MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY

(Autonomous Institution – UGC, Govt. of India)

Affiliated to JNTUH, Hyderabad, Approved by AICTE - Accredited by NBA & NAAC – 'A' Grade - ISO 9001:2015 Certified)

Maisammaguda, Dhulapally (Post Via. Kompally), Secunderabad – 500100, Telangana State, India

DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING

INDUSTRIAL VISIT

MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY

(Autonomous Institution – UGC, Govt. of India)

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Maisammaguda, Dhulapally (Post Via. Kompally), Secunderabad – 500100, Telangana State, India

ONE DAY INDUSTRIAL VISIT TO KAKATHIYA THERMAL POWER PLANT, CHELPUR, JAYASHANKAR BHUPALPALLY 13-09-2024

Objective of the industrial visit:

The objective of an industrial visit to the Kakatiya Thermal Power Plant would generally be to provide students or professionals with practical exposure to how power generation systems work in real-world settings.

Understanding Power Generation: To observe the working principles of thermal power generation, including the combustion of coal, the role of turbines, and how steam is used to produce electricity.

Knowledge of Plant Operations: To learn about the operation and maintenance of different units such as boilers, turbines, generators, and transformers.

Environmental and Safety Aspects: To gain insights into the environmental regulations, waste management, and safety protocols followed in the power plant.

Technical Skills Enhancement: To understand the technical challenges, modern machinery, and technologies employed in thermal power generation.

Career Exposure: To give students or trainees a practical perspective on potential careers in the energy sector, particularly in power generation, engineering, and plant management.

Energy Transmission Process: To study the transmission of generated power to the grid and understand how the energy is distributed to consumers.

Benefits of the industrial visit:

Industrial visits offer several key benefits, especially for students and professionals looking to deepen their understanding of how industries function in real-world settings.

Practical Exposure: Provides hands-on learning experiences and helps students or trainees relate classroom theories to practical applications.

Industry Insights: Offers a deep understanding of industrial processes, technologies, and the functioning of large-scale equipment, which cannot be fully grasped through textbooks.

Skill Development: Helps in developing technical skills, problem-solving abilities, and critical thinking as students observe and interact with industry professionals.

Career Awareness: Exposes participants to potential career opportunities, enabling them to understand the roles, responsibilities, and working environment of professionals in the industry.

Networking: Provides opportunities to interact with industry experts, engineers, and managers, fostering connections that could be valuable for internships, jobs, or mentorship.

Understanding Industry Challenges: Helps students understand real-world challenges such as operational efficiency, environmental regulations, safety standards, and technological advancements.

Motivation and Interest: Industrial visits can inspire students to pursue specific fields of study or careers, igniting a passion for particular industries or technical areas.

Learning about Innovations: Offers a glimpse into new technologies, machinery, and innovations used in industries, encouraging participants to stay updated with the latest advancement.

FACULTY COORDINATOORS:

Mr. T. VENKATA PRASAD
Mr. K. HARISH
Mr. K. ARAVINDA SWAMY
Ms. M. DEEPA

THE SCHEDULE OF INDUSTRIAL VISIT:

DATE	S.NO	TIME	DESCRIPTION
13-11-2024	1	5.00 am	Leaving from institution
	2	9.00 am	Reached KTPP
	3	10.15 am to 10.15 am	Registering details at plant
	4	10.00 am to 1.30 pm	Visit of industry
	5	1.30 pm to 2.30 pm	Lunch at canteen
	6	3.00 pm to 4.00 pm	Ramappa temple visit
	7	4.00 pm to 5.00 pm	Thousand pillars temple visit
	8	5.00 pm to 9.30 pm	Back to institution

HISTORY OF KAKATHIYA THERMAL POWER PLANT

The Kakatiya Thermal Power Plant is located in the jayashankar bhupalpally district of Telangana, India. It is one of the significant power generation plantsin the region and plays an important role in meeting the power needs of Telangana.

1. Location and Initial Development:

The Kakatiya Thermal Power Plant is situated in Bhoopalapally, about 50 km from Warangal. The plant was developed by the Telangana State Power Generation Corporation Limited (TSGENCO), formerly part of the Andra Pradesh Power Generation Corporation (APGENCO) before the bifurcation ofAndhra Pradesh in 2014.

2. Commissioning of the Plant:

Stage-I: The first phase of the Kakatiya Thermal Power Plant was commissioned in 2010. It consisted of one unit with a capacity of 500 MW. Theproject was implemented to address the growing power needs in the region.

Stage-II: The second stage of the project was initiated to further boost the power generation capacity. This phase involved the addition of another 600 MW unit, which was commissioned in 2016, after the formation of Telanganastate. This unit played a crucial role in addressing the power shortage in Telangana during its initial years as a separate state.

3. Role in Telangana Power Supply:

After the bifurcation of Andhra Pradesh, Telangana faced a critical power shortage, especially for its agricultural and industrial sectors. The Kakatiya Thermal Power Plant helped alleviate this shortage by significantly boostingthe state's generation capacity.

The plant, being coal-based, uses indigenous coal from the nearby SingareniCollieries, ensuring a steady supply of fuel for uninterrupted power generation.

4. Environmental and Technological Aspects:

The plant operates on sub-critical technology, a conventional coal-fired system, but it incorporates several modern technologies to improve efficiencyand reduce emissions. There are ongoing discussions about upgrading or incorporating additional pollution control mechanisms to adhere to stricter environmental standards.

Overall, the Kakatiya Thermal Power Plant has played a critical role in powering Telangana's growth, especially in the post-bifurcation period whenpower availability became a key issue for the state's development.

INTRODUCTION TO KAKATHIYA THERMAL POWER PLANT

The Kakatiya Thermal Power Plant is a coal-based power station located in theWarangal district of Telangana, India. It is operated by the Telangana State Power Generation Corporation Limited (TSGENCO). The plant was developed to meet the growing power demand in the region and to support the economicdevelopment of Telangana by providing a stable and continuous supply of electricity.

The plant comprises two units with a combined installed capacity of 1,100 MW, featuring advanced technology to ensure efficient energy production. Thefirst unit was commissioned in 2009, and the second was completed later to enhance the plant's generation capacity. The Kakatiya Thermal Power Plant
sources its coal primarily from the nearby Singareni Collieres.

1.**TURBO GENERATOR (DC):**
Type : 3 phase
Ratings : 500 MW

Power Factor: 0.8 Lag Speed :

3000 RpmFrequency : 50 HZ

Connection : Double Star
Coolant : Water and hydrogenStator

: 21KV, 19000 Amps

Rotor : 340 V ,4040 Amps

2.PLANT CAPACITY:

STAGE	UNIT NUMBER	INSTALLED CAPACITY	DATE OF COMMISSIONING	STATUS
Stage-1	1	500	May,2010	Running
Stage-2	2	600	Jan,2016	Running

MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY

(Autonomous Institution – UGC, Govt. of India)

(Sponsored by CMR Educational Society)

Recognized under 2(f) and 12 (B) of UGC ACT 1956

Estd : 2004

(Affiliated to JNTUH, Hyderabad, Approved by AICTE - Accredited by NBA & NAAC – 'A' Grade - ISO 9001:2015 Certified)

UGC AUTONOMOUS

Dt: 19th July 2024

From,
Principal,
Malla Reddy College of Engineering and Technology (MRCET),
Maisammaguda, Dhulapally,
Secunderabad, TS, 500100.

To,
The chief Engineer,
Kakathiya Thermal Power Project,
Chelpur, Warangal District,
Telangana, 506168.

Sub: Industrial visit –Request for grant of permission to visit Kakathiya Thermal Power Project to our students of II-I and III-I B. Tech Electrical & Electronics Engineering –Reg.

Respected sir,

Malla Reddy College of Engineering & Technology, Accredited by NBA and NAAC-A in both Engineering & Management disciplines and is a pioneer in Engineering education since 2004. The college has excellent teaching faculty, who are doing their best to impart theoretical knowledge of the engineering subjects to our students. Further, the college has excellent laboratory facilities with latest equipment to conduct practicals. In addition to theory classes and practicals conducted in the college, the visits to Industries have been planned to further strengthen the practical knowledge of the students and also promote the Industry-Institute Interaction.

We will be obliged if our third and second year students (60 members) of EEE along with 5 faculty members are permitted to visit your esteemed organization i.e., **Kakathiya Thermal Power Project (KTPP)** on any working day in between **27th August 2024 to 31st August 2024.** Your acceptance to our request will be highly appreciated. The convenient dates may please be intimated to us to enable us to plan the visit.

Thank you sir

Yours Sincerely

Dr.S Srinivasa Rao
Principal

Malla Reddy College of Engg. & Technology
UGC Autonomous Institution
Secunderabad-500 100

PRINCIPAL
Malla Reddy College of Engg. & Technology
UGC AUTONOMOUS INSTITUTION
Maisammaguda, Dhulapally, Secunderabad-500 1

TELANGANA POWER GENERATION CORPORATION LIMITED
(A Government of Telangana Undertaking)
KAKATIYA THERMAL POWER PROJECT, CHELPUR - 506170
(An ISO 9001:2015 & ISO 14001:2015 certified)

From	To
Chief Engineer/O&M, Kakatiya Thermal Power Project, Chelpur (V), Ghanpur(M), Jayashanker Dist. - 506170	The Principal. Malla Reddy Engineering College, Maisammagada,Dhullapally,Medchal, Malkajgiri,Secunderabad - 500 100

Lr.No.CE/O&M/SE/A&P/KTPP/F.36(B)/D.No.7/2024,Dt-10.09.2024

Sir,

Sub: TGGENCO-KTPP –Industrial visit of B.Tech students of EEE Department, of MallaReddy Engineering College, Maisammaguda, Dhullapally ,Medchal, Malkajgiri Secunderabad – Permission to visit KTPP on 13.09.2024-Reg.

Ref: Letter Dated, Dt: 19.07.2024.

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With reference to letter cited above; 60 No.s students and five faculty members of your college are permitted to visit M/s KTPP, Chelpur on dt: 13.09.2024 from 10.00 AM to 1.00 PM.

The above permission is tentative and you have to confirm your Permission over phone/person before 1day of actual visit of our Plant. Further it is to inform that, they should follow all the safety precautions such as wearing of identity card, shoes, gents tucking in shirts and wearing of helmets etc. during plant visit.

It is requested to contact the following officers for further guidance and they will co-ordinate the plant visit programme.

1) Divisional Engineer /E&P, Mobile: 9493545542.

2) Divisional Engineer/Factory Manager, Mobile: 9491044462.

3) Sri. J.Chandan singh Divisional Engineer/EM/CHP Mobile: 9490156893

Yours faithfully

Chief Engineer/O&M
Kakatiya Thermal Power Project

Copy to the:

Superintending Engineer/A&P/KTPP for information.

Divisional Engineer/FM/KTPP - To ensure to follow the safety precautions by the above articipants

Divisional Engineer /E&P/KTPP --To Co-ordinate the above programme

Vigilance & Security Officer/KTPP -- To Co-ordinate the above programme

Sri. J.Chandan singh ,DE/EM /CHP/ --To Co-ordinate the above programme

This document is digitally signed

MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY

(AUTONOMOUS INSTITUTION - UGC, GOVT. OF INDIA)

Affiliated to JNTUH; Approved by AICTE, NBA-Tier 1 & NAAC with A-GRADE | ISO 9001:201

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

INDUSTRIAL VISIT

To

KAKATIYA THERMAL POWER PROJECT

CHELPUR, JAYASHANKAR BHUPALAPALLY, TELANGANA

For

2022-2026 & 2023-2027 BATCH

On

13th September 2024

INSTITUTION'S INNOVATION COUNCIL

Dr. VSK Reddy	Dr. S.Srinivasa Rao	Dr. T. Venugopal	Dr. PHV. Shesha Talpa Sai	Dr. M.Sharanya
Director	Principal	Dean Student Welfare	R&D Director	Prof & HOD-EEE


500MW GENERATOR


500MW GENERATOR
MKY006C-114
MKY006C-115

PRESENTING MEMENTOs TO THE AE & FIELD ENGINEER

CONCLUSION:

To impart theoretical knowledge of the engineering subjects to our students. Further, the college has excellent laboratory facilities with latest equipment toconduct practical.

In addition to theory classes and practical's conducted in the college, thevisits to industries have been planned to further strengthen the practical knowledge of the students and also promote the industry - institute interaction.