGE 1 KIT,P/N:35306090	8,887,997.00	INR	1	EA
DHDT CATALYST ACT 961	7,796,626.00	INR	9,000.00	KG
PIPE,SS,EFW,A358TP321,CL1,BE,10IN,160,H2	7,663,400.91	INR	114	M
PLATE,CS,IS 2062,A,6300x1500x8mm	4,519,704.05	INR	96.749	TO
PIPE,AS,EFW,A691,GR9CR,CL42,BE,26IN,9.53	4,335,897.89	INR	45	EA
DHDT CATALYST ACT 645	4,250,873.00	INR	4,000.00	KG
PLATE,CS,IS 2062,A,6300x1500x6mm	4,178,605.45	INR	113.237	TO
SODIUM HYDROXIDE,CAUSTIC SODA LYE,NaOH	4,028,713.81	INR	198.612	TO
BEND,90,XLR,BW,AS,A387,P12,20IN,30	3,913,414.89	INR	15	EA
DIMETHYL DISULPHIDE(DMDS)	3,683,208.60	INR	24	TO
FUEL NOZZLE F/GAS TURBINE,MS 5001	3,641,467.00	INR	10	EA
TEE,EQ,BW,AS,A387,P12,10IN,40	3,630,011.50	INR	52	EA
DRUM,MILD STEEL,GAL,GAUGE:5	3,611,685.00	INR	2,356	EA
VLV,GT,WEDGE,A217C5,A217C5,FLG,300,2IN	3,472,725.30	INR	362	EA

PIPE,AS,SMLS,A335,GR.P9,BE,24IN,160	3,457,028.00	INR	6.2	M
SERVO LID - 190 KG DRM	3,335,816.88	INR	264	DRM
PIPE,AS,SMLS,A335,GRP9,BE,10IN,XXS	3,298,185.56	INR	103.89	M
PIPE,CS,EFW,A672,GRB60,CL.12,BE,16IN,20	3,244,197.00	INR	537.42	M
PUMP,COMPLETE UNIT,HDA 80/10,KSB	3,221,553.00	INR	1	EA
PLATE,CS,IS 2062,A,6300x1500x5mm	3,121,415.84	INR	80.97	TO
NOZZLE,SPRAY,T/F,75 KVA	3,068,079.00	INR	42	EA
COMP.SEAL,FSL,PC-100CART	3,021,964.54	INR	7	EA
POLYTHENE LAMINATED JUTE BAGS	2,965,873.97	INR	199,810	EA
CABLE,AL,3Cx240 sq.mm,XLPE,ARM	2,941,731.13	INR	3,099	M
SYSTEM OF HAIL LPG TTL UPGRADATION	2,927,111.00	INR	1	EA
PIPE,CS,EFW,A672,GRB60,CL.12,BE,16IN,STD	2,764,286.32	INR	392.25	M
CABLE,AL3.1/2x300s.mm,PVC INS,ARM	2,761,966.30	INR	3,534	M
COMBUSTOR LINER F/GAS TURBINE,MS 5001	2,708,459.00	INR	10	EA
CABLE,T/C,CU,20P,UDEY	2,707,632.69	INR	11,680	EA
ADDITIVE,FCC CATALYST,ZSM-5	2,667,993.94	INR	7.361	TO
K4SDR-16, THL TDC 3000,P/N;5143519-160	2,613,307.12	INR	3	EA
FL,WN,RTJ,AS,A182,F12,10",300,40	2,543,455.36	INR	105	EA
CABLE,AL3.1/2x185s.mm,PVC INS,ARM	2,523,370.00	INR	5,038	M
PIPE,CS,SMLS,A106,GRB,BE,4IN,40	2,521,237.16	INR	3,098.24	M
PIPE,AS,EFW,A691,1.25CR,CL42,BE,26IN,10T	2,472,162.58	INR	63.5	M
SMM CARD FOR UCN INTERFACE OF THL DCS	2,342,155.00	INR	2	EA
TUBE,AS,SMLS,A335,P9,BE,101.6x8.33x8597	2,333,290.82	INR	51	EA
PIPE,AS,SMLS,A335,GR.P9,BE,20IN,160	2,301,311.00	INR	6.15	M
CHANNEL,CS,IS 2062,A,400x100mm	2,301,017.00	INR	31.32	TO

List of selected Class B items

Material	Amount		Quantity	
T/M,D/P,ELECY,0-2500 MM WC	498,761.44	INR	23	EA

BARRIER,INTER PHASE,CT,F/6.6kVJYOTI VCB	498,420.00	INR	30	EA
ROTATING ASSY (P200),P/N10	498,000.00	INR	1	EA
FABRIC ELT ASSY,MULTILAYER COMPOSITE	496,771.00	INR	30	M2
TR,DP,SMART,0-5000MMWC	496,705.00	INR	23	EA
SEPARATOR FILT ELMNT,WD-873,EST-423-02	494,879.00	INR	52	EA
TURNSTILE,3/4HEIGHT,90D-STOP,4WAY,BDR	494,410.00	INR	3	EA
POSITIONER F/C/V,MIL FISHER	493,453.33	INR	20	EA
LINE CHOKE& TERMINATOR F/COK-A EOT CRAN	493,262.00	INR	2	EA
DETECTOR,FLAME(28FD)	492,668.00	INR	2	EA
VLV,CHK,LIFT,A217 C5,A217 C5,FLG,300,8IN	492,649.18	INR	10	EA
PIPE,AS,SMLS,A335,GRP5,BE,3IN,40	491,768.51	INR	716.89	M
FUEL OIL BYPASS VLV ASSY	491,676.35	INR	1	EA
ACCUMULATOR F/COMP.2MCL,456,BHEL	491,400.00	INR	6	EA
CABLE TRAY,MS,200mmx20mmx2.5m	489,896.04	INR	470	EA
MS-BS II -AKI-84(88RON-0.05% SUL)	489,522.77	INR	39,486.16	KL
COOLER,COMP,2MCL357,BHEL	487,813.00	INR	1	EA
FAN ASSY,C/TOWER,85454-14V-05,PCT	487,680.00	INR	1	EA
VLV,GLB,ANGLE,BRASS,THD,125,8IN	486,340.32	INR	8	EA
T/NATION,AI,16CH,TM117-AI12,AUG,099-0070	485,692.59	INR	2	EA
PISTON HALF,P/N-2734.3361.000	392,190.40	INR	1	EA
IMPELLER , 6 MQX,P/N 6073442	387,000.00	INR	1	EA
HLAI PROCESSOR, 16 PT.MU-PAIH03, HAIL	385,552.80	INR	3	EA
PIPE,MS,ERW,IS3589,GR330,BE,28IN,7.92TH	384,710.00	INR	49.58	M
CABLE,AL,3Cx150sq.mm,PVC INS,SHTD,ARM	384,421.25	INR	283	M
PIPE,CS,SMLS,API5L,GRB,BE,8IN,40	384,404.06	INR	150.7	M
FRAME PROOF F/MOTOR,PMP,400	382,620.00	INR	1	EA

TS3,JYOTI

TB DIGITAL RELAY/CARD NO. DS200DTBCG1AAA	382,080.00	INR	1	EA
PIPE,MS,ERW,IS1239,BLACK,BE,18IN,9.53TH	381,161.42	INR	260.399	M
DREWTREAT 738	380,698.63	INR	4,906.00	KG
FLAT,CS,IS 2062,25x3mm	380,051.34	INR	7.539	TO
VLV,GLB,A216WCB,A216WCB,FLG,150,3IN	378,949.09	INR	33	EA
EJECTOR COMPLETE UNIT	378,800.00	INR	2	EA
VLV,GLB,A216WCB,A216WCB,FLG,300,10IN	378,340.66	INR	6	EA
SEAL ASSYCOMP,J.CR,1648 SEAL CART,2.5000	377,143.00	INR	1	EA
PUMP, VERTICAL TURBINE	376,367.00	INR	1	EA
PSV-001 & 002, 6" X 8", RF	375,900.00	INR	2	EA
T/M,STD924,THL	375,350.04	INR	13	EA
SUPPORT CABLE ASSY,LOWER,P-101-P-105	311,931.00	INR	3	EA
VLV,ON/OFF,BAL,DIAP,A216,WCB,FL,300,2IN	311,917.00	INR	4	EA
PIPE,AS,EFW,A672,GRB70,28,12THK	311,220.00	INR	11.97	M
BARRIER,ANALOG O/P,MTL 3045	311,143.39	INR	53	EA
PUMP,COMPLETE UNIT,SHD 200/32 N,KBL	311,111.00	INR	2	EA
JACK, HYDRAULIC 100 TON	310,641.00	INR	1	EA
PROBE, SPEED DYNALCO M180	310,138.21	INR	9	EA

List of selected Class C items

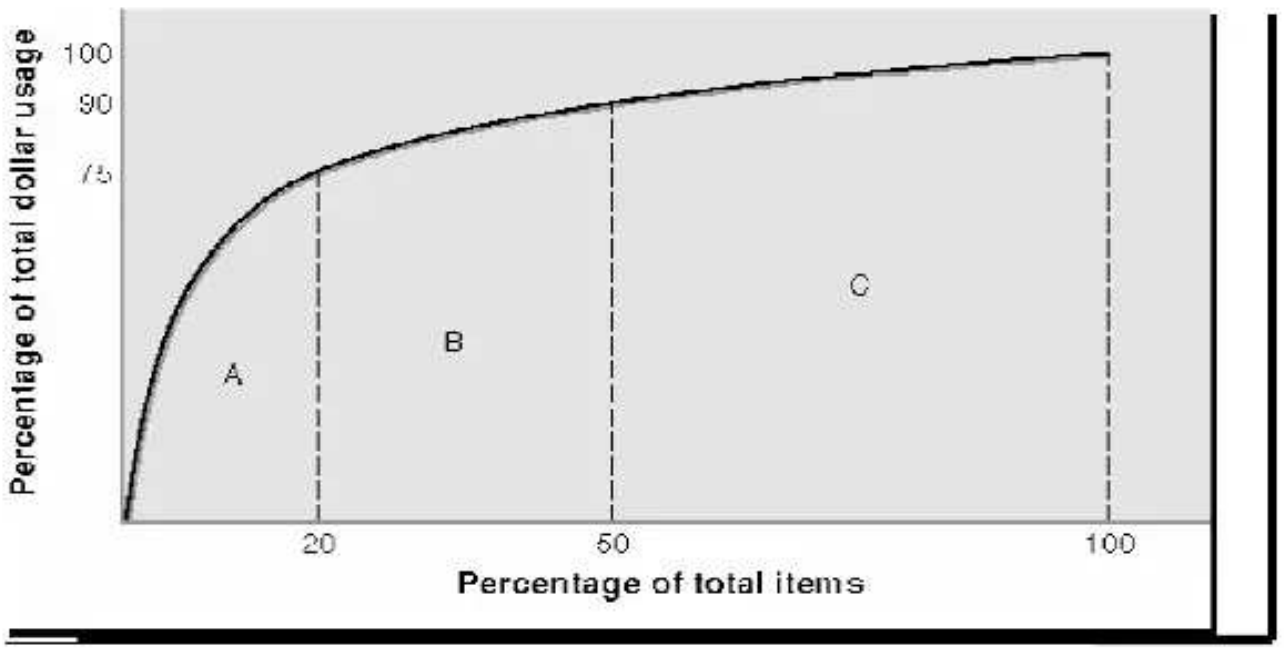
Material	Amount		Quantity	
CT,200/1-1A,1.5VA	52,563.79	INR	3	EA
SECONDARY SEAL,RPH-ECM-25-180,KSB	52,560.00	INR	2	EA
ELBOW,90DEG,LR,ASTM A 815,8IN,S20	52,526.00	INR	1	EA
PKG,ROTARYHD,FSL,PBSCART	52,517.96	INR	6	EA
GASKET,GRAFOIL,P/NO 152.1	52,508.00	INR	5	EA
RTV SEALANT (0000B),P/N 110	52,500.00	INR	2	EA
PIPE,MS,EFW,IS3589,410,BE,28IN,10MM	52,437.00	INR	10	M

THK

VIRGO VLV ACTUATOR FAIL SAFE OPEN 100M	52,428.00	INR	2	EA
LAMP,LED IND,10W,22.5MM,24VDC,LVGP	52,401.51	INR	328	EA
FL,SP.BL,FF,CS,A105,300,4IN	52,387.17	INR	36	EA
CPLG,HALF,TH,CS,A105,3000,1/2IN,IBR	52,380.34	INR	1,790	EA
BOX,JUNCTION,12ways,FLAMEPROOF	52,378.67	INR	14	EA
T/F,VOLTAGE,6.6kV,100/50VA,JYOTH	52,335.00	INR	3	EA
GSKT,SPWD,CS,SS304,CAF,8IN,150lbs	52,332.34	INR	498	EA
STUD,AS,A193,B7,NUTS,A194,2H,M36x275 mm	52,308.75	INR	150	EA
O RING,P/N;10(KALREZ), EPIL,KXWKC	52,305.60	INR	2	EA
PUMP,COMPLETE UNIT,MOVI-32/8,KSB	52,251.65	INR	1	EA
AIR FLTR REGULATOR,P/N-450352	52,239.00	INR	3	EA
CABLE JOINT KIT,3X70sq.mm,3X150sq.mm	51,474.06	INR	49	EA
SWITCH,PR,DIAPH,10-60bar	51,442.73	INR	13	EA
DIAPHRAGM, 1052(70), FISHER	51,434.00	INR	3	EA
STUD,AS,A193,B7,NUTS,A194,2H,M14x120 mm	51,423.23	INR	2,430	EA
BRICK,ALUMINA,SP-11	51,386.46	INR	800	EA
BRG,6.6KV,BHEL	51,351.00	INR	2	EA
MECH.SEAL COMP, P04D28 (SPL)	51,349.96	INR	1	EA
STUD,AS,A193,B7,NUTS,A194,2H,M12x85mm	51,331.49	INR	4,050	EA
ROTARY HD ASSY,IB,EPIL,Y15D38-DBL	51,312.71	INR	1	EA
TEE,EQ,BW,CS,IS 3589,410,8IN,20	51,304.00	INR	1	EA
OIL TIP	51,243.00	INR	2	EA
TONER CRTDG,LASER PRINTER,HP-5000	51,240.00	INR	6	EA
CLUSTER ASSY. FOR M40, 4000A, PGA0100168	51,221.01	INR	10	EA
HOSE TELE BOOM,P/N-2307125	50,216.00	INR	1	EA
SLEEVE GASKET, P/N. 19	50,208.00	INR	5	EA

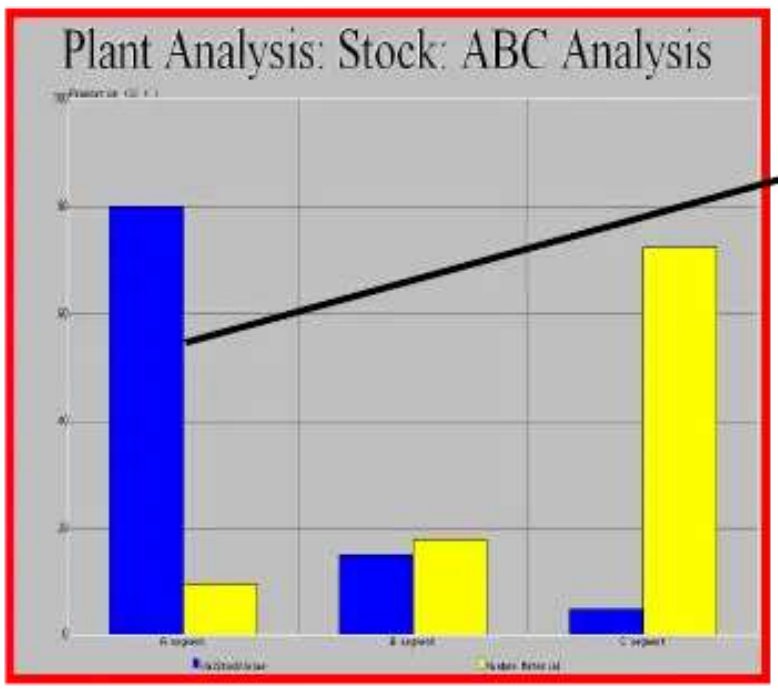
FL,SP.BL,FF,CS,A105,150,16IN	50,187.00	INR	4	EA
PIPE,CS,SMLS,API5L,GRB,BE,10IN,30	50,153.86	INR	18.06	M
GASKET,GRAFOIL,P/NO 152	50,134.00	INR	5	EA
FL,SP.BL,RTJ,SS,A182, F321,600,4IN	50,109.60	INR	9	EA
MECH.SEAL,EPIL,P03D36/P03D32	50,103.50	INR	1	EA
RELAY 180 300 MN12 SS 94139 L T	50,062.00	INR	10	EA
HEX NUT M 12, P/N 9	49,000.00	INR	40	EA
BEND,90,XLR,BW,AS,A234,WP5,12IN,60	48,974.00	INR	2	EA
WRENCH ,IMPACT ,W – 2109,CLECO	48,960.00	INR	1	EA
CABLE EARTHING,TRUCK,6.6KV,VCB	48,916.00	INR	2	EA
FL,WN,RTJ,AS,A182,F11,300,20",10	48,863.70	INR	4	EA
PIPE,AS,SMLS,A335,GRP1,BE,8IN,40,IBR	48,858.00	INR	13.03	M
BRACKET,BRG,PMP,SMU 3x4x11-2 STG,BPCL	48,853.55	INR	1	EA

ABC Inventory Categories



SEGMENT	NO OF ITEMS	%	VALUE OF STOCK	IN SEGMENT

A	2748	9.69%	1,144,503,294.22	80.00%
B	5093	17.75%	214,554,731.32	15.00%
C	20529	72.36%	71,524,668.24	5.00%
TOTAL	28370	100%%	1,430,582,693.78	100%



VALUE STOCK= NO OF ITEMS

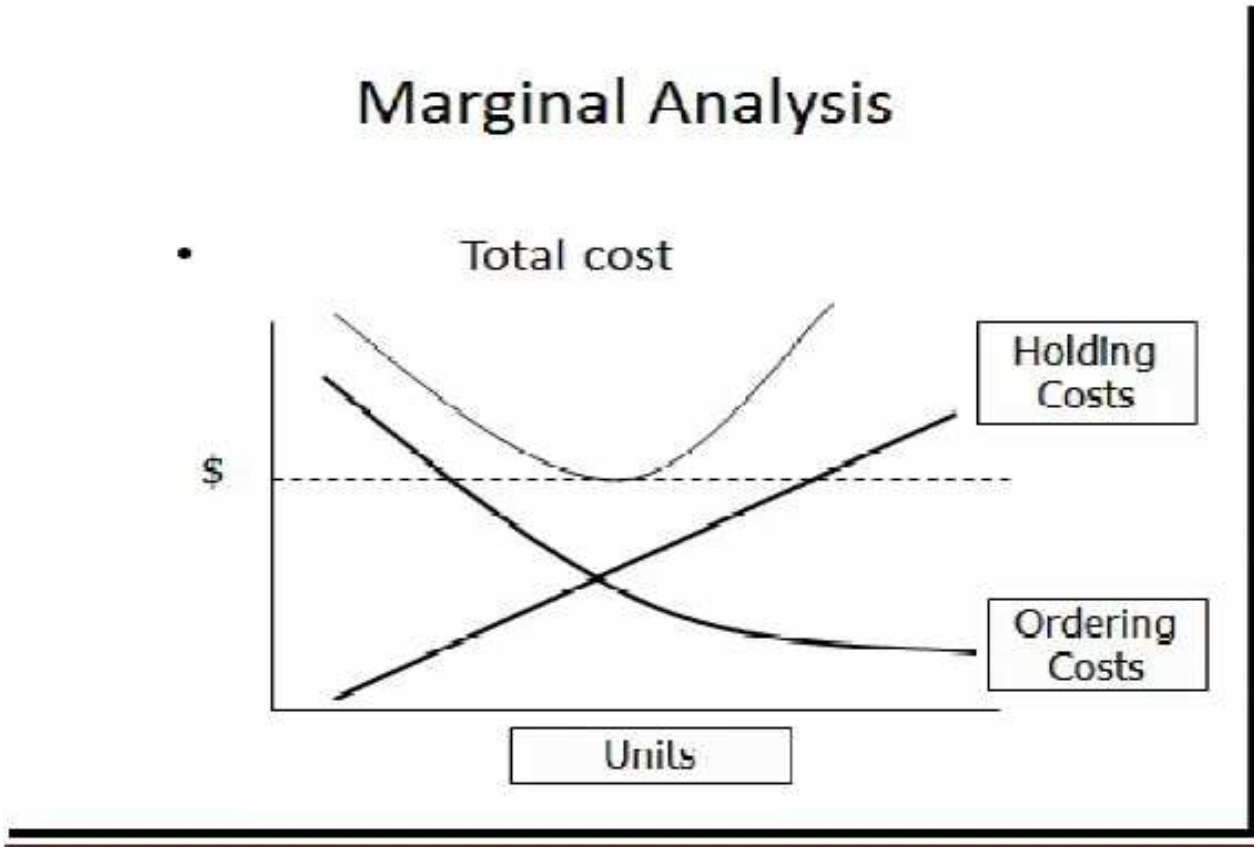
- ~~EOQ~~

- EOQ minimizes the sum of holding and setup costs
- $Q = 2DC_o/C_h$

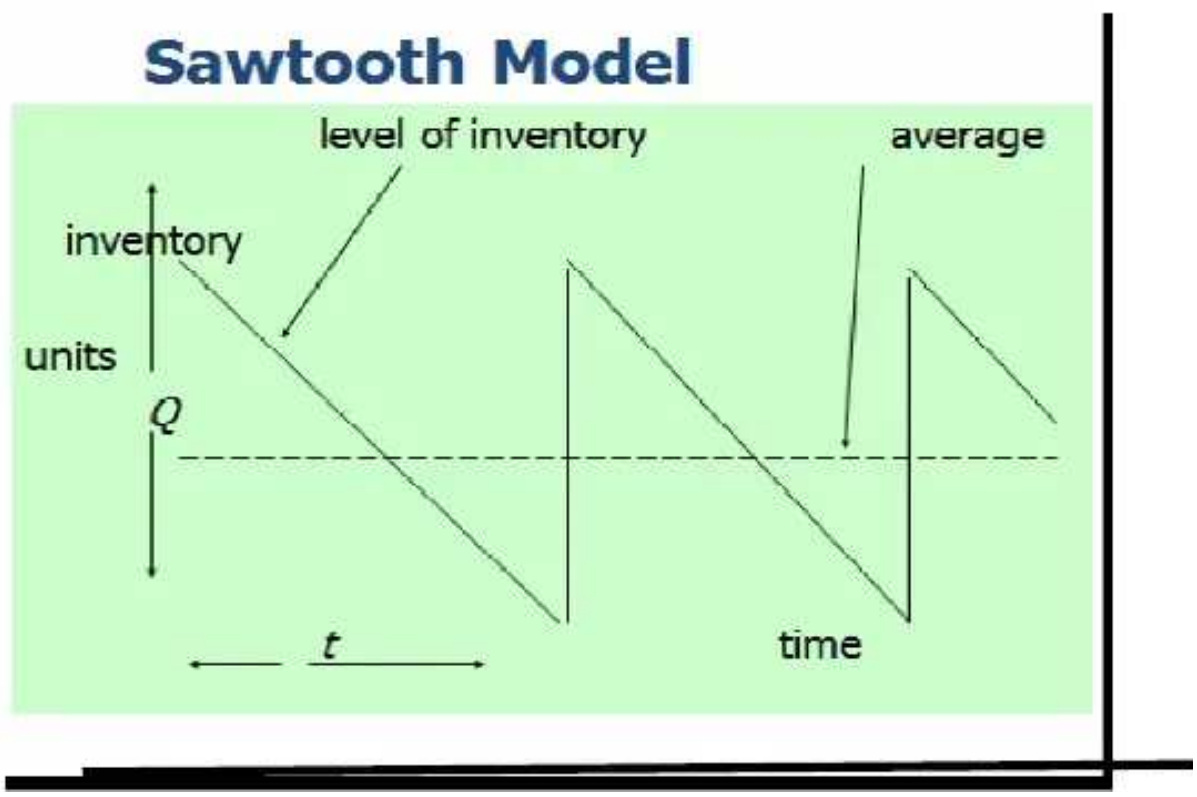
D = annual demand

C_o = ordering/setup costs

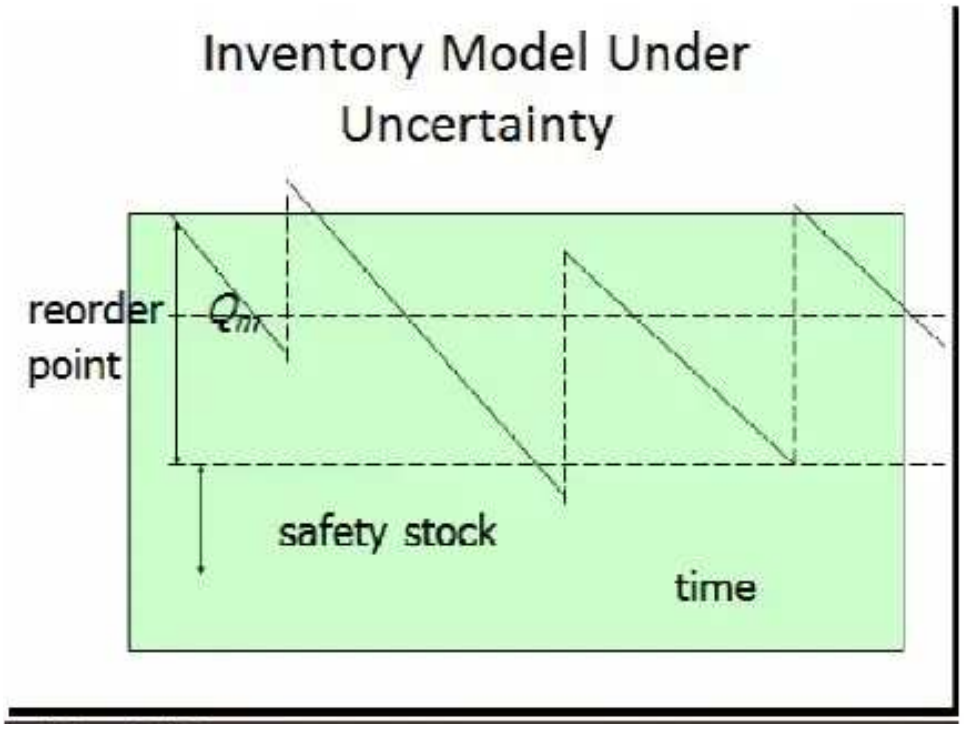
C_h = cost of holding one unit of inventory



❖ SAWTOOTH MODEL



❖ INVENTORY MODEL UNDER UNCERTAINTY



Determination of stock Level:-

(A) Minimum Level = Reordering Level – (Normal Consumption * Normal Reordering

Period)

(B) Maximum level = Reordering Level + Reordering Quantity – (Minimum Consumption *

Minimum Reordering Period)

(C) Danger Level = Consumption * Maximum Reorder Period

Inventory Turnover Ratio:-

Inventory Turnover Ratio = Cost of goods sold / Average inventory at cost

❖ JUST IN TIME (JIT) PRODUCTION

Just-in-time (JIT)is defined in the APICS dictionary as "a philosophy of manufacturing based on planned elimination of all waste and on continuous improvement of productivity".

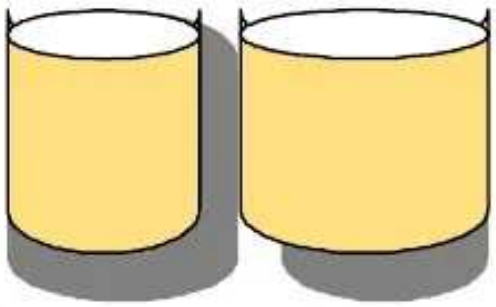
It also has been described as an approach with the objective of producing the right part in the right place at the right time (in others words, "just - in –time). Waste results from any activity that adds cost without adding value, such as the unnecessary moving of material, the accumulation of excess inventory or the use of faulty production methods that creates products requiring subsequent rework. JIT (also known as lean production or stockless production) should improve profits and return on investment by reducing inventory levels (increasing the inventory turnover rate), reducing variability, imp roving products quality, reducing production and delivery lead times and reducing other costs(such as those associated with machine setup and equipment breakdown). In a JIT system underutilized (excess) capacity is used instead of buffer inventories to hedge against problems that may arise.

JIT applies primarily to repetitive manufacturing processes in which the same products and components are produced over and again. The general idea is to establish flow processes (even when the facility uses a jobbing or batch process layout) by linking work centres so that there is an even, balanced flow of materials throughout the entire production process, similar to that found in an assembly line. To accomplish this, an att empt is made to reach the goals of driving all inventory buffers towards zero achieving the ideal lot size of one unit.

The basic elements of JIT were developed by Toyota in the year 1950's and became known a s the Toyota production system (TPS). JIT was well established in many Japanese factories' by the early 1970's. JIT began to be adopted in the U.S in the 1980's (General Electric was an early adopter) and the JIT / lean concepts are now widely accepted and used.

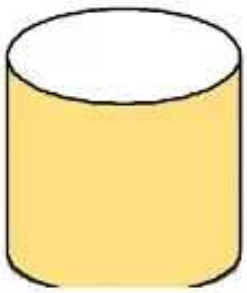
INVENTORY SYSTEM:BIN SYSTEM

Two Bin Systems



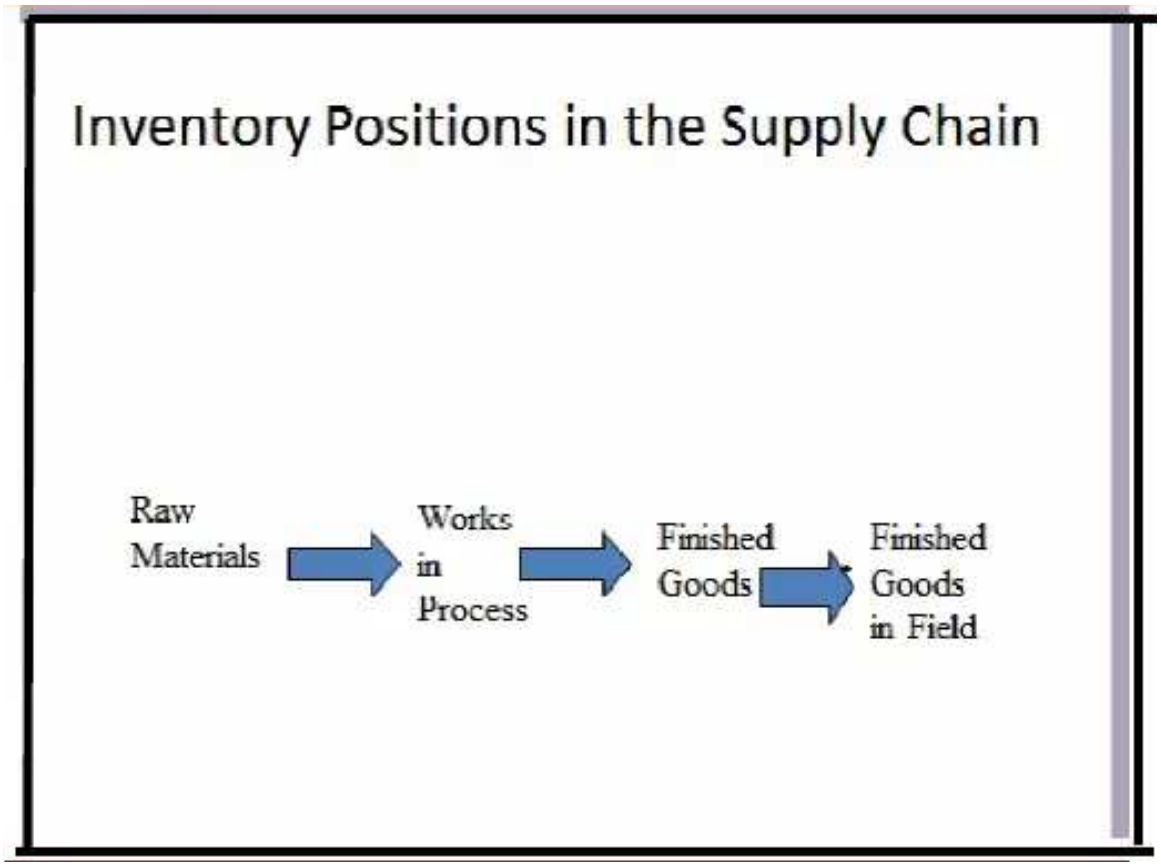
Full Empty *Order One Bin of Inventory*

One-Bin



Periodic Check

Order enough to refill bin



PURCHASE PROCRDURE

■ PROCUREMENT OF METERIAL

0BJECTIVE OF PURCHASE

1. To maintain continuity of supply so as to support production schedules.
2. It must ensure minimum investment in stores and materials inventory.
3. It must avoid duplication of purchases, wastes, obsolescence, and costly delays.
4. It must maintain quality standards based on suitability criterion.
5. It must procure materials at the lowest possible cost consistent with quality and service requirements.
6. It must maintain material costs such that the company is in a competitive position.

BASIC PRINCIPLE OF PURCHASING

1) Buying the right quality,
2) Buying the right quantity,
3) Buying the right price,
4) Buying form the right source,
5) Buying at the right time, &
6) Buying for the right place.

PURCHASE POLICY AND PROCEDURE

1) A written well documented policy is helps in guiding the purchasing process.

2) It eliminates the necessity to make fresh decisions every time when a comparable situation arises.

3) It contains details of approval authority of purchasing people.

4) It should mention how many vendors to be maintained and their preferences rules.

5) Policy sets down the minimum no of quotes to be collected for selection & finalization.

6) In case of deviation it should give the rules for getting sanction from higher authority.

7) Penalty, Performance Guarantee/Warranty claims clauses to be mentioned.

8) Credit terms of purchases should be specified in the policy.

9) It should address issue of reciprocal buying.

Purchase Order

- FOA/LOA shall be regularizing through a purchase order (PO). All POs shall be prepared through SAP as per PO release strategy and shall be issued under the signature of authorized officer of material Department as per DOA
- A completed purchase requisition will be reviewed and approved in the Purchasing Department according to the University's policy for requisition approval. Once the requisition has been approved, it will be used to create a Purchase Order (PO).
- When the supplier receives their copy of the PO and confirms acceptance of the information and terms, the PO becomes a formal contract between the University and the supplier for that specific transaction.

- Both parties are required to comply with the terms on the PO as they would with a regular contract.
- Two copies of PO shall be sent to the vendor one of which should be signed and sent back to the vendor as a token of acceptance.
- Annual rate contract with approved vendor wherever possible may be entered into for supply of regular consumables on staggered delivery basis is reduce the inventory level.
- For purchase order release through SAP on line PO release system, signed copy of PO will not be required for internal use and follow on process of GR, payment.

The Purchasing Department will send a copy of the PO to the employee to confirm that the PO was sent to the supplier and to act as documentation during the receiving process

A COPY OF PURCHASE ORDER ON BARAUNI REFINERY

Indian Oil Corporation Limited

(Refineries Division)

P.O. Barauni Oil Refinery

Barauni PIN-851114

Vendor Code-10215577
KANORIA CHEMICALS

& INDUSTRIES LTD

71 PARK STREET, PARK PLAZA

KOLKATA-700016

West Bengal

Tel.:
Fax:

Email:

We are pleased to forward here with a document for your reference and action.

For any further clarifications please use following contact information:

Purchasing Document Number: RBRM10V057/23353974

Document Date: 05.04.2011

Name &Designation:

EMAIL:

PH:

FAX:

Corporate Website: http://www.iocl.com/

Corporate Tenders Site: http://www.IndianOilTenders.com/

Regd. Office: G-9, Ali Yavar Jung Marg, Bandra (E), Mumbai-51, India

Vendor Code: 10215577 Qtn.Ref.:QR-7/1/P23 **PURCHASE ORDER**

KANORIA CHEMICALS Qtn.Dt.20.01.2011

& INDUSTRIES LTD Payment Terms: **PO**
No.:RBRM10V057/23353974

71 PARK STREET, PARK PLAZA See Details below**PO**
Date: 05.04.2011

West Bengal

Incoterms: FOR Total items on PO = 1

DESTINATION Tot PO Mat (INR): 2,827,185.00

Tel No:

Fax No:

FOR ALL CORRESPONDENCE PLS. QUOTE PO No. AS ABOVE.

Dear, sir/ Madam

Subject to the terms and conditions and instruction given herein, over leaf (if any) along with enclosures please dispatch / deliver the following material. Unless otherwise specified at item level.

Supply to Plant: 9020, Barauni Refinery

Store: REVN, Revenue Store.

Reno.	Material Code	UOM	Quantity	Unit Price	Amount
GROUP: 1					
PROCESS CHEMICALS					
HYDROCHLORIC ACID					
FORMULA: HCl					
STRENGTH: 30%					
GENERAL APPERANCE: CLEAR YELLOW					
SPECIFIC GRAVITY 27 DEG.C: 1.145					
HYDROCHLORIC ACID CONTENT: 30.0%					
SULPHATES CONTENT: 0.1%					
IRON CONTENT: 0.02%					
RESIDUE ON IGNITION: 0.1%					
FREE CHLORINE&BROMINE: 0.02%					
STANDARD CONFORM TO: IS-265/1973					
SULPHATES (AS SO2): 0.05%					
00010	**8822320574**	**TO**	**1,500.000**	**1,884.79**	**2,827,185.00**
		Tone (metric tons)			**INR /1**
TO INR					
HYDORCHLORIC ACID, IS 265/1993, BW GRADE					

Cen vat(Invt.) = 10.000 % E Cess (Invt.) = 2.000 %

SE Cess (Invt.) = 1.000 % CST = 2.000 %

Delivery Schedule: 04.04.2012; Qty = 1,264.769

Vendor Code: 10215577 Qtn.Ref.:QR-7/1/P23 **PURCHASE ORDER**

KANORIA CHEMICALS Qtn.Dt.20.01.2011

& INDUSTRIES LTD Payment Terms: **PO No.:RBRM10V057/23353974**

71 PARK STREET, PARK PLAZA See Details below**PO Date: 05.04.2011**

West Bengal Coll.Ref.RBRM10V057

Sr.No.	Material Code	UOM	Quantity	Unit Price	Amount

Item Text:

SPECIFICATIONS OF HYDROCHLORIC ACID

TOTAL ACTIVITY (AS HCL), PERCENT BY WT : 30(MIN)

RESIDUE ON IGNITION, PERCENT BY WT : 0.01(MAX)

SULPHATES (AS H2SO4), PERCENT BY WT : 0.1 (MAX)

IRON (AS FE), PERCENT BY WT : 20PPM MAX

FREE CHLORINE AND BROMINE (AS HCL), PERCENT BY WT: 5PPM (MAX)

SULPHITES (AS SO2), PERCENT BY WT : 0.05(MAX)

HEAVY METALS (AS PB), PERCENT BY WT : 0.002(MAX)

ARSENIC (AS AS), PPM MAX : 5PPM (MAX)

MERCURY (AS HG), PPM MAX : 3PPM (MAX)

STANDARD CONFORMS TO : ARE 265:

1993 BW GRADES

NOTE: PLEASE IGNORE TECHNICAL SPECIFICATIONS MENTIONED ELSE WHERE IN

THE PURCHASE ORDER OTHER THAN THE SPECIFICATIONS MENTIONED IN THE ITEM

TEXT DULY ACCEPTED BY YOU.

Total PO Amount (INR): Exclusive of Header and Item conditions

2,827,185.00

Rs. TWENTY-EIGHT LAC TWENTY-SEVEN THOUSAND ONE HUNDRED EIGHTY-FIVE ONLY

10215577 Qtn.Ref.:QR-7/1/P23

PURCHASE ORDER (cont.)

KANORIA CHEMICALS Qtn.Dt.20.01.2011

& INDUSTRIES LTD Currency : INR**PO number:**
RBRM10V057/23353974

PO Date: 05.04.2011

Header Text:

TERMS AND CONDITION:-

THIS HAS REFERENCE TO YOUR OFFER NUMBER SALES-21/65 DATED 20.01.2011 AGAINST OUR NIT NO.RBRM10V057, OUR FOI DTD.04.04.2011 AND ALL SUBSEQUENT CORRESPONDENCES UP TO AND INCLUDING YOUR E-MAIL FOR PRICE BREAK-UP DATED 04.04.2011, WE ARE PLEASED TO ISSUE THIS ORDER FOR SUPPLY OF HCL AS PER OUR SPECIFICATION.

1. 100% PAYMENT WILL BE RELEASED WITHIN 30 DAYS AFTER RECEIPT AND ACCEPTANCE OF MATERIALS AT OUR STORES.

2. EXCISE DUTY AT ACTUALS WILL BE PAID EXTRA WITHIN CDD. THE PRESENT RATE OF

EXCISE DUTY BEING @ 10% AND CESS @ 3%. ANY INCREASE IN EXCISE DUTY BEYOND CDD SHALL BE TO VENDORS ACCOUNT.

3. UNDER RULE 11 OF THE CENTRAL EXCISE RULES 2001 EFFECTING FROM 01.07.2001,

EXCISABLE GOODS SHALL BE DELIVERED FROM THE FACTORY OR A WAREHOUSE ONLY UNDER AN

INVOICE WHICH IS PREPARED IN ACCORDANCE WITH THE PROVISIONS OF THE SAID RULE.

4. OUR NEW ECC NUMBER IS AAACI1681GXM079 W.E.F 01.12.2001 (AGAINST OLD ONE OF

12-01070017) AND CODE OF CENTRAL EXCISE RANGE IS-120107 DIVISION CENTRAL EXCISE

DIVISION, CENTRAL REVENUE BUILDING. ANNEX, BIR CHAND PATEL MARG, PATNA,

COLLECTORATE CENTRAL REVENUE BUILDING, B.C.PATEL MARG,

PATNA. OUR PAN NO. IS AAA C1 1681 G.

5. KINDLY ENSURE TO SEND A DUPLICATE COPY OF THE INVOICE FOR TRANSPORTER

FULFILLING ALL REQUIREMENTS AS PER EXCISE RULE ALONGWITH CONSIGNMENT FOR TAKING

CREDIT UNDER RULE 57G. OTHERWISE THE CENVAT AMOUNT WILL

BE DEDUCTED FROM YOUR

BILL.

6. SALES TAX @ 2% WILL BE PAID EXTRA. .C. FORM WILL BE ISSUED BY US. TAX PAYER

IDENTIFICATION NO. (TIN) NO. FOR BIHAR VAT = 10360215078. TAX PAYER

IDENTIFICATION NO. (TIN) NO. FOR CST = 10360215175. ANY CHANGES IN TAXES AND

DUTIES WITHIN CDD WILL BE AT OUR ACCOUNT AND BEYOND CDD WILL BE AT VENDORS

ACCOUNT.

10215577 Qtn.Ref.:QR-7/1/P23

PURCHASE ORDER (cont.)

KANORIA CHEMICALS Qtn.Dt.20.01.2011

& INDUSTRIES LTD Currency INR**PO number: RBRM10V057/23353974**

PO Date:

05.04.2011

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7. FREIGHT CHARGES WILL BE PAID EXTRA RS.1600/- PER MT. FREIGHT CHARGES WILL BE

DIRRECTLY PAID TO THE VENDOR.

8. TRANSIT INSURANCE WILL BE ARRANGED BY YOU AT YOUR COST.

9. WE ARE ENCLOSING HEREWITH BIHAR ROAD PERMIT NO. _____ .

10. FIRM PRICE: THE PRICE WILL REMAIN FIRM TILL THE EXECUTION OF THE ORDER

QUANTITY OR CONTRCTUAL DELIVERY DATE FOR TOTAL QUANTITY WHICH EVER IS EARLIER

11. PLEASE WRITE COMPLETE DESCRIPTION, ITEM CODE (10 DIGIT), PURCHASE ORDER NO.

ETC. ON THE CHALLAN/ INVOICE AND VENDOR HAS TO PRINT/ PASTE A SLIP/ WRITE THE

ITEM CODE (* * * * * * * * * *) ON THE PACKING OR BOX OR DRUM ETC. FOR EASY

IDENTIFICATION OF THE MATERIALS AT OUR END

12. CONCENTRATION VARIATION: UPTO +/- 0.5% SHALL BE CONSIDERED WITHIN TOLERANCE

LIMIT.

13. WEIGHT VARIATION: UPTO +/- 0.5% (100% BASIS) ON LYE WEIGHT WILL BE TREATED

WITHIN THE TOLERANCE LIMIT.

14. DELAYED DELIVERY: THE TIME AND DATE OF DELIVERY OF STORES/ MATERIALS/

EQUIPMENTS AS STIPULATED IN ORDER SHALL BE DEEMED TO BE THE ESSENCE OF THE

CONTRACT. IN CASE OF DELAY IN EXECUTION OF THE ORDER BEYOND THE DATE OF DELIVERY

AS STIPULATED IN THE ORDER OR ANY EXTENSIONS SANCTIONED. THE OWNER MAY AT HIS

OPTION EITHER.

(I) ACCEPT DELAYED DELIVERY AT PRICES REDUCED BY A SUM EQUIVALENT TO ONE HALF OF

ONE PERCENT (1/2%) OF THE VALUE OF ANY GOODS NOT DELIVERED OR EVERY WEEK OF DELAY

OR PART THEREOF LIMITED TO A MAXIMUM OF 5% OF THE TOTAL ORDER VALUE.

REPORTING OF MATERIAL AT OUR STORES WILL BE TREATED AS DATE OF RECEIPT.

10215577 Qtn.Ref.:QR-7/1/P23

PURCHASE ORDER (cont.)

KANORIA CHEMICALS Qtn.Dt.20.01.2011

& INDUSTRIES LTD Currency: INR**PO number:**
RBRM10V057/23353974

PO Date:
05.04.2011

CANCEL THE ORDER IN PART OR FULL AND PURCHASE SUCH CANCELLED QUANTITIES FROM

ELSEWHERE ON ACCOUNT AND AT THE RISK OF VENDOR, WITHOUT PREJUDICE TO ITS RIGHT

UNDER (I) ABOVE IN RESPECT OF GOODS DELIVERED

15. MSDS/TREM CARD

MSDS/TREM CARD are required to be carried along with each tanker and the instructions of safety must be followed strictly by the transporters.

16. P.P.Es (Personnel protective equipment's)

The drivers/khalasis must carry proper Personnel Protective Equipment's (PPE) via:

ACID/Alkali proof Hand Gloves, Helmet, Gumboot/ Safety shoes, Google, Apron up to

Knee high etc., related to industrial safety, with each tanker and wear the sameduring unloading of the materials from tanker. In case it is found that thedrivers/khalasis do not have the proper P.P.Es with them or not wearing the same,they will be fined with Rs.1000.00 in each occation,apart from taking othermeasure as may deemed fit.

17. Quantity Variation: - +/- 1.0 % is applicable.

18. Please arrange to submit PBG for 10% order value. The PBG should come from

Your Banker directly to us. PBG should valid for Contractual Delivery + 6 months.

19. SEALING OF TANKER

Tanker carrying the material shall be sealed properly to avoid any contamination in transit. Vendor has to check all measure to avoid contamination and propersealing of material in transit.

20. GPC

All other terms and conditions shall be as per our GPC (General Purchase Conditions) which is duly accepted by you along with your offer.

21. Testing and Sampling: You will send a sealed sample along with each supply. Material is to be sent preferably in single chamber tankers and sample will be drawn by our lab. In presence of driver of tanker. Our lab. report will be final and binding to vendor. Payment will be made in accordance with our lab. Test report.

10215577 Qtn.Ref.:QR-7/1/P23

PURCHASE ORDER (cont.)

KANORIA CHEMICALS Qtn.Dt.20.01.2011

& INDUSTRIES LTD Currency : INR**PO number:**
RBRM10V057/23353974

PO Date: 05.04.2011

In case variation in quality more than that of permissible limit sealed sample will be referred for testing. IOCL will be at liberty to reject any or all supply which will not be found in line with our specification based on our lab?Report .IOCL BARAUNI REFINERY lab report is final and binding to the vendor.

22. Schedule of supply: 250 MT (+/- 25%) per month starting from first week of April'2011. IOCL will be at liberty to ask the vendor for any change in quantity based on our requirement of plant and plant capacity.

23. Transporter to be advised by vendor for observance of all safety rule of Refinery.

24. Tanker should have all the valid documents as per traffic rule without which tankers will not be permitted to enter Refinery premises. TANKER MUST FOLLOW GENERAL REGULATORY REQUIREMENTS UNDER MOTOR VEHICLES, RULES, 1989 ENCLOSE AS ANNEXURE-A.

25. Our basis of ordering is FOT Destination and IOCL have no responsibility tilt the material is received at our Stores. Vendor should take sufficient care to supply the right quality of material as per our specification.

26. SUBMIT E-PAYMENT FORM ATTACHED ALONG WITH THIS SUPPLY. ALL PAYMENT WILL BE E-PAYMENT. SO YOUR SUPPLY DOCUMENT MUST INCLUDE FORMAT FILLED UP ALL COLUMNS WITH SIGNATURE AND COMPANY SEAL FAILING WHICH PAYMENT WILL NOT BE RELEASED. PLEASE IGONORE THIS IF YOU HAD ALREADY SUBMITTED THE SAME.ALSO MENTION THE PO NUMBER AGAINST WHICH YOU HAD SUPPLIED THE DOCUMENT.

For and on behalf of

INDIAN OIL CORPORATION LIMITED

P N Kumar

Chief Materials Manager

■ TENDER AND CONCURRENCE

The objective of Financial Concurrence is protection of financial interests of the Company in the decision making while ensuring financial propriety as a part of internal control system. The internal control is exercised through the vetting and concurrence by Finance department so that decision making is as per policy guidelines, rules, regulations, provision of budgets, etc. and it is not detrimental to the financial interest of the Company.

The financial concurrence facilitates achievement of transparency in the decision making which is subject to the scrutiny of various Government agencies like audit, Vigilance etc.

TYPES OF TENDER

They should follow tender system to procure materials at the most competitive rates meeting quality parameters. There should be three kinds of tender which are in vogue, namely, open tender, limited tender and single/proprietary item tender.

- OPEN TENDER
- LIMITED TENDER
- SINGLE TENDER

- **OPEN TENDER**

In this procedure, practically any contractor can submit a bid for the job. This method was probably the traditional method until more sophisticated techniques were accepted. The process begins by the placing of an advertisement in trade, magazines and newspapers highlighting the significant features of the project. This method of

tendering has the benefit of attracting number of tenders and hence the price they obtained is usually very competitive.

For items of regular consumption nature where source of supply have already been established and where the list of approved vendors is

maintained duly updated from time to time, press tender need not to be invited even if the estimated value is more than Rs. 50 lakhs but approval of competent authority for waiver of press tendering s to be taken

Advantage of open tendering:

1. Unknown contractor can tender for the work
2. Open tendering secures maximum competition.
3. There is no restrictive list of tenders, which does not allow favouritism – a valid point for local authorities who are publicly accountable.
4. There is no obligation to tender therefore all tenders received will be genuine.

Disadvantage of open tendering:

1. Cost of tendering is expensive to the client who must bear the cost of reproducing multiple copies of drawing, bills of quantities, etc.

2. The wrong contractor can be chosen. Little may know about the contractors – their record, experience, standard of workmanship, etc.

3. The lowest tender may not necessarily be a “bargain”. Choosing a

low tender may result in.
. *poor work* – a large number of, or even permanent, defects may occur unless there is close supervision by the client's agent.
. *poor organization* – late completion, specialist subcontractors delayed, etc.

4. It is lengthy operation requiring skilled estimating, the cost of which must be recovered on the job by the contractors. The higher the proportion of unsuccessful tenders the higher the cost to be recovered on the job.

5. A contractor may be awarded work for which he has little or no experience and which he be ill-equipped to deal with.

The use of open tendering on public sector contracts is required by law in several developing countries. But In many countries, private sector clients generally avoid open tendering.

- **LIMITED TENDER**

Limited Tender shall be considered in case enquiries are sent to at least three registered vendors. There will be flexibility to send enquiries to less than three vendors in case registered vendors are less than three.

As far as possible single tender should be avoided. However, single tender can be called for the following reasons:-

- Proprietary in nature.
- Specific items from statutory authorities/Authorized Dealer/ Stockiest/manufacturers/
  Govt. Dept.
- Spares from original equipment manufacturer.
- Urgency of the requirement certified by concerned Manager/HOD of the department giving justification on indent. Any single response received from an open tender or limited tender shall be treated as single tender and can be opened with the approval of HOD of Purchase/Commercial dept. duly concurred by Finance Dept.

- **SINGLE TENDER**
  - Single tender should normally be avoided. However in case of emergencies, specialized jobs or in special circumstances, to which reason to be recorded, single tender may be issued. Approval of the competent authority within whose power the approval of award of job lies but not above the rank of GM should be obtained for issuing of single tender equity.
  - In order to follow uniform procedure by all department concerned, procedure to line up an agency and award of job under single tender/ emergency situation shall be prepared by the unit and got approved by the unit head.
  - Where an item has been identified or specified by process licensor and approved by the general manager that the nature of the item is proprietary of single manufacture and no other substitute material is acceptable for technical reason.
  - Slandered brand items are also permissible on single tender basis provided there are strong justifications which shall be recorded in writing.

Invitation of Tender / Mode of Tendering / Tender opening

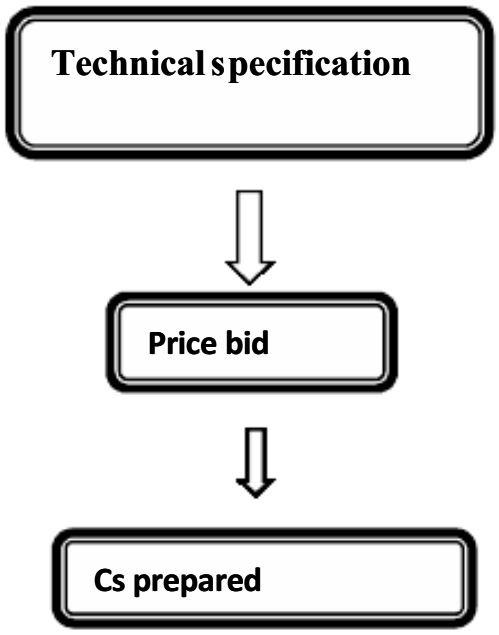
While concurring the proposals, it shall be ensured that the guidelines provided for invitation of tenders, mode of Tendering and Tender opening as per Materials Management Manual / Works Procedure Manual have been followed. Such guidelines generally relate to pre-qualification criteria, special conditions of contract, tendering system, publication of tender notice, tender fee/EMD, amendment/extension, tender opening, numbering of tenders, authentication of cuttings/ over writings, witnessing of tender opening, etc.

Single bid system:

- In single bid system, offers are invited in single part in sealed envelope.
- Single bid system of tendering shall generally be followed where estimated value of the procurement is less then Rs. 50.00 lakhs and technical specification are a comprehensive and deviation may not be envisaged.

Stages in single bid system

In single bid system they first prepare technical specification with that they making the price bid and after checking all the product with their quantity and price the prepare the CS. the procedure are as follows,



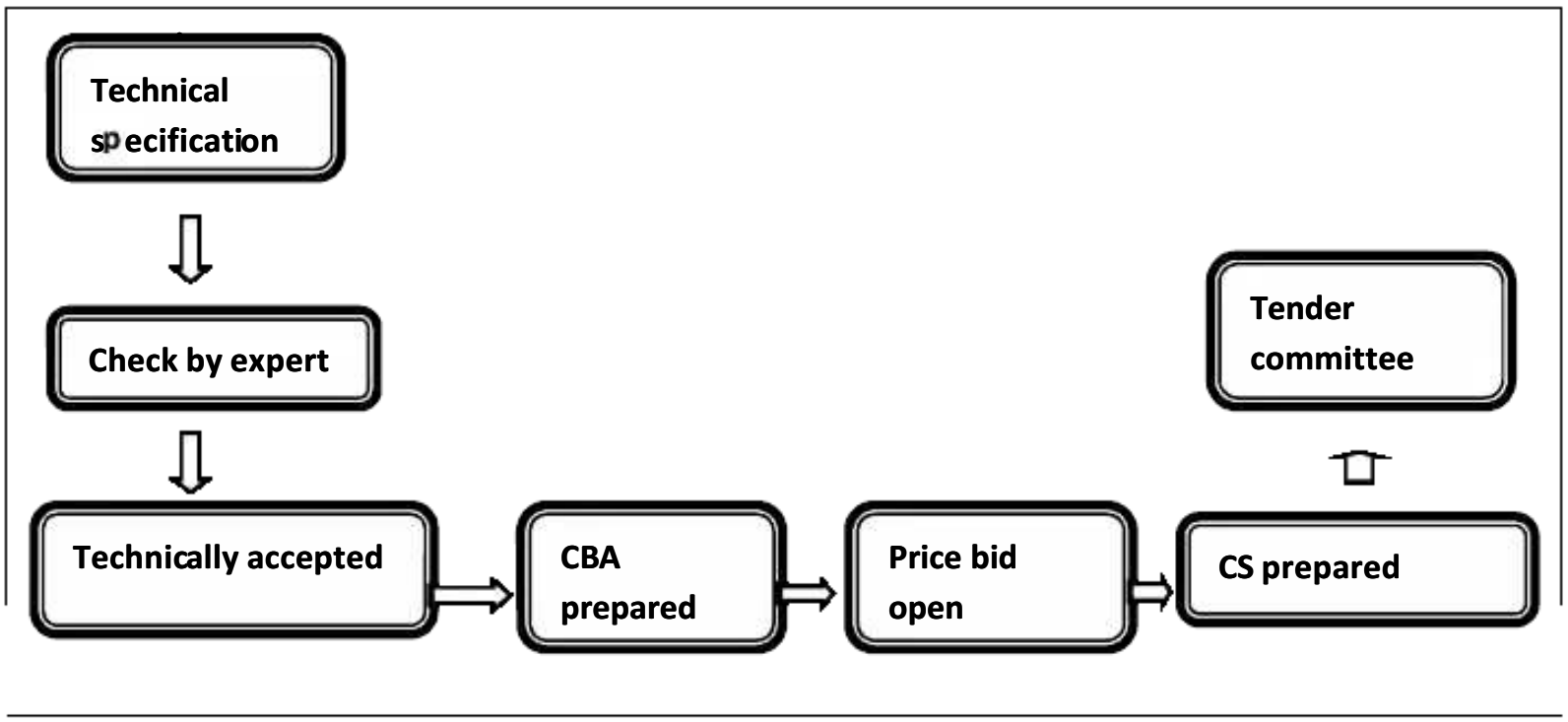
Two bid system:

- In case where detailed Engineering specification are not worked out by the Engineering Department or the specification are not comprehensive / well, and the scope involves design work also to be done by the bidder , a system of two part tendering shall be adopted.

- Two bid system of tendering shall be followed where estimated value of the procurement is more than Rs.50.00 lakhs.

- However indenter / material department consider it necessary to issue the enquiry under two bid system, two bid system can be followed irrespective of any value limit.
- Tender should be asked to submit Earnest Money Deposit along with technical bid only. In case of bank guarantees, if these are sent directly by the bank, a certified copy of the said BG shall be enclosed along with the techno commercial offer.

Stages in two bid system



Tender committee

The Tender Committee will consist of head of Purchase, Works and Finance Dept. Representative of the concerned department may be co-opted wherever necessary.

Tender Committee is empowered for final recommendation to the Competent Authority mainly for the raw materials and other materials wherever value of the procurement is Rs. 10 laces and above.

Consideration, evaluation and recommendation to the competent authorities for approval of the offers/tenders for purchase, works, disposal of surplus/obsolete/scrap items of assets and service contracts shall be done by a tender committee whose constitution shall be as follows:

- **One representative from Finance Depts.**
- **One representative from Materials/Contract Cell/Tendering Dep't.**
- **One representative from the user depth.**

The representatives from the other depts. shall be nominated one grade higher than the Finance member. The nomination of the Finance member shall be as per guidelines in this behalf. If no officer in appropriate grade is there in the department, the officer in the next grade shall attend the Tender Committee meeting. In case of proposals received from EIL and others, our consultants for Plan projects, it is not necessary to constitute tender committee and proposals may be examined by the respective department for approval of competent authority

Consideration by tender committee shall not be required in case of proposals on single tender/proprietary basis. However, proposals involving lone offer/lone technically offer shall be considered by Tender Committee. Further, the recommendations of the tender committee shall also be concurred by Finance (by an authority not lower than the finance representative in T.C.) irrespective of the fact that the T.C. member happens to be the concurring authority for approval of the proposal.

■ GOODS RECEIVED NOTE

Once a Purchase Order has been completed the information sits in the system until the goods / service is received. Once this has happened and you have an invoice it is time to complete a goods Received Note. The Goods Received Note has information relating to what has been received, how much and when. On completion of the GRN a copy is sent to payments, with the invoice, for payment.

In a larger business, a goods received note (GRN) is generated whenever a delivery is made to the business. The GRN details what goods and quantities have been received and when. A copy of the GRN is sent to the

accounts department to enable them to *match* it to the purchase order (that would have been raised when the goods were originally ordered from the supplier).

In that case Stock (Revenue/Capital) Account is getting debited and corresponding clearing Account (e.g. GR/IR clearing, Freight clearing, Inspection clearing, and Misc. Clearing Etc.) gets credited.

- **If material is excisable but not convertible for IOCL, then excise amount shall become a part of stock valuation. If material is convertible, Finance shall capture canvas amount thru' T code J1IEX. While preparation of PO, one thing must be remembered that basic price of materials should exclusive of excise duty. If excise duty is included in basic price in PO, then excise duty cannot be captured thru' J1IEX and material valuation will be wrong.**

- **After canvas entry, GRNs is to be linked with bills / files (where bank payments already released) and shall be verified with reference to the purchase orders. After checking, MIRO has to be performed in SAP with respect to the GRN/s. In many cases, various related charges like Freight, TPI charges are to be paid to agencies other than suppliers. In such cases, T code YMIRPO has to be performed for suppliers' payment and T Code YMIROOTH has to be done for other agencies payment.**

- **In case of import PO, Finance has to perform T Code YMIROOTH for Bill of Entry amount before receipt of materials in SAP. After this entry, Finance has to capture canvas amount thru' T code J1IEX and inform Stores department for preparation of GRN using B/E No. After receipt of GRN, Finance shall post canvas amount thru' J1IEX**

- **Normally, for import purchases, payments like FOB, freight, insurance, port charges, clearing agent charges is getting paid by IOCL port offices and Debit note were raised by them. Finance while performing MIRO (GRN Verification) for GRN, should ensure that all costs is getting accounted/adjusted and exchange variation is getting properly booked.**

- **Before the bills are passed for payment, the following checks shall be exercised: That all particulars in the supplier's bill such as name of the supplier, specifications of the material quantity, price, taxes, freight etc. are in conformity with the provisions of the corresponding purchase order.**

- **After MIRO transaction, Bank voucher will be prepared thru' T code F-53 and shall be sent to the Cash Section after having been signed by the competent authority. For e-payment, Finance shall prepare 83 series documents capturing documents generated thru' MIRO.**

- **All payments to suppliers including advance payments shall be made by way of crossed account payee cheques or Bank drafts.**

- **Cash Section while sending cheques/ drafts to the suppliers shall attach a forwarding letter generated thru' T Code YF88 showing details of payment and deductions, if any, and a 'C' form duly filled in, if applicable (under the Central Sales Tax Act). The Section shall maintain a register of 'C' forms issued.**

- **No correspondence shall be undertaken directly with the suppliers except relating to payment details and issue of 'C' form etc. Letters received from suppliers concerning the matters of contractual performance and obligations shall be passed on to the Materials Department.**

- **Care shall be taken to see that all linked bills are passed promptly as soon as they are received in the Section. Normally a bill shall be cleared within 7 days of receipt of GRN in the Section.**

- **Debit notes received from Head Office in respect of purchases made by Head Office on behalf of units shall be responded by performing MIRO and subsequent adjustment thru' F-04 or F-51. Proper care is to be taken so that no payment can be released from Units in case of HQ payments.**

- **In respect of bills for supply where no GR Notes are prepared, such bills shall be passed on the basis of certification by the Department concerned confirming that such supplies have been received. However, this should be avoided as far as possible.**

- **After passing, the bills along with supporting papers shall be filed properly and kept in safe custody till the annual audit is over. After the audit, the bills shall be transferred to the record room duly indexed.**

A GOODS RECEIVED NOTE

Goods Received Note

Supplier ..... Date..... Advice note number …….

Order Number.....Delivery Location……..Cost-Centre…….....

	Goods	Pack Size	Price	Order Quantity	Delivered Quantity	Comments	
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							

Received by..... Checked by.....

1. Accounts/Finance dept. copy

2. Supplier Copy

3. Stores/Goods Inwards copy

T CODES IN SAP

Action to be taken in SAP	T Code
Raising PR	ME51N
Approval/Release of PR	ME54
PR for material on Capital Account	CN22
Creation of RFQ	ME41
For entering quotation details in SAP	ME47

Comparative Statement	YMR166
Chapter ID table	J1ID
PO Proposal printout	YM43
Creating of PO	ME21N
Approval/release of PO	ME28
Display PO	ME23N
Entry of material received against PO	MIGO
Viewing GRV	MB51
Payment against PO	MIRO
Cancellation of MIRO	MR8M
EMD Cheque Receipt Voucher	F-43
BG Entry	F-40
Initial Advance	F-48
For E-payment	F-57 (Document No. will be in 83 series)
Capturing of Convictable amount	J1IEX
LSC Adjustment	F-51
Preparation of Bank Voucher	F-53
Printing of Payment voucher	YFR121
Cheque forwarding letters	YF88

SUGGESTIONS

- Continuous supply of material and finished goods should be maintained so that production process does not suffer and customer's demand is met.

- EOQ & ROP should be maintained and monitored continuously.

- Both overstocking and under stocking of inventory are dis-advantageous. Both should be avoided.

- Material costs should be under control so as to reduce overall costs of production.

- Losses should be minimized through deterioration, pilferage, wastes and damages.

- Proper quality standards ensure proper quality of stock. The price analysis will lead to payment of proper prices.

- Appropriate planning and control of inventory is required for fulfilling short and long term objective.

CONCLUSION

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After studying the components of inventory management system

Of IOCL, Barauni Refinery. It is found that the company has a sound and effectivepolicy of inventory managemment which ensures the adherence of prescribed standards right from procurment stage to use stage. periodic verfication and assementment of inventory help comnaie to utilise resiyrsed in optimanl manner.

In conclusion ,we can say that the companies management is an effectiveone .Its Financial Management system is very good because of which only the companyhas got the status of MAHARATNA company.

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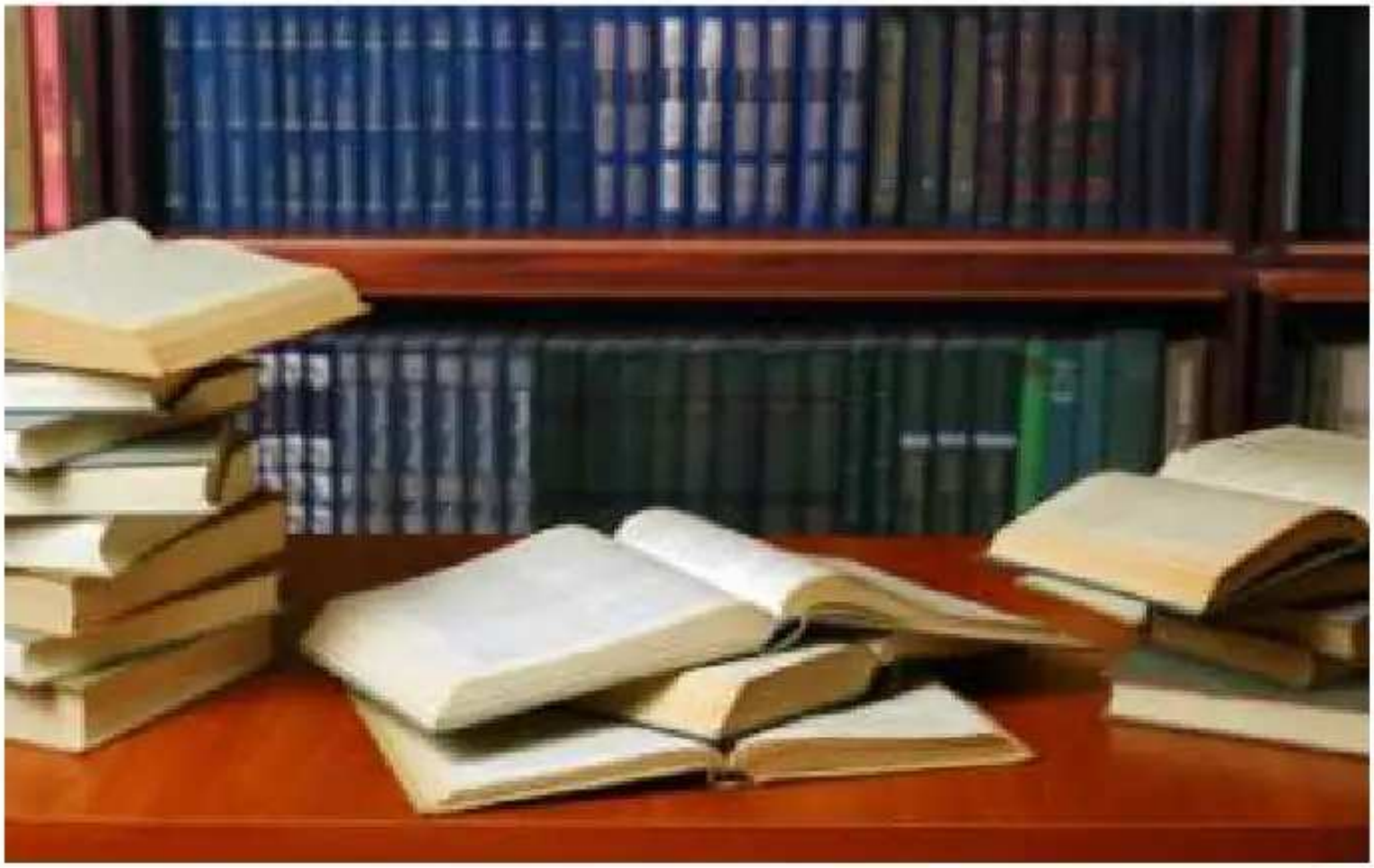

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THANK YOU