



Jindal Steel & Power Ltd

Eliminates Diesel Loss due to Power Failure

CASE STUDY

Summary

unit (an iron mines) is located 840 m above MSL and our HT conductors passes through dense forest. Thunderstorm and low cloudburst is a very common phenomenon throughout the year. So whenever lightning occurs, insulator get punctured as well as trees fall on HT conductor. For these incidents our breakdown time due to power failure gradually increases. In order to maintain targeted production and smooth domestic life DG is essential. We restored the DG set by doing many kaizens and finally we ran the DG set.

Objective of Intervention

Saving Natural Resource leading towards Eco-Friendly Environment is main sketch around which our case study has been framed.

Type of Intervention and Location

The contour of the case study revolves around a 600 KVA DG Set whose performance has deteriorated over the years and whose OEE figure has come down from 50 per cent to 14per cent. Company management has decided to completely stop the 600 KVA DG Set, due to low efficiency, service problem from OEM. After implementation of TPM in the year 2012, our PM & KK team took the challenge to make obsolete machine workable ,efficient ,restore the DG Set by doing PM & KK Kaizens & parallely started the JH concepts

Description of Intervention

Three major mechanical problems come, i.e., engine not taking load, overheating, and unavailability of skill. Then, we do the cause & effect analysis taking into consideration Man, machine, material and Method and prepared causes and counter measures for each activity and target date was set to complete it. Further, we do the skill mapping and given training to desired people and enhanced the skill level, providing appropriate tools and tackles.



After the restoration of engine the real problem arrives from Electrical, i.e., how to connect the 600kVA DG Set supply at the existing PCC panel. Total 4 nos. of idea generated and, finally Idea-4 was used to explore the possibilities to connect the 600kVA DG Set supply with the PCC Panel by providing offload change over. After complying, mechanical and electrical related problems the diesel consumption comes 135–68 litres and more importantly CO₂ emission reduced from 369 kg to 186 kg per hour.

Intangible or Tangible Benefit

Tangible benefit: Diesel consumption per hours 135–68 litres as well costs per hour reduced to 50 per cent and more importantly CO₂ emission reduced from 369 kg to 186 kg per hour. In the result summary availability and performances increases, so that the OEE increases from 60 per cent to 80 per cent quarterly. Parallely, JH concept implemented regularly for which follow-up and review sheet prepared, lots of visual control developed resulting CLIT time reduced to 61 per cent,

Intangible benefit: Moral and safety increase, saving of natural resources, awareness for energy conservation, improvement in learning

About JSPL

Jindal Steel and Power Limited (JSPL) is one of India's major steel producers with a significant presence in sectors like Mining, Power Generation and Infrastructure. With an annual turnover of over US\$ 3.5 billion, JSPL is a part of the US\$ 18 billion diversified O. P. Jindal Group and is consistently tapping new opportunities by increasing production capacity, diversifying investments, and leveraging its core capabilities to venture into new businesses. JSPL operates the largest coal - based sponge iron plant in the world and has an installed capacity of 3 MTPA of steel at Raigarh in Chhattisgarh. With a 0.6 MTPA wire rod mill and a one million tonne capacity bar mill at Patratu, Jharkhand, a medium and light structural mill at Raigarh, Chhattisgarh and a plate mill to produce upto 5.00 metre wide plates at Angul, Odisha.