



AJ INSTITUTE OF ENGINEERING & TECHNOLOGY

A Unit of Laxmi Memorial Education Trust ®

(Approved by AICTE, New Delhi, Affiliated to Visvesvaraya Technological University, Belgavi)

INDUSTRIAL VISIT REPORT



KIOCL Limited

(A Government of India Enterprise)

MANGALORE, KARNATAKA

OBJECTIVES

- To experience and understand real life situation in an industrial organization and related environment and accelerating the learning process of how knowledge could be used in realistic way.
- To help students get accustomed to an organizational structure, business operation and administrative functions.
- To gain the knowledge of selecting the optimal solution in handling the situation and to learn the accepted safety practices in the industry.

The essence of the university education lies in the synergic relationship between the student and his department. An industrial visit at **KIOCL** will be the most logical extension of our academic pursuits and will be very helpful in achieving our objectives

HISTORY

Incorporated on April 2, 1976, the KIOCL Ltd, a Government of India enterprise, was Asia's largest iron ore mining and palletization complex and the country's biggest 100% export oriented unit engaged in the business of exporting high quality iron oxide pellets and pig iron. The company was formed in April 1976. The 7.5 million ton annual capacity project at Kudremukh along with the 110 km slurry pipeline and filtration units at Mangalore was to be completed in August 1980. Shipments were to commence in September 1980. KIOCL completed the project in time. Mining activities at the worksite at Kudremukh, 110 kms from Mangalore came to halt from the end of 2005 with the Supreme Court confirming the status of Kudremukh National Park area over the present mines at Kudremukh. KIOCL's products are now widely accepted in the domestic and international markets and have a very high brand equity.

The annual capacity of the Pellet Plant is to produce about 3.5 Million tons of Iron ore Pellets. Other facilities include Reclaimer to load Pellets directly from Stockyard to vessel. Pellets produced at the Mangalore Plant have excellent metallurgical properties and are an ideal feed for Blast Furnace and DRI Units. KIOCL has its credit ISO 9001:2008, ISO 14001:2004 & OHSAS 18001:2007 certifications.

KIOCL has dedicated and experienced senior level staff having more than 25 years of experience in Operation and Maintenance of Beneficiation and Pelletization Plant. KIOCL has already entered into several O&M works across India. It has entered O&M contract with NMDC for Iron Ore Beneficiation and Pelletization Plant, O&M contract with M/s

Orissa Mining Corporation (OMC) to operate and manage 1.4 MTPA Chrome Ore Beneficiation plant at Kaliapani Odisha and had Operated Coke Handling System(Crusher Conveyors) of M/s MRPL,Mangaluru.

Under the Make in India initiative of Government of India KIOCL produced high grade Pellets out of imported high grade ore procured from Brazil and made first shipment of 64463 DMT high grade pellets to Iran.

In order to support and participate in the National Policy on Skill Development of Govt of India, KIOCL has entered into MoU with National Skill Development Corporation and Qness Corporation Ltd an approved NSDC Partner, which envisages conducting training programme for employees, contract workers, local youth, women and disadvantaged groups and employees of other establishments including CPUs on their behalf

SYSTEM DEPARTMENTS

1. **Captive power plant:** It controls by APP control system. It uses three generators. Each generators have power of 10M watts
2. **Pellet plant:** The pellet plant at Mangalore products high quality iron oxide pellets as following facilities. - Palletizing disc - Roller screens - Indurating Machines
3. **Filter plant:** KIOCL Limited at its Port Facilities departments has iron ore grinding unit, filtering unit and loading system for handling the panama vessels for cargo loading at a draft depth of 13 meters.
4. **Blast Furnace:** KIOCL in additional to dispatch of pellet by sea route dispatch of pellets by trucks to meet the demand of small customer like coal based sponge iron manufacturers, mini - steel plants etc.The blast unit has a blast furnace of 350 cum capacity of producing 2, 27,500MT of hot metal per annum

SAFETY MEASURES

KIOCL is trying its level best for the safety of the workers and engineers working in all departments of the company.

Following are the steps taken by the company for the safety of the employees:

1. Compulsory use of the hand gloves while working in repair units.
2. When the repair of any machine in the plant is undertaken, compulsory shut down of the entire plant so as to avoid untoward incidents for working personnel who are repairing the machinery.

3. A number of slogans regarding safety is put up everywhere in the campus. For example "**PRODUCTION IS MUST, BUT SAFETY IS SUPER MOST**".
4. Warning boards are put up near every machine to avoid hazards. - A fire brigade is always kept ready to fight fire accidents.
5. In case of accidents, a first aid center is made available in the plant for immediate treatment.
6. Compulsory wearing of the helmets in all sections of the industry.

Adopting these safety measures, the company is able to reduce the number of accidents in the working area very efficiently. A separate department has been set aside to oversee the proper implementation of safety measures and thus reducing the no of accidents in the plant.

VISIT SUMMARY

We started for Kiocl, Panambur by our college bus on 14th October 2017 at 10 am.

We first visited the training division at Kiocl. Mr.Shivaraj, Head of training division briefed us about the company. He also showed us two videos which gave us lot of information about the company.

We visited the ore collecting centre. The ore was offloaded from ships which came from India and abroad.

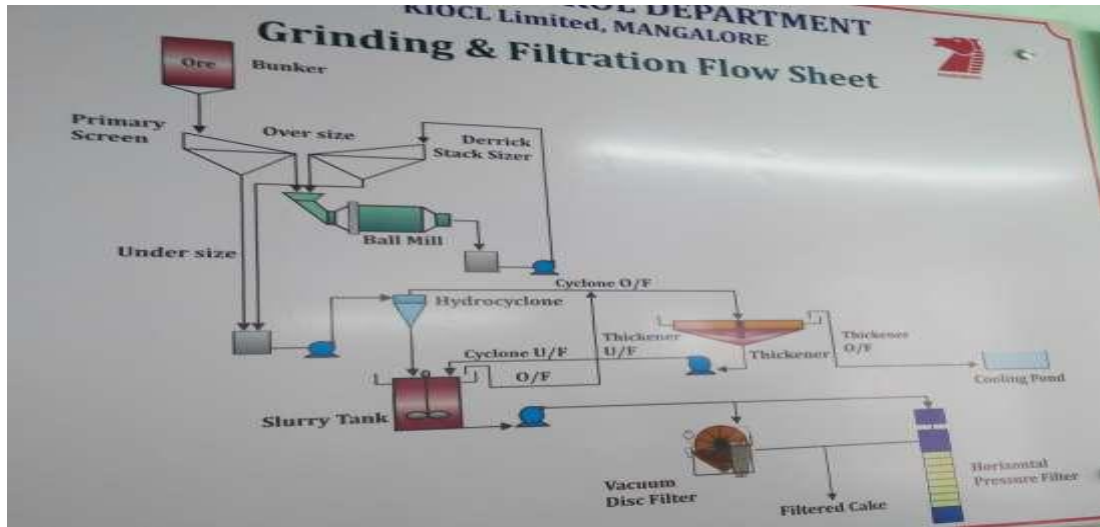
We visited the pellet delivery plant. A stream of pellets were discharged by the conveyor and pellets were stored in heaps on the ground.

We visited the Ball mill where the ore gets crushed into fine particles. We also saw the filtration unit where vacuum filters were used to separate water and Iron Ore.

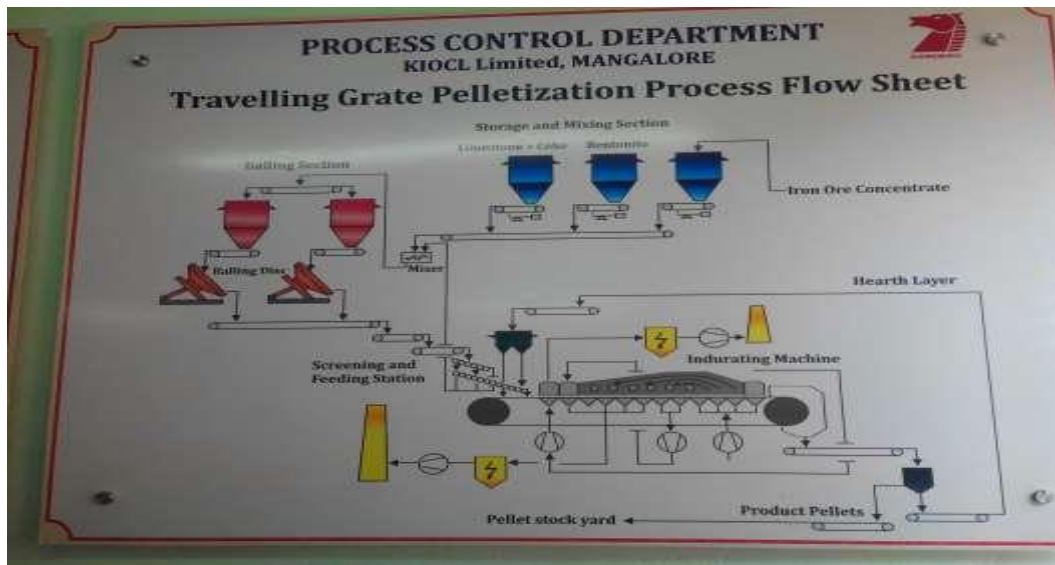
The separated ore was sent into the pellet plant unit. Here the ore is subjected to pellet disc which is having 7 metres diameter and has got tilted provision of 45°. When disc rotates at certain rpm iron ore gets converted into pellets due to centrifugal force. The pellets fall outside the disc and goes into roller wheel which is of required size. The large size pellets gets separated and finally the standard size of 9mm to 16mm diameter is collected.

SNAPSHOTS

1) Grinding & Filtration process



2) Palletization process



3 & 4 Group photos of students with faculty members & employees



CONCLUSION AND ACKNOWLEDGEMENT

The Industrial visit to KIOCL was an excellent and rewarding experience. We have been able to understand the working of an Industry.

Before this visit we had never imagined walking around in an industrial plant.

We will share the wonderful experience we had at KIOCL with our parents, relatives and friends.

We thank the General Manager, KIOCL for permitting us to visit the company.

We also thank our Principal Dr.Shantharama Rai and Head of Department Dr.Rajesh Rai for their support.