



A

PROJECT REPORT ON

**“A Study on Total Quality Management  
Practices on Over All Performance of MCL  
(Lakhanpur Project)”**

A FINAL SIP REPORT SUBMITTED

TO

**BIJU PATNAIK INSTITUTE OF IT  
& MANAGEMENT STUDIES, BHUBANESWAR, ODISHA**



**Estd. 1999**

SUBMITTED BY

**MS. MADHULIKA SATPATHY**

**BPUT RED.NO.: 2006258018**

UNDER THE GUIDANCE

OF

**DR. SUDESHNA DUTTA**

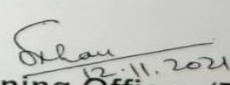
Assistant Professor, Finance.

# PREFACE

The course of MBA requires one to under a summer internship with the end of the 2<sup>nd</sup> semester, so as to get practical knowledge and understanding the aspect of all the theories read. It is really the most important thing during the course of our study. The purpose of my research project was to “Study of Total quality management practices on overall performance of MCL (Lakhanpur)”. It was a continuous learning experience as I got to know the quality management practices , how they are conducted and beneficial.

## CERTIFICATE

The is to certify that the project work titled,' A STUDY of total quality management practices on over all performance of mcl(Lakhanpur)" is a bonafide work of Ms. Madhulika Satpathy under the guidance and supervision during the session of 2020 to 2022 and carried out in partial fulfillment for the award of degree of Master business Administration.

<p>ମହାନଦୀ କୋଲଫିଲ୍ଡସ୍ ଲିମିଟେଡ୍ महानदी कोलफील्ड्स लिमिटेड Mahanadi Coalfields Limited (A subsidiary of Coal India Limited)</p>	<p>Office of the General Manager Lakhanpur Area, MCL At/P.O: Bandhabahal, Via: Belpahar Dist. - Jharsuguda, Odisha-768211 Ph: +91 (6645) 233202, 233604 Fax: +91 (6645) 233353</p>	<p><b>25</b> <b>MCL</b> Years of Mining Excellence</p>
<p>ପତ୍ର କ୍ରମାଙ୍କ ନଃ: ଏମସିଏଲ/ଜିଏମ/ଲକ୍ଷନପୁର/ ପ୍ରଶିକ୍ଷଣ/21/ 01</p>		<p>दिनांक: 12/11/2021</p>
<p><b><u>TO WHOM IT MAY CONCERN</u></b></p>		
<p>This is to certify that with reference to letter No.MCL/GM/HRD/2021-22/2190 dtd.01.10.2021. Ms.Madhulika Satpathy, Branch MBA student of Biju Patnaik Institute of IT &amp; Management Studies, Bhubaneswar has successfully completed Training at Lakhanpur Area MCL from 06-10-2021 to 05-11-2021 and during training period her performance was found satisfactory.</p>		
<p>I wish her for success in future</p>		
<p> Area Training Officer (Training) Lakhanpur Area, MCL LAKHANPUR AREA</p>		

## **Declaration**

This is to certify that Research study entitled Study of total quality Management practices on overall Performance **of MCL (Lakhanpur Project)** is prepared by **Miss Madhulika Satpathy** (Registration No: 2006258018) Under guidance and supervision of **Dr. Sudeshna Dutta** During Academic session of 2020 to 2022 as a partial fulfilment of MBA **from Biju Patnaik institute of IT & Management Studies, Bhubaneswar, Odisha**. This has not formed before the basis for the award of any degree, diploma or other similar titles.

Place: BHUBNESWAR

MADHULIKA SATPATHY

DATE: 1/02/22

Signature

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# CHAPTER- 1

A.INTRODUCTION

B.OBJECTIVE

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## **Introduction of the Topic**

Mahanadi coalfields Limited (MCL) is one of the major coal producing company of India. It is one of the eight subsidiaries of the south Eastern coalfields Limited in 1992 its headquarters at Sambalpur. It has total seven open caste mines and three underground.

This project covers the topic “Study of total quality Management Practices on over all Performance of MCL(Lakhanpur)”. It gave me a great experience and knowledge about the welfare facilities. The survey was done on 1001 employees through a questionnaire .The data collected has been well organized.

MCL will soon become the number one subsidiary of CIL not just in coal production but in all aspects of the business .We are geared to handle challenges with a pragmatic approach so that our main aim of producing coal is not hindered .we are also keen on expanding our business by setting up 800MWx2 super critical thermal power plants ;enhancing rail and road influence by investing in regional infrastructural development.”

### **THE START POINT**

Established in 1992 after being carved out of the south eastern coalfields limited, Mahanadi Coalfields limited(MCL),is a major coal mining company in India and a “Mini ratna”central public sector enterprises (CPSE).We primarily cater to the needs of the power sector ,through the production and supply of coal ,mined from a vast expanse of 2,723 sq.km, an estimated 24.723%of the Indian coal sector is significant as more than 25% of coal India total supply in the reporting year is from our mines. That essentially is the key to our sustainability ,and we take pride in being one of the largest contributors of coal India ,the single largest company by almost 85%.

There are 45%sanctioned mining project in MCL with a capacity of 190.83mty of coal. The total capital outlay of 45 project is Rs6,076.78 crore(US\$850 million)& out of which 28 with total capacity of 73.98 Mty have been completed by 1 April 2009 with a sanctioned capital investment of Rs2,348.61 crore(US\$330 million).Out of the 28 completed project ,2 have been exhausted (Balanda OCP& Basundhara -East OCP). One Expn. Project, namely, Lajkura Expn. (2.50 Mty,1.50 Mty incr) is going to be approved within a short period of time.

## **OBJECTIVE IF THE STUDY**

The first and foremost objective of this study is the partial fulfilment of the master degree in business administration. The prima facia objective of the study are to have knowledge relating to the functioning of organization in general and practical experience relating to Employee welfare policy in practical in particular. However ,there are certain other objective which are exhibited below.

- 1- To critically access the appropriate of the existing system and to examine its strength and weakness.
- 2- To know the difference employee policy at MCL.
- 3- To know the present welfare policy adopted in the organization.
- 4- To examine the necessities for changes in the existing pattern of employee policy.
- 5- To know the evaluation of employee welfare policy.



## SCOPE OF THE STUDY

The present study of employee welfare policy was conducted in **Mahanadi Coalfield Limited**, **Headquater, Sambalpur**, is a public sector undertaking. The study includes the executive and non executive of the organization. MCL has two subsidiaries with private companies as a joint venture. There are 45 sanctioned mining projects in MCL with a capacity of 190.83 Mty of coal. The total capital outlay of 45 projects is ₹6,076.78 crore (US\$810 million) & out of which 28 with a total capacity of 73.98 Mty have been completed by 1 April 2009 with a sanctioned capital investment of ₹2,348.61 crore (US\$310 million). Out of the 28 completed projects, 2 have been exhausted (Balanda OCP & Basundhara-East OCP). One Expn. Project, namely, Lajkura Expn. (2.50 Mty, 1.50 Mty incr.) is going to be approved within a short period of time.



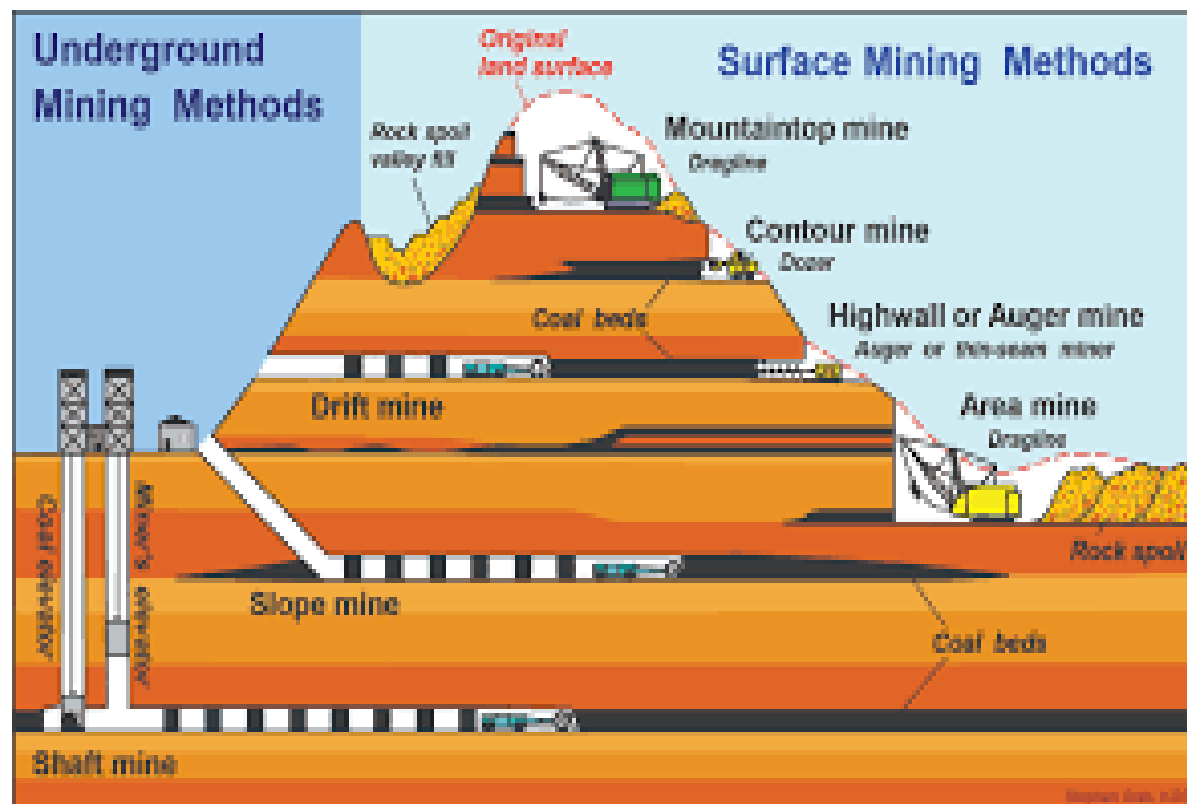
## RESEARCH METHODOLOGY

Doing something on orderly process is not but called method. A methodology is ,therefore, basically a system or rules, principles and procedure with direct researcher to go for scientific investigation ,while understanding the project work. I have been able to collect the require and information from the primary and secondary sources. This primary source of collection of data was through structured questionnaire by simple random sampling from the employees of MCL. The secondary sources of collecting data were the various booklets, Boucher, Annual reports, newsletter etc. of MCL.

A systematic approach to the whole study is very much essential to make the study scope of study, study of methodology, plan of the study provides us the directions so that we can reach our destination. The 1<sup>st</sup> chapter which is an introductory one includes objective of the study, scope of the study, study methodology , plan of the study and Limitation of the study.

The 2<sup>nd</sup> chapter deals with the history and Background of the organization under study. It gives a better idea about the whole organization, Its manpower ,production, organizational structure. The 3<sup>rd</sup> chapter discusses the broad theoretical frame work of the study. It deals with the employee and policy method, its objective ,strength and weakness of the system and potential policy. The 4<sup>th</sup> chapter deals with employee welfare policy in practice at MCL, Lakhanpur , Jharsuguda.

The 5<sup>th</sup> chapter is the most vital one in which research analysis interprets the data collect about the existing policy of MCL. The 6<sup>th</sup> chapter is the researcher's own precipitins about the system and deals with conclusions and suggestions to make the system more objectives.



# CHAPTER -2

- COMPANY PROFILE

## MINES :

MCL has been steadily to the corporation's mineral inventory-today. MCL possesses a reserve of 400 million of coal, 19 million tones of magnesium and others minerals. MCL is acting as facilitating agent for development of bauxite properties.

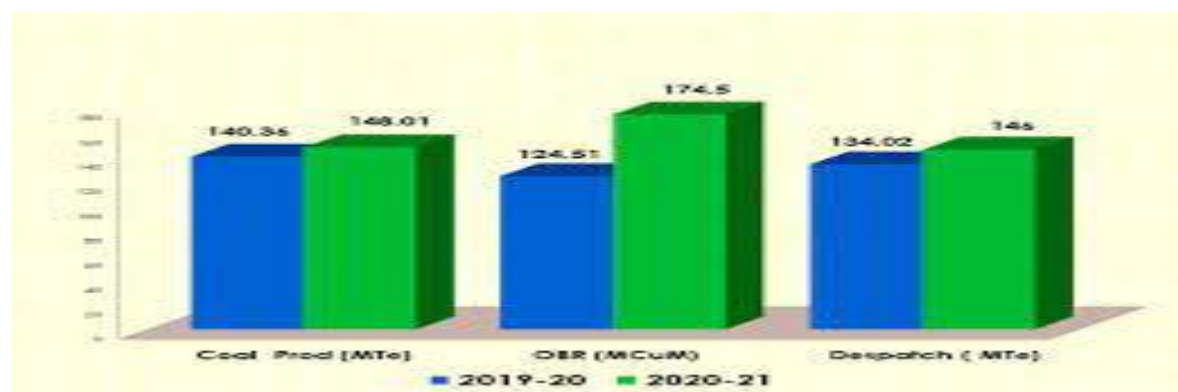
Coal is primary source of energy in India. During FY2020-2021 total electricity generation in India was to the tune of 13,81,827 million units (MU), out of which electricity from thermal sources was 10,32,395 MU (75%). Electricity generation through Coal & Lignite resources was to the tune of 9,81,442 MU .Electricity generation through solar was 59,084MU (4.27%).

Talcher and Ib- valley coalfields of Odisha are the store house of huge thermal grade non-coking coal. Odisha stands 2<sup>nd</sup> to Jharkhand in the reserve position in India . Total coal reserve of Odisha is estimated to be 80.840BT, which is round 24.76% of the total National coal reserve . The two coalfields of Odisha , namely Talcher and Ib- valley coalfield are under command area of MCL, Talcher being the Largest Coalfield (51.220 BT) and Ib – valley being the 3<sup>rd</sup> largest (29.619 BT) coalfield of India.

**Coal production :** Achieved highest ever coal production of 148.01MT, surpassing its previous peak coal production of 144.15 MT in FY2020-21 with a **growth of 5.5%** over last year.

## FINANCIAL PERFORMANCE :

MCL is the highest contributors to the Govt. Exchequers. MCL has paid **Rs 10,662.31**Crs .towards Royalty , Cess, Goods and services tax ,GST comensation cess ,NMET,DMF , Income Tax and other levies. Profit after Tax has been **Rs6,025**crores .An amount of Rs.800 crores is proposed to be declared as third and final Dividend which subject to approval of shareholders in the AGM.



### **Strategies For Growth :**

MCL is faced with challenging targets in the year ahead. We at MCL are committed to meet the challenges for energy security of India . To sustain the growth momentum in its production and off-take in future .

## **PROFILE OF THE COMPANY**

### **ABOUT THE ORGANISATION**



Mahanadi coalfields limited is one of the major coal producing company of India. It is one of the eight subsidiaries company of coal India limited. Mahanadi Coalfields limited was carved out of the Eastern coalfields limited in 1992 with headquarters at Sambalpur .

The country's industrial heritage was built upon indigenous coal . Commercial primary energy consumption in India has grown by about 700% in the last four decades. The current per capita commercial primary energy consumption in India is about 350kgoe/year, which is well below that of developed countries . Considering the limited reserve potentiality of petroleum & natural gas ,eco-conservation restriction on hydel project and geo- political perception of nuclear power ,coal will continue to occupy centre stage of India's energy scenario.

India coal offers a unique eco-friendly fuel source to domestic energy market for the next century and beyond . Hard coal deposit spread over 27 major coalfields, are mainly

confined to eastern and south central parts of the country. The lignite reserves stands at a level around 36 billion tonnes ,of which 90% occur in the southern state of Tamil Nadu



Company has produced highest quantity of coal through eco- friendly surface miner to the tune of 94% in comparison to average achievement of less than 50% in the entire CIL. In transportation also your company dispatched around 77% coal through Road mode. In order to reduce dust pollution in the residential areas, your company has initiated steps for construction of separate coal corridors by -passing the densely populated areas.

To promote environmentally installed 2MV photovoltaic solar power plant at Anand Vihar , Burla, Sambalpur to mark its presence in renewal energy sector and is generating to the tune of 22lakh unit /year.

**Mines reclamation** of the abandoned quarry at Balanda ,Jagannath and Bharatpur south quarry -through disposal of fly ash and development of these areas into Eco -park/picnic spots and also creation of adequate shallow depth water bodies. 218Ha of Balanda quarry has been filled and going to be reclaimed by 1 meter soil laying and tree plantation.

- **Creation of Rani park** as a bio-diversity -cum -eco park including recreational facilities, air strip etc, so that this can act as a carbon sink for entire Talchar coalfields and as a tourist spot with economic activities and income generation so that it becomes sustainable model.
- **Flyover/Bye -passing** of the coal corridor road from Lingaraj MGR up to chainpal flyover in order to creat a sustainable and eco -friendly coal transportation model.
- **MCL** has expanded its scope of improving greenery on government lands in and around its operational districts-Angul, Jharsuguda ,Sambalpur ,Khordha and sundergarh through urban plantation ,in which evergreen plants ,Bargad ,Mahua ,jamun ,pipal,Mango,jackfruit,etc. are planted by DFOs.





organic vegetables and fruits,etc.

- **Distribution of fruit bearing trees** in nearby villages/town.
- **Development of Mangroves**
- **Timber value plants** like Teak,sal,Mahaguni,etc.
- **Robotic Nozzel** for fire fighting and dust suppression.
- **Quadrajet Nozzel** for fire fighting and dust suppression and other multipurpose uses.

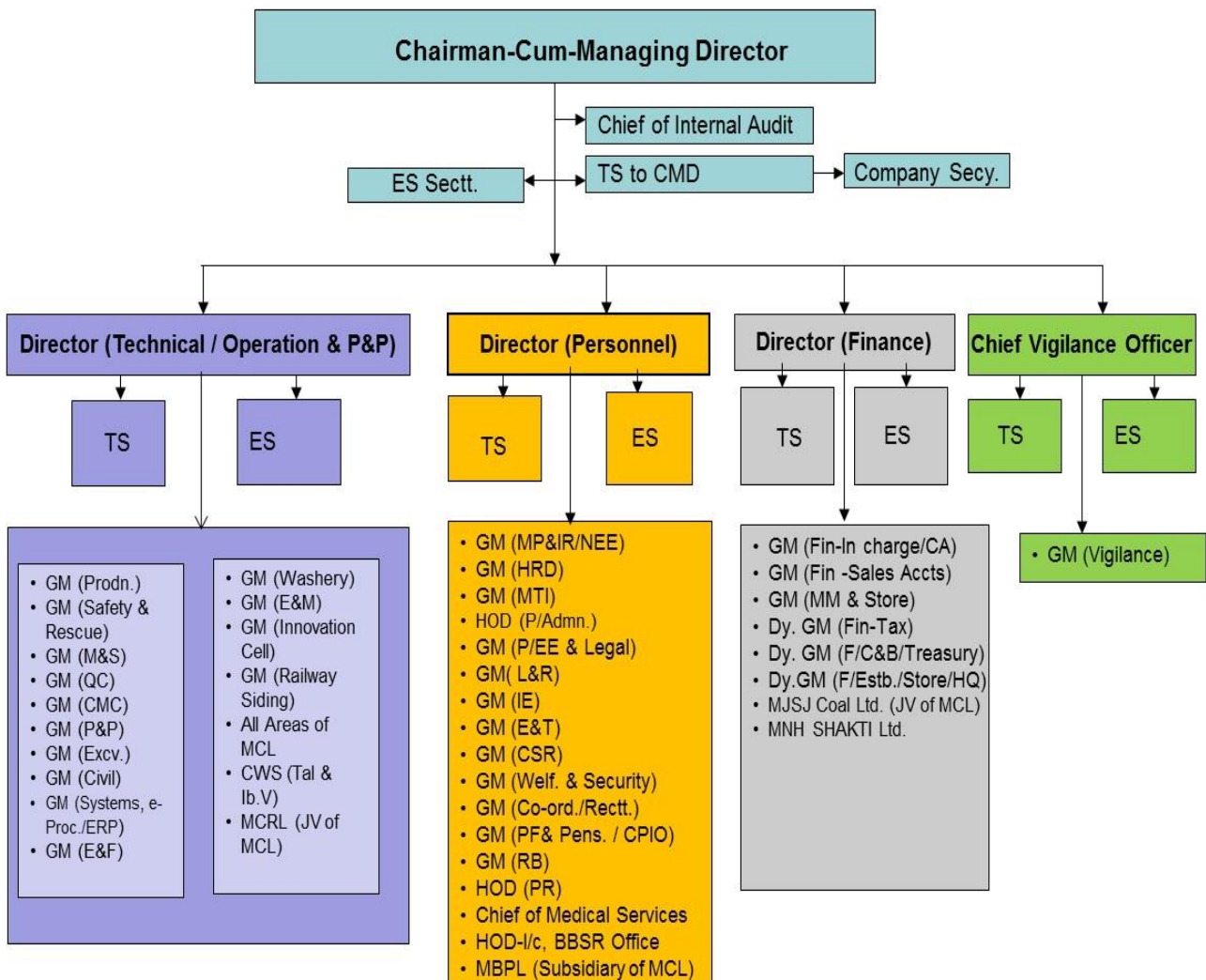


# ORGANISATION STRUCTURE

of

MCL.LTD,HEAD OFFICE

## ORGANIZATIONAL STRUCTURE OF MAHANADI COALFIELDS LIMITED



## Customer and product responsibility

We solely serve the Indian market. We work closely with our customer so as to understand the efficiency of the product being used at the customer's end. This knowledge helps in serving our customers in a better way while catering to their changing needs.

### Coal quality improvement:

We have taken utmost care to improve the quality of coal being supplied to different power houses and to fulfill consumer satisfaction. During the reporting period ,various measures for ensuring proper quality of coal dispatched were intensified and we achieved a record dispatch of 111.964Mt. As against 102.52Mt. in the previous reporting period. We are working on improving product quality and customer satisfaction.

Some of the measures undertaken are as follows:

1. Frequent interaction with different consumers
2. Quarterly Regional coal consumer council Meetings
3. Area level meets are held with various consumers at the time of joint sampling and complaints are sorted out at the colliery level /Loading Level
4. Consumers are encouraged to check and supervise personally the coal loading sidings as well as weighbridges.

We adhere to all the standard laws as per the directives of MOC/CIL in regard to marketing communication ,we issue a letter to the consumer as soon as we receive the LOA from MOC/CIL. The milestone is achieved by all the respective consumer who have got fixed guidelines and all coal companies have to carry out these guidelines. We promote such type of coal after several meeting with the consumers. In regards to sponsorship ,we are doing such activities for upgrading our name through CSR and other activities.

## PEOPLE AND WORKPLACE

Our people are the foundation of our success. We consider the safety and health of our people and that of the broader communities in which we operate central to our success. The professional growth of our employees along with their work- life -balance is critical for sustained growth of our business. Our human resource Management department is well aligned with its long term strategies, which culminates in attracting ,nurturing, developing and retaining talent .We strive to create a working environment that is free from occupational illness or injury.

### Workforce

During the reporting period ,our workforce comprised of 22,065 employees and as compared to 22,023 in the last reporting cycle .Out of the total manpower ,the strength of the executives is 1851 and non-executives is 20214. All the employees are Indian Nationals with 1.7% of the employees belonging to minority groups such as muslims, Christians ,sikh ,jain and others.

### Management development institute at Bhubaneswar

We are committed to grow as a learning organization ,to create space for executive learning on continuous basis and to develop executives for the future leadership positions in our company. To this effect, we have decided to set up state -of -art Centre for Management Development in the Odisha capital Bhubaneswar.

We do not provide any pre-retirement planning for intended retirees and we do not have any policy for those who intend to continue to work being a public sector . However ,we do provide severance pay to our employees on retirement for their faithful service to the organization which further depends on the tenure to their service.

We are subsidiary of coal India Limited to take up such a large initiative to cater to the growing and emerging development needs of the executive population ,within the coal sector. Competency gaps arising out of introduction of new technology ,diversification of business and superannuation of executives can be replenished at a faster rate through structural HRD interventions for which the institute is poised. M/s NBCC, a central Government Enterprises has been entrusted with the construction of the institute complying the best of the green standards.

## STANDARD BENEFITS FOR EMPLOYEES AT MCL

For permanent Employees:

- **Life Insurance**
- **Healthcare**
- **Disability/invalidity coverage**
- **Parental leave**
- **Retirement provision**
- **Stock ownership**

For Contractual Employees:

- **Life Insurance**
- **Healthcare**

**Disability/Invalidity coverage**

Benefits are one of the foremost means by which we attract our employees and retain them in the long run. Most of our contractual employees are eligible for and covered under the coal mines provident Fund/Employees Provident Fund. The association of employees with MCL is considered a long term one.

## Training and capacity building

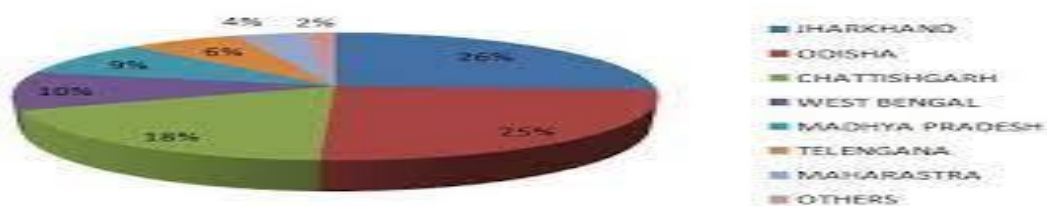
In our retention process, we also practice several measures that will go towards building the growth prospects of an employees by building on his or her capacity. When we recruit the younger generation ,we are well aware of their incapacities that are linked with trainings in various areas relevant for the coal industry before they perform in their responsible position

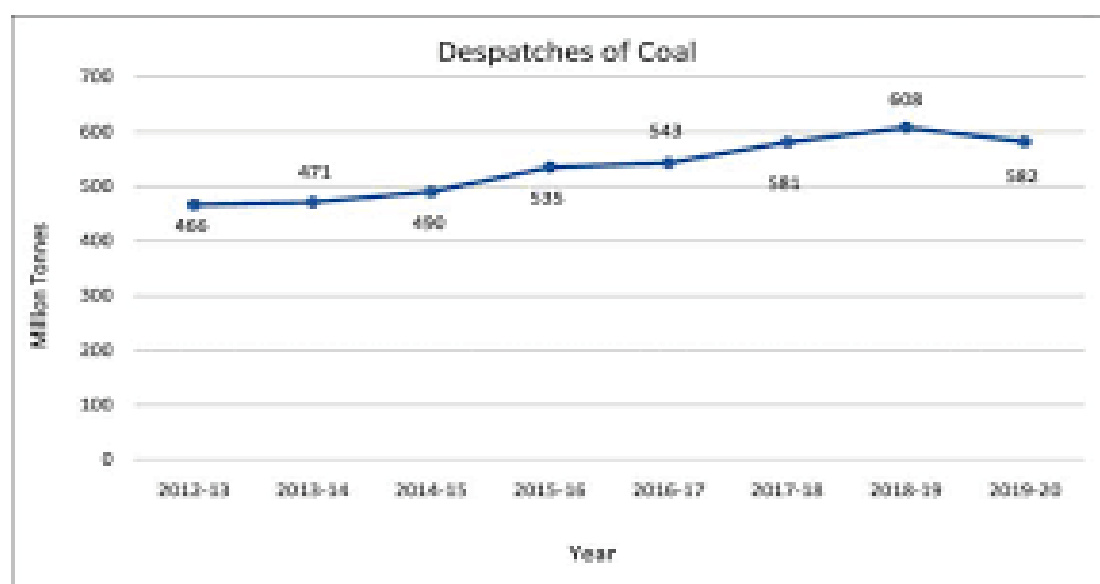
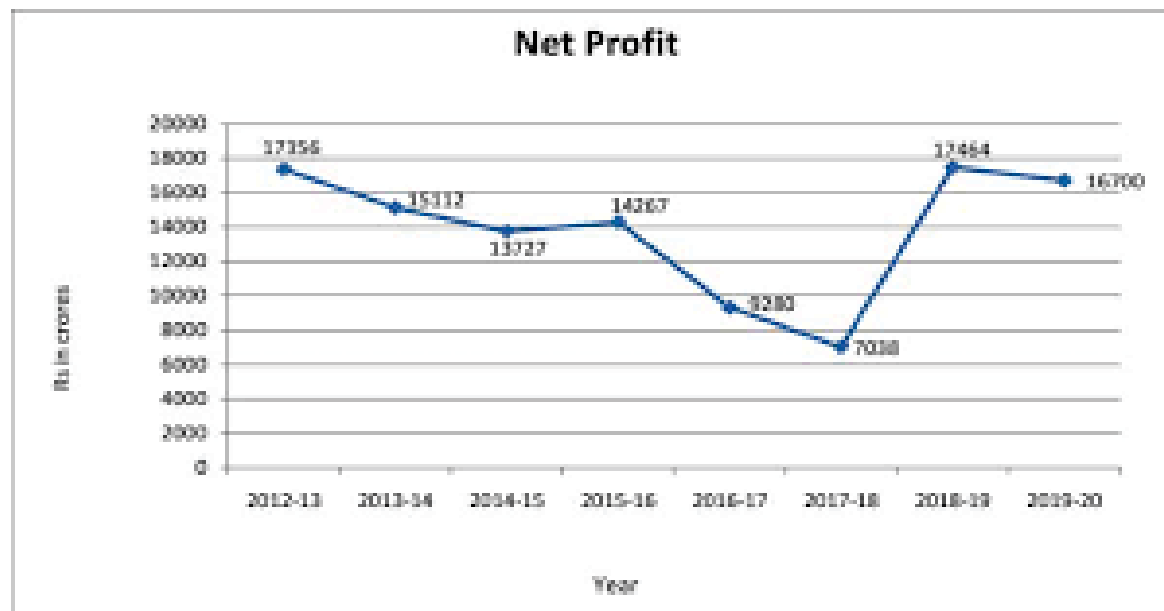
## **.TRAINING PROGRAMMES AT MCL**

- **Technical Training:** Basic course for specific technology equipment and system
- **Management Training:** For all workforce Levels
- **Transformation Training :** Empowerment of employees to make business decisions.



**Reserves in billion tonne**







### **Chapter -3**

- **THEROTICAL STUDY OF QUALITY MANAGEMENT PRACTICES**

### **Total quality management (Overviews)**

Employee management is one of the important functioning of employee policy department for the systematic evaluation of employee's performance in a job in terms of its requirements and his potential for future development. It is the process through which an individual employee's behavior and accomplishments for a fixed period of time are measured and evaluated.

**Generally the choice lies among three possible approaches :**

- 1) A casual systematic and often haphazard policy. This method was commonly used in past.
- 2) The traditional and highly systematic measurement of-
  - Employee Characteristics
  - Employee Contribution or both
- 3) The behavioral approach emphasized mutual goal setting through management by objective(MBO) and welfare policy by both appraiser.  
Human behavior is a complex phenomenon and individual differ in the ability and aptitude. These difference in work performance. A good welfare policy with regular and periodic evaluation makes the top management judging the effectiveness of personnel and need management to satisfy the needs and aspiration of the employees and maintains the desired behavior . A sound system is beneficial both for the person do the economic policy and one being appraised .

### **Objective of quality management practices**

The objective of quality management practices are :

1. It serves as a guide in determining who the promising employees and who are margined performers.
2. It serves as a guideline to determine how much an employee should be paid and whether or not deserves to be promoted.
3. To determined training and developed needs
4. To give employee feedback and counsel them

To review performance for salary purpose.

### **The purpose of quality management practices**

The purpose of policy is to make the most effective use of its human resources by developing them in a systematic way, in the interest of both organization and the individuals being policy.

Employee welfare is used as an instruments to control employees behavior for reward, punishments and greter-intangible asset of any organization ,Indian or foreign is its people.

In the emerging scenario of rapid obsolescence ,only those corporation will keep pace with the world that is serious about motivating and adding value to their employees.

### **Thus, performance management system helps for:**

1. Improving the employee performance
2. Development of the employee professionally
3. Taking proper decisions regarding wage and salary
4. Validating the personal record and programs
5. Having a proper understanding about their subordinates
6. Guiding the job changes with the help of continuous ranking.
7. Facilitating fair and equitable compensation based on performance.
8. Ensuring organization effectiveness through correcting employee for standard and improved performance and suggesting the change in employee behavior.

### **INTRODUCTION to ISO- 9000**

- 1) ISO stands for international oragnisation for standardization. It is an international body consist of representation from more than 90 countries.
- 2) ISO 9000 is defined as a set of international standard on quality management and quality assurance developed to help companies effectively system elements needed to maintain as effective industries and can be applied to oraganisation of any size.
- 3) ISO 9000 can help a company satisfy its customer ,meet regular requirement and achieve continual improvement. It should be considered to be first step or the base level of quality system.
- 4) The ISO 9000 deals family of quality management system (QMS) standards is designed to help oraganisation ensure that they meet the needs of customer

and other stakeholders while meeting statutory and regulatory requirements related to product or service.

- 5) ISO 9000 deals with fundamental of quality management ,including the seven quality management of the organization wishing to meet the standards must fulfill.



## ISO 9000 series Quality Management Principles

The ISO 9000 series are based on seven quality management principles (QMP)

The seven quality management principles are :

QMP 1- customer focus

QMP2- Leadership

QMP3- Engagement of people

QMP4- process approach

QMP 5- Improvement

QMP 6- Evidence based decision making

QMP 7- Relationship management

1. Helps to strengthen the relationship and communication between superior subordinated and management employees.

Employee practice means anything done for the comfort and (intellectual or social) improvement of the employees, over and above the wages paid. In simple words, it means “the effort to make life worth living for workmen.” It includes various services, facilities and amenities provided to employees for their betterment. Employee welfare is for the betterment of the workers. It involves adjustment of an employee’s work life and family life to the community and social life. Welfare measures may be both voluntary and statutory policy. The need and importance of employee welfare is being increasingly appreciated throughout the civilized world. The concept of welfare is a dynamic one has different countries, social institution, degree of Industrialization ,and the general level of social and economic development.

ISO 9000 series has 5 nos. of international standards on quality management with different objectives as

stated in the following.

Sl. No. ISO Description

1 ISO 9000 Provides general guidelines for quality standard

2 ISO 9001 Provide guidelines for supplier i.e.

a) Design & development

b) Production

c) Installation

d) Servicing

(It has 20 elements)

3 ISO 9002 Provide guidelines for manufacturer i.e.

a) Production

b) Installation

It has 18 elements (i.e. excepts design & development as comp. to 9001)

4 ISO 9003 Provides guidelines for test houses i.e.

- a) Final inspection
- b) Testing for laboratories and warehouses.

(It has 12 elements)

5 ISO 9004 Provide guidelines for i.e.

- a) Quality management
- b) Quality assurance

Benefits of 9000 series

- 1) It helps to compete with global market.
- 2) Consistency in quality as ISO guidelines detect defective early so that rectification is possible.
- 3) Documentation of quality procedure adds clarify to quality system.
- 4) It gives guidelines and ensures adequate and regular quality training for all members of the organization.
- 5) It helps the customers to have cost effective purchase procedure.
- 6) The customers need not spend much time for quality testing for the firm holding ISO certificate.
- 7) The job satisfaction is more.
- 8) It also help in increasing productivity by reducing wastage and improvement of quality (for which revenue is high).

## Steps in ISO 9000 Registration

The following steps are followed in ISO 9000 registration

1) Selection of appropriate standard i.e., ISO 9001/9002/9003 using guidelines given in ISO 9000.

2) Preparation of quality manual to cover all the elements in the selected standard.

3) Preparation of procedure and shop floor instruction which are used at the time of implementing

the system. Also document these items.

4) Self-auditing to check compliance for the selected standard/model.

5) Selection of a Registrar (an independent person with knowledge and experience to evaluate any

one of the three quality system i.e., ISO9001/9002/9003) and application is to be submitted to obtain certificate for the selected quality standard/system

## **Introduction to ISO-14000:**

1) ISO 14000 is defined as a series of international environmental management standards, guides,

and technical reports. It is other wisely called Environment management system.

2) The standards specify requirements for establishing an environmental management policy, determining environmental impacts of products or services, planning environmental objectives, implementing programs to meet objectives, and conducting corrective action and management review.

3) The first environmental management system standard, BS 7750, was published in 1992 by the BSI group. In 1996, the International Organization for Standardization (ISO) created the ISO 14000 family of standards. ISO 14001 underwent revision in 2004. The current revision of ISO 14001 was published in September 2015.

4) The ISO 14000 standards provide a guideline or framework for organizations that need to

systematize and improve their environmental management efforts. The ISO 14000 standards are not designed to aid the enforcement of environmental laws and do not regulate the environmental activities of organizations.

5) The ISO 14000 family is designed to be implemented according to the same Plan-Do-Check-Act

(PDCA) cycle underlying all ISO management systems standards. The following table classifies the standards making up the ISO 14000 family according to their optimal place in the PDCA cycle.

Benefits of 9000 series 1) It helps to compete with global market. 2) Consistency in quality as ISO guidelines detect defective early so that rectification is possible. 3) Documentation of quality procedure adds clarity to quality system. 4) It gives guidelines and ensures adequate and regular quality training for all members of the organization. 5) It helps the customers to have cost effective purchase procedure. 6) The customers need not spend much time for quality testing for the firm holding ISO certificate. 7) The job satisfaction is more. 8) It also help in increasing productivity by reducing wastage and improvement of quality (for which revenue is high).

Steps in ISO 9000 Registration The following steps are followed in ISO 9000 registration 1) Selection of appropriate standard i.e., ISO 9001/9002/9003 using guidelines given in ISO 9000. 2) Preparation of quality manual to cover all the elements in the selected standard. 3) Preparation of procedure and shop floor instruction which are used at the time of implementing the system. Also document these items. 4) Self-auditing to check compliance for the selected standard/model. 5) Selection of a Registrar (an independent person with knowledge and experience to evaluate any one of the three quality system i.e., ISO9001/9002/9003) and application is to be submitted to obtain certificate for the selected quality standard/system/model.

The various elements involved in ISO 9001 & ISO 9002 are stated in the following. Introduction to ISO-14000: 1) ISO 14000 is defined as a series of international environmental management standards, guides, and technical reports. It is other wisely called Environment management system. 2) The standards specify requirements for establishing an environmental management policy, determining environmental impacts of products or services, planning environmental objectives, implementing programs to meet objectives, and conducting corrective action and management review. 3) The first environmental management system standard, BS 7750, was published in 1992 by the BSI group. In 1996, the International Organization for Standardization (ISO) created the ISO 14000 family of standards. ISO 14001 underwent revision in 2004. The current revision of ISO 14001 was published in September 2015. 4) The ISO 14000 standards provide a guideline or framework for organizations that need to systematize and improve their environmental management efforts. The ISO 14000 standards are



ISO 14000 family of standards provides management tools for organizations to manage their environmental aspects and assess their environmental performance. Together, these tools can provide significant tangible economic benefits, including the following :

- 1) Reduced raw material/resource use
- 2) Reduced energy consumption 3)
- 3) Improved process efficiency 4)
- 4) Reduced waste generation and disposal costs 5)
- 5) Utilization of recoverable resources.



## Poka Yoke: ─

Poka-yoke is a Japanese term that means "mistake-proofing" or "inadvertent error prevention". ─ A poka-yoke is any mechanism in any process that helps an equipment operator avoid (yokeru) mistakes (poka). Poka-yoke is a technique for avoiding simple human error in the workplace. ─ Also known as mistake-proofing, good-proofing, and fail-safe work methods, poka-yoke is simply a system designed to prevent inadvertent errors made by workers performing a process. ─ The idea is to take over repetitive

tasks that rely on memory or vigilance and guard against any errors. — Poka-yoke can be seen as one of the three common components of Zero Defect Quality Control performed by Japanese companies.

## JIT (Just in Time)

1) Just in time technique can be risky, especially if it is not implemented correctly, but if the organization can do it in a right way then it can be most rewarding.

2) Just in time technique involves having item received in the organization just at the time when it is needed.

3) It can be risky because there may be so many variables which may not be always perfectly predictable.

4) Just-in-time (JIT) manufacturing, also known as just-in-time production or the Toyota Production System (TPS), is a methodology aimed primarily at reducing times within production system as well as response times from suppliers and to customers. Just in Time (JIT) Objectives of JIT The objectives of JIT are to change the manufacturing system gradually rather than drastically: 1) To be more responsive to customer 2) To have better communication among departments and supplier 3) To be more flexible, 4) To achieve better quality, 5) To reduce product cost. JIT as a Philosophy — Elimination of waste: — Continuous improvement — Problems as opportunities — Quality at the source — Simplification — Visual Control — Focus on Customer Needs — Production to Customer Demand — Respect for Individual B Example of JIT System Advantages of JIT 1) There should be minimal amounts of inventory obsolescence, since the high rate of inventory turnover keeps any items from remaining in stock and becoming obsolete. 2) Since production runs are very short, it is easier to halt production of one product type and switch to a different product to meet changes in customer demand. 3) The very low inventory levels mean that inventory holding costs (such as warehouse space) are minimized. 4) The company is investing far less cash in its inventory, since less inventory is needed. 5) Less inventory can be damaged within the company, since it is not held long enough for storagerelated accidents to arise. Also, having less inventory gives materials handlers more room to maneuver, so they are less likely to run into any inventory and cause damage. 6) Production mistakes can be spotted more quickly and corrected, which results in fewer products being produced that contain defects. Disadvantages of JIT 1) A supplier that does not deliver goods to the company exactly on time and in the correct amounts could seriously impact the production process.

An investment should be made in information technology to link the computer systems of the company and its suppliers, so that they can coordinate the delivery of parts and materials. 4) A company may not be able to immediately meet the requirements of a massive and unexpected order, since it has few or no stocks of finished goods.

## CHALLENGES OF quality management practices

In order to make a welfare policy system effective and successful, an organization comes across various challenges and problems. The main challenges involved in the welfare policy process are;

### **1. Determining the evaluation criteria**

Identification of the welfare policy criteria is one of the biggest problems faced by the top management. The performance data to be considered for evaluation should be carefully selected. For the purpose of evaluation, the criteria selected should be in quantifiable or measurable terms.

### **2. Create rating instrument**

The purpose of the employee welfare process is to judge the performance of the employee. The focus of the system should be on the development of the employees of the organization.

### **3. Lack of competence**

Top management should choose the rates or the evaluators carefully. They should have the require expertise and the knowledge to decide the criteria accurately. They should have the experience and the necessary training to carry out the employee process objectively.

### **4. Errors in rating and evaluation**

Many errors based on the personal bias like stereotyping, halo effect (one trait influencing the evaluators rating for all other traits) etc. may creep in the employee policy. Therefore the rater should exercise objectivity and fairness in evaluating and rating the performance of the employees

### **5. Resistance**

Management process may face resistance from the employees and the trade unions for the fear of negative ratings. Therefore, the employees should be communicated and clearly explained the purpose as well the process of employee. The standards should be clearly communicated and every employee should be made aware that what exactly is expected from his/her

### **Problems of quality management practices**

Following are generally given as the principles to be followed in setting up a employee welfare service:

- The service should satisfy real needs of the workers. This means that the manager must first determine what the employees real needs are with the active participation of workers.
- The employer should not assume a benevolent posture.
- There should be periodical assessment or evaluation of the service and necessary timely on the basis of feedback.
- The cost of the service should be calculated and its financing established on a sound basis.

### **BENEFITS OF total quality management practices**

It offers a rare chance for a supervisor and subordinate to have “time out” for a one-on-one discussion of imported work issues that might not otherwise be addressed. Almost university, where employee economic is conducted properly, both supervisors and subordinated have reported the experience as beneficial and positive.

Employee welfare a valuable opportunity to focus on work activities and goals , to identify and correct existing problems, and to encourage better future performance. Thus the policy of the whole organization is enhanced.

For many employees, and “official” appraisal interview may be the only time they get to have exclusive, uninterrupted access to their supervisor. Said one employees of a large organization after his first formal employee welfare, “ In twenty year of work , that’s the first time anyone has ever bothered to sit down and tell me how I am doing.”

The value of his intense can have a profound effect on level of employee motivation and satisfaction -for better as well as for worse.

quality management provides employees with recognition for their work efforts. The power of social recognition as an incentive has been long noted. In fact, there is evidence that human beings will even prefer negative recognition in preference to no recognition at all.

If nothing else, the existence of an welfare policy indicates to an employees that the organization is genuinely interested in their individual performance and development. This alone can have a positive influence of the individual’s sense of worth, commitment and belonging.

The strength and prevalence of this natural desire for individual recognition should not be overlooked. Absenteeism and turnover rates in some organization might be greatly reduced if more attention were paid to it. Regular employee policy, at least, is a good start.

### **GUIDELINES FOR SUCEESSFUL employee policy**

If a employee welfare policy is intended to be successful it is necessary to take precautions , so that some of the limitations can be eliminated while some other can be minimized to a great extent.

The success of an employee scheme based on the following factors :

1. Both appraiser and the appraise should understand the scheme that it is for their growth and development.
2. Which particular technique is to adopted for the employee policy should be governed by such factors as financial resources, philosophy and objectives of an organization?
3. The emphasis should be given on ‘What he achieved’ that ‘what a man does’.
4. Existing of the atmosphere of confidence and trust facilities, interaction for mutual fund.

## CHAPTER-4

- PERFORMANCE EMPLOYEE PRACTICES AT MCL

## EMPLOYEE PRACTICE IN MCL

Recently certain structure changes have been made in the organizational. The following instructions are issued in regard to reporting, countersigning and maintenance of confidential character role.

1. Confidential report assessing the performance, character, conduct & qualities of an employee of the corporation shall be written for each financial year within 3month of the close of the said year.
2. A confidential report shall also be written either the reporting authority of the employee of the corporation reported up on hands over or relinquishes charges of the post and such a case it shall be written immediately after the handling over of charge of the post and not later than a for night after such handing over charge of the post and not later than a for night after such handing over or relinquishment.
3. While according the remarks should be mad of the period with dates to which to report of the reporting officer and countersigning officer relates. The period should not be mention a six months, eight months etc.
4. The name of the officer/employee reported upon should be written in full. The name should not be written in an abbreviate manner leaving scope for conclusion. The correct and full name should be indicated legibly in block letter or by rubber stamps below their signature on the reports.
5. The name and designations of the countersigning officer should be indicated legibly in block letter or by rubber stamp below their signature on the reports
6. In case where the report is not to be recorded as the officer reported upon was on leave. Under suspension or worked for the four months under the officer concerned a suitable certificate to that effect may be recorded in the CCR folder with no remarks since the reporting officer was.
  - I. On Leave
  - II. Under suspension
  - III. Other absent
  - IV. Has not served for minimum four months and sent to the authority for completion of his CCR dossier.
7. Where for any reason it is not possible to have the remarks of the reporting officer because of his retirement, death etc. The reason may be recorded briefly on report itself to avoid further correspondences .
8. Where for any reason it is not possible to have the remark of the reporting officer because of his retirement, death or transfer without seeing the work of the officer reported upon for more than 4 months, the remark may be recorded by the countersigning

officer direct in such cases the period served under the countersigning officer should be clearly mentioned.

9. At times the remarks are written either in pencil or illegibly. This should not be done. The remark should be recorded in ink legibly. Any correction or overwriting should be avoided.
10. The entry of an officer/employee reported upon should be recorded in the CCR immediately after the close of the financial year and sent to countersigning authority immediately. The countersigning authority after necessary countersigning shall take appropriate steps for communication of adverse remark if any and safe custody communication of adverse remark is an absolute necessity.
11. The remark should not be vague so as to have any doubt regarding the work/conduct of the officer/employee. While communicating such adverse remarks the salient good points should also be mentioned to enable the officer to get a full picture of his merits and demerits.
12. There are certain officer who function under dual control. For instance, the accounts officers in the field are to advise their respective General Manager/Regional Manager in accounts matters and have also to ensure that all rules and procedures prescribed by the management in the head office are strictly adhered to the work of such officers should be assessed both by the respective General Manager/Regional managers and by the chief accounts officers.
13. In respect of all such officers/employee for whom the countersigning authority is at the Head Office the CCR will be maintained and reviewed by the General Managers/Mines managers.

It is seen that some officers while making representations against the communication of adverse remarks are requesting for specific instance on basis of which such remark had been recorded in their confidential characters rolls for a particular year. Confidential remarks are recorded on the general impression of the reporting officers on the work and conduct of an officer reported upon.

They are generally followed MODERN METHOD:

#### **A. MBO METHOD**

As other approaches, MBO too has been criticized. One comment made against the approaches is that it is not applicable to all jobs in all organization. The MBO process seems to be most useful their jobs. When the results of MBO system are to be used to allocate organizational rewards.

#### **B. ASSESSMENT METHOD**

An assessment center a location where managers may come together to have their participation in job related exercise evaluated by trained observes.



## CHAPTER – 5

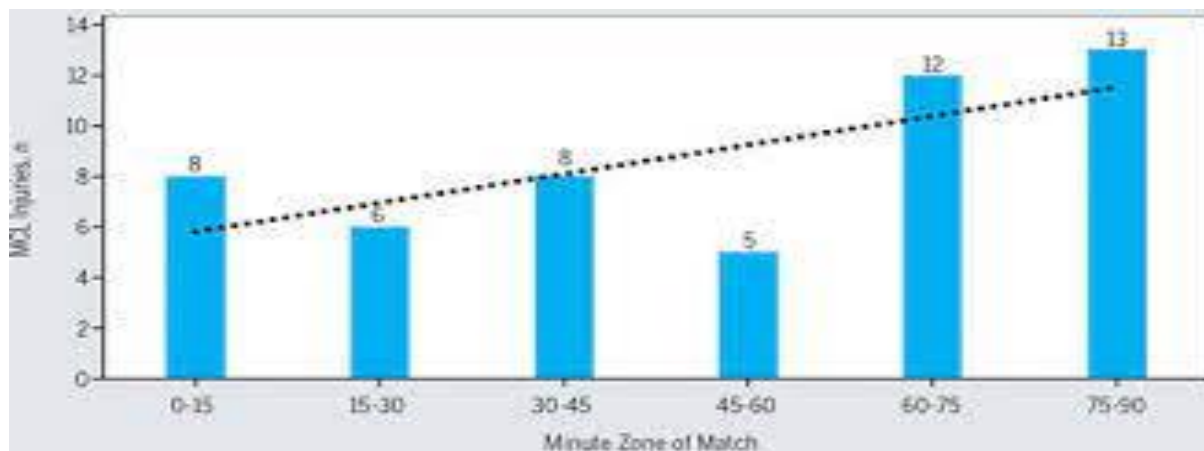
- DATA ANALYSIS
- QUALITY CONTROL
- FINDING

## DATA- ANALYSIS

### MONTHWISE COAL PRODUCTION (2020-2021) (PROVISIONAL)

MONTH	2020-21		2019-20
	TARGET	ACTUAL	ACTUAL
APRIL	119.231	115.311	117.379
MAY	124.703	112.151	116.401
JUNE	120.403	105.603	113.990
JULY	113.754	101.742	87.248
AUGUST	116.798	98.041	67.320
SEPTEMBER	130.780	105.808	62.789
OCTOBER	156.013	110.818	76.544
NOVEMBER	159.853	127.942	106.905
DECEMBER	171.57	141.08	143.61
JANUARY	175.28	145.32	156.89
FEBRUARY	159.74	139.19	162.01
MARCH	181.87	177.11	192.49
<b>TOTAL</b>	<b>1730.000</b>	<b>1480.124</b>	<b>1403.579</b>

AAP Target is Based on Letter No. 87 Dated 18.05.2020 of GM(ProdN.), MC



## CLOSINGSTOCK

NAME OF AREA PROJECT	MAR-21	FEB-21	MAR-20
JAGANNATH	13111	6,732	7,685
ANANTA	15,630	9,599	8,002
BHUBANESWARI	12,414	19456	15,996
JAGANNATH AREA	41,164	35,787	31,683
BHARATPUR	24,861	16,574	6,129
HINGULA	38,539	31,993	37,358
LINGRAJ OCP	5,683	5,962	8,156
BALRAM	33,226	27,898	17,262
HINGULA AREA	71,806	59,831	54,620
TALCHAR AREA	0.976	0.938	0.825
LAJKURA	1.594	3.534	1.761
BASUNDHARA	2.395	1.835	2.859
KULDA	12.306	4.958	2.859

Month		2020-21			Figure in 000 tes	
		Target	Actual	% achived		
APRIL		13240	11648	88	12526	-7.0
JUN		14170	10848	77	12493	-13.2
<b>1QTR</b>		<b>42110</b>	<b>32752</b>	<b>78</b>	<b>37838</b>	<b>-13.4</b>
JUL		14250	11501	81	10576	8.7
AUG		13910	11512	83	8196	40
SEP		13520	12013	89	7348	63
11QTR		41680	35027	84	26120	34
OCT		14420	12381	86	7906	57
NOV		14180	12518	88	10007	25
DEC		15150	13692	90	12357	11
<b>11 QTR</b>		<b>43750</b>	<b>38591</b>	<b>84</b>	<b>30271</b>	<b>27</b>
OCT		14420	12381	86	7906	57
NOV		14180	12518	88	10007	25
DEC		15150	13692	90	12357	11
111QTR		43750	38591	88	30271	27
JAN		15350	13241	87	12953	-4
FEB		14220	12436	87	13416	-1
IV QTR		29570	25677	87	26399	-3
<b>TOTAL</b>		<b>157110</b>	<b>132049</b>	<b>84</b>	<b>120629</b>	<b>9.5</b>

## QUALITY CONTROL

### SUPPLY OF SIZED COAL

S3-REPORT

Qty. in 000 Tcs.

SUPPLY OF SIZED COAL THROUGH		FEB. 2021					PROG. FEB. 2021				
		RAIL LINK CONSUMERS		OTHERS (ROAD, BELT, MGR)	WASHERIES	TOTAL	RAIL LINK CONSUMERS		OTHERS (ROAD, BELT, MGR)	WASHERIES	TOTAL
		POWER (IPP & CPP)	OTHERS				POWER (IPP & CPP)	OTHERS			
		1	2	3	4	5=(1+2+3+4)	6	7	8	9	10=(6+7+8+9)
CHP + BUNKER (UG)	A	0.000	0.000	333.503	0.000	333.503	0.000	0.000	3238.355	0.000	3238.355
FEDER BREAKERS	B	315.641	0.000	0.000	0.000	315.641	3943.600	0.000	0.000	0.000	3943.600
SURFACE MINER	C	6543.147	1767.759	3475.885	0.000	11786.791	60196.585	22161.438	42506.921	0.000	124864.944
TOTAL SUPPLY OF SIZED COAL	D=(A+B+C)	6858.788	1767.759	3809.387	0.000	12435.935	64140.185	22161.438	45745.276	0.000	132046.899
TOTAL DESPATCH	E	6858.788	1767.759	3809.387	0.000	12435.935	64140.185	22161.438	45745.276	0.000	132046.899
AGE OF SUPPLY OF SIZED COAL	F=(D/E)X100	100.00	100.00	100.00	0.00	100.00	100.00	100.00	100.00	0.00	100.00

### DESPATCH OF COAL AFTER SIZING

MONTH FEB. 2021

Qty. in 000 Tcs.

S4 REPORT

DESP. QUANTITY (MODE WISE)		SUPPLY OF COAL TO POWER SECTOR (IPP & CPP)				SUPPLY OF COAL TO THE OTHER CONSUMERS					GRAND TOTAL
		THROUGH CHP/ FB	THROUGH SURFACE MINER	TOTAL SIZED COAL	WITHOUT SIZING	CHP/ FB THROUGH CHP/ FB	THROUGH SURFACE MINER	TOTAL SIZED COAL	WITHOUT SIZING	BUNKER (UG)	
		1	2	3=(1+2)	4	5	6	7=(5+6)	8	9	
		1	2	3=(1+2)	4	5	6	7=(5+6)	8	9	
RAIL	A	315.641	6543.147	6858.788	0.000	0.000	1767.759	1767.759	0.000	0.000	8626.547
OTHER MODES (ROAD+BELT+MGR)	B	253.473	1577.011	1830.484	0.000	0.000	1898.874	1898.874	0.000	80.030	3809.387
TOTAL	C=(A+B)	569.114	8120.158	8689.272	0.000	0.000	3666.633	3666.633	0.000	80.030	12435.935
TOTAL DESPATCH	D	569.114	8120.158	8689.272	0.000	0.000	3666.633	3666.633	0.000	80.030	12435.935
% AGE OF SIZING	E=(C/D)X 100	100.00	100.00	100.00	0.00	0.00	100.00	100.00	0.00	100.00	100.00

## COAL RANK AND QUALITY

The term coal refers to any readily combustible rock containing more than 50 percent by weight of organic matter, coal differs considerably in their physical and chemical characteristics.

The term quality is used to distinguish the range of different commercial steams of coal that are produced directly commercial steams and to produced coal quality refers to differences in heating value and sulfur content, although there are such other characteristics such as grindability or ash fusion characteristics are also specified in coal sale agreements.

The condition that will be encountered in future coal mines will undoubtedly be different from those of today the most easily mined coal has already been extrated.



## FINDINGS

- From the survey at MCL Ltd (mahanadi coalfield limited), Lakhanpur I have collected some data regarding the quality management that it is done on annually basis.
- It is also found that employees are generally practices about quality performance by their immediate supervisors
- Performance for management practices is necessary for the employees.
- Management practices helps to identify the training needs.
- It is also found that performance is linked with promotion.
- Generally people agree that practices helps to motivate employees.
- Performance helps in polishing the skill of employees.
- Overall performance helps to create good communication between employers and employees.
- Most of the employees said that if they want to review the current performance appraisal system.
- The complaint of the consumers are inquired and corrective measures are taken by the concerned Areas.
- Consumers were encouraged for checking and supervising personally the coal loading system arrangement at sidings as well as at coal Analysis Laboratories.
- All the railways sidings are being constantly monitored by QC Department in respect of despatch of assured quality coal to all consumers.
- During this year also,selective mining method of extraction of coal was continued and the rejects were helped to maintain the quality of coal. Approximately 92% of production was achieved through surface miner.
- Proper care has been taken towards supply of 100 mm size coal to the consumers. For this ,the coal extracted by conventional mode have been crushed by CHPs &FBs for dispatch by rail, belt &MGR.



## CHAPTER – 6

- SUGGESTION
- CONCLUSION

## **SUGGESTION**

Most of the Employees of MCL opined that the over all performance system needs to change . For gaining more efficiency and effectiveness in the system some of the suggestions are given below.

- Daily production from HEMMs and their working hours are being closely monitored at Area level and at Headquarters Level.
- To improve the technical skill for operating and maintaining new model equipment by conducting regular training programme by OEMs.
- Land acquisition and Law & order problems are being taken up at various forums by MCL Management .
- Timely surveying off of HEMMs and replacement procurement action against such surveyed off equipment.
- Maintenance of haul roads prior to monsoon period.
- Unskilled manpower like land -outtee are being trained in different Industrial Training Institutes.
- To give incentives to the performers.
- To give feedback to all the employees about their performance.



## **CONCLUSION**

MCL is committed to provide clean coal with minimum impact of Environment . In this regard , the company is implementing nine first mile connectivity projects to provide pollution -free state-of-the art take loading system at a total expenditure of Rs 3,600 crore. In 2020 ,the company not only worked for providing the energy security to the nation, but also actively contributed with the state government in fight against COVID19 pandemic.

**Coal production** non- coking coal and coking coal of various grades for diverse applications. Coal India limited crossed 600 Million Tonnes plus production mark in successive years FY 2018-19 and FY 2019-20. Because of COVID19 pandemic, coal sector suffered in FY 2020-21.

Special attention is being given to operators comfort. New HEMMs, being procured are fitted with air-conditioned cabins. Land acquisition and law & order problems are being taken various forums by MCL Management.

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- 4) ^ Eight subsidiaries of Coal India Limited International directory of company histories, Volume 44 by Thomas Derdak, Tina Grant
- 5) ^ Jump up to:a b c Mahanadi coal fields Ltd. was created in 1992 having jurisdiction over Talcher & Ib valley coal fields. t present there are 7 nos. of opencast mines and 3 nos. of underground mines in operation with a manpower of 10,220.
- 6) ^ Mining, challenges of the 21st century By A joy K. Ghose, Institution of Engineers (India)
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OU

THANKY

