

PROJECT SUMMARY

Project Type: Direct Exhaust Usages to VRM
Commissioning Date: September 2023

Company Overview:

National cement Mills Ltd (NCML) is one the of the TK Group of companies. The plant capacity is **2.35 million** Ton Per annum and aggregate production of **1.9 million** Ton Per annum.

Location:

Issa Nagar, Karnaphully, Chattogram, Bangladesh

Gas Gensets details:

MWM TCG2032V16 X 2 units with 4300 KWe.
Total capacity of the plant is 8,600 KWe.

Direct Exhaust Usages:

Total 46,398 kg/hr exhaust gas from gas engine is used in the Vertical Roller Machine using 3-way & 2-way damper.

TECHNICAL SUMMARY

NCML was operating with 8600 KWe captive power plant with an efficiency of 43.7%. The power plant was wasting 46,398 kg/Hr of exhaust gas at 447Deg C. The Vertical Roller Machine (VRM) was using 0.67 m3 Natural Gas per metric ton of cement production. KEBD has designed a system to utilize the engine exhaust to VRM so that VRM combustion unit requires less natural gas. KEBD has successfully installed 1 unit 3-way damper & 2-way damper in each genset and With the fully automated controlling system exhaust gas is connected to the VRM using duct. After using 70% of exhaust (32,478 kg/Hr) to the VRM, gas consumption on VRM becomes 0.38 m3 to produce one metric ton of Cement which is 56% less than previous natural gas consumption. The direct exhaust usages increase the captive power plant efficiency was from 43.7% to 66.89%.



MWM TCG 2032V16 Gas Genset



VRM

Yearly Savings after using Exhaust Heat at VRM:

Natural Gas used in VRM (Before Exhaust Usages), m3/hr	139
Natural Gas used in VRM (After Exhaust Usages), m3/hr	79
Natural Gas Consumption Savings, m3/hr	59
Yearly Operating Hour (Avg.)	8000
Natural Gas Consumption Savings per Year, m3	472000
Gas Price per m3, in USD	0.273
Yearly Savings, in USD	128,856

CONTACT US

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