

M/s Jaykaycem (Central) Limited.



Vetting of Techno Economic Feasibility Report.

June 2021

PREPARED BY:

**Project Finance Division,
Bank of Baroda,
BCC, Mumbai.**

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Name of the Account	M/s. Jaykaycem (Central) Limited (JCL)
Branch	IBB Mall
Region	Kanpur
Zone	Lucknow

1. ISSUE FOR CONSIDERATION:

To carryout vetting of the Techno Economic Feasibility Report (TEFR) in the captioned account prepared by M/s HOLTEC Consulting Pvt. Ltd. to part finance the proposed project involving setting up Integrated Cement Plant (IU) of 8,000 TPD clinker capacity (i.e., 2.64 MTPA-Million Tonnes Per Annum) and 2.00 MTPA Grinding Unit in Madhya Pradesh and Cement Grinding Unit (GU) of 2.00 MTPA in Uttar Pradesh with an estimated project cost of Rs. 2970.29 crores. The proposed term loan is Rs.1678.86 crores.

2. BACKGROUND:

- ✓ M/s Jaykaycem (Central) Limited (JCL) is a wholly owned subsidiary of M/s JK Cement Limited, which in turn, is the Cement vertical of the industrial conglomerate JK Organization.
- ✓ The company decided to set up a Greenfield Integrated grey cement manufacturing unit (IU) with 8,000 TPD clinker capacity i.e 2.64 MTPA and 2 MTPA grinding unit in Panna district of Madhya Pradesh and a greenfield split grinding unit (GU) of 2.0 MTPA in Hamirpur district of Uttar Pradesh.
- ✓ The main raw material is limestone for the project. As per TEFR report, the company has already executed mining lease agreement for land admeasuring 1594.34 ha at Karka, Kamtana Judi, Saptai Devri Purohit & Devra, Amanganj tehsil, Panna District in Madhya Pradesh.
- ✓ As per TEFR, the estimated limestone reserves shall meet the requirement of clinkerisation plant for about 80 years for the envisaged production capacity of 2.64 MTPA clinker.
- ✓ The company has proposed to produce 80% Portland Pozzolana Cement (PPC) & 20% Ordinary Portland Cement (OPC) on the overall volume. Product Mix at IU is proposed as 60% PPC and 40% OPC and at GU is proposed as 100% PPC. The grinding unit is proposed to be located at approx. 240 KM from the integrated unit.
- ✓ The project does not envisage Captive Power Plant (CPP) and Railway Siding at both the locations. The company propose to meet power requirement from GRID and Waste Heat Recovery System (WHRS).
- ✓ As per TEFR, JCL already has presence in the region through its parent company (JKCL) units at Aligarh in West Uttar Pradesh and Nimbahera in Rajasthan. The target market of the proposed project shall be the state of Madhya Pradesh and Uttar Pradesh for the proposed project.
- ✓ As per TEFR, the company expected to avail Uttar Pradesh SGST exemption benefit for the proposed project. Further, it is reported that JCL Panna IU is eligible for investment promotion assistance of Rs. 150 crores to be reimbursed over 7 years as

per Madhya Pradesh Incentive Policy. As per TEFR, the company has considered the benefits/incentives while arriving the cash flows.

- ✓ The company has estimated Integrated Unit project cost as Rs. 2187.50 Crores and Grinding Unit at Uttar Pradesh with estimated project cost of Rs. 322.98 Crores. The total project cost (incl. pre-operative exp., IDC, Contingency provision and WC margin) is estimated at Rs. 2970.29 Crores which is proposed to be funded by Term Loan of Rs. 1678.86 Crores and promoter's contribution of Rs. 1291.43 Crores.
- ✓ The company has not yet received environmental clearance for project and is in process of obtaining the required approvals. As per TEFR, the implementation schedule is estimated for 24 months for Integrated Unit and 18 months for Grinding Unit from the date of signing/effectiveness of main equipment supply contract.
- ✓ As per TEFR, the COD is assumed as April 2023 for the Integrated Unit at MP and February 2023 for the Grinding Unit at UP. The term loan is proposed to be repaid over 13 years including moratorium period of 2 years after commissioning of the plant.

3. REFERENCE:

- ✓ As per AIP accorded dated 03.06.2021 in the captioned account, it is stipulated that PFD shall vet the TEFR prepared by the Holtec Consulting P Ltd in the captioned account.
- ✓ Accordingly, Oil and natural gas vertical, BCC vide email dated 01.06.2021 requested Project Finance Division for vetting of the Techno Economic Feasibility Report (TEFR) prepared by M/s HOLTEC Consulting Pvt. Ltd for the proposed project.
- ✓ We have finalized our vetting report based on available information from the unsigned TEFR and information provided by branch (latest information i.e linked financial model received on 21.06.2021). Branch may obtain signed copy of TEFR report and keep on record.
- ✓ The views and observations of Project Finance Division are as under:

4. COST OF PROJECT AND MEANS OF FINANCE:

The details of estimated project cost by the TEFR Consultant is as under:

(Rs. in Cr)

Project cost	IU	GU	Total	%
Land and Site Development	474.95	22.70	497.65	16.75%
Civil Works and Structures	378.63	82.05	460.68	15.50%
Plant and Machinery	1285.24	211.63	1496.87	50.39%
Engineering & Know How	11.00	4.00	15.00	0.50%
Expense on Training	7.50	0.50	8.00	0.26%
Miscellaneous Fixed Assets	30.18	2.10	32.28	1.08%
Sub Total	2187.50	322.98	2510.48	84.52%
Pre-Operative Expenses including interest during construction period	247.78		247.78	8.34%
Contingency provision	197.10		197.10	6.64%
Margin Money for Working Capital	14.94		14.94	0.50%
Total project Cost	2970.29		2970.29	100.00%

(Rs. in Cr)

Means of Finance	Amount	%
Equity (Promoters' Contribution)	1291.43	43.47%
Bank Debt	1678.86	56.53%
Total Means of Finance	2970.29	100.00%

Note:

- 1) The promoter's contribution under proposed project is estimated as Rs.1291.43 crore. The project DE ratio works out to ~1.30 times. Details of source of equity is not provided in TEFR. Timely infusion of promoters' contribution is important for timely completion of project. Branch may obtain source of equity and satisfy upon.
- 2) Assuming total 4 MTPA cement grinding capacity and 2.64 MTPA clinkerisation capacity, the capex for the instant project seems to be in line with the industrial benchmark cost as per CRISIL of Rs.9,500-10,000/ton for Greenfield project. (Report Dated 28.12.2020).
- 3) It appears that the project cost is estimated based upon the consultant experience. LIE may firm up cost of plant and machineries based on final POs/ Quotations along with proper due diligence of suppliers of machinery/contractors. Branch may obtain LIE's opinion and keep on record.
- 4) As the project is in nascent stage and supplier are to be identified. Branch may obtain the shortfall undertaking from the sponsor to meet the cost overrun, if any.
- 5) The company has estimated contingencies provision at 7.50% of estimated CAPEX at Rs.197.10 crores, which works out to about 7.86% of project cost, which appears on the higher side.
- 6) The cost of foundation for Plant & Machinery has been considered as Building and Civil structure in TEFR. However, for accounting purpose, cost of such foundation related to P&M are considered under the head of Plant & Machinery for the calculation of depreciation as per accounting norms.

5. PROJECT DETAILS:

Project Land:

The company has estimated land and site development cost of Rs.475.95Crores for IU and Rs.22.70Crores for GU unit. The total land cost works to ~16.75% of total project cost. It appears that land cost is estimated based on consultant/company estimates.

Integrated unit:

As per TEFR report, the site has been prima facie found suitable for setting up the proposed cement plant subject to environmental clearance. The Integrated unit is proposed to be located villages Harduwa Ken, Puraina, Maddiyan and Sotipura, Tehsil Amanganj, Panna Dist, Madhya Pradesh. It is reported that the proposed plant site is selected based on proximity to Lime stone deposit, availability of flat land and connectivity to SH-49.

The proposed plant site is located at a distance of about 14 km from Amanganj in South West direction and about 2 km from state highway (SH-49) in the west direction. The company plans to acquire about 480 acres of land for setting up the cement plant, and about 1,060 acres of land for limestone mining purpose. As per TEFR, the tentatively earmarked plant site for setting up of cement plant is largely private agricultural land.

The details of forest land, if any is not provided. Further, as per TEFR report, Panna Tiger Reserve/ National Park is understood to be about 16 km away from the mining lease

boundary of the proposed plant, which is more than the statutorily mandated 10 km safe zone distance. As per TEFR, company shall need to ensure that the statutorily mandated distance is maintained with respect to the boundary of the Tiger Reserve/ National Park vis-à-vis its mining lease area boundaries as well as plant land boundaries.

Railway network is not available in the near vicinity of the proposed cement plant. The nearest railway station is at Damoh at a distance of about 85 km in south direction. The company has not proposed any Railway siding in the project and proposed to utilize the trucks for transportation of clinker and other materials.

A residential colony to accommodate about 200-250 management staff and essential services related personnel is proposed initially. The colony shall be located in close proximity to the cement plant. The colony shall have facilities like dispensary, shopping complex, community centre, guesthouse, club etc.

Branch may obtain the supporting documents like sale deed etc for the cost of land along with TCR and necessary environmental clearances of project land & Mines and firm up the land cost with the help of LIE.

Grinding Unit:

The company envisages to set up the proposed Greenfield Clinker Grinding Unit (GU) of 2.0 MTPA cement production capacity in Hamirpur district in the State of Uttar Pradesh. The area falls around 80 km south-southwest of Kanpur with accessibility from the National Highway NH86, which is also known as Kanpur-Hamirpur-Sagar road. As per TEFR, the site shall be easily accessible via the existing road and rail infrastructural networks. Hamirpur is the nearest major township at a distance of about 20 km from the proposed plant site. No dedicated colony for company staff is envisaged to be constructed at this stage in GU. The proposed staff is planned to reside in nearby township and existing habitation clusters.

As per TEFR, JCL is in final process of procuring a land patch of about 27 acres area (approx. 11 hectares) for the purpose of setting up the proposed Grinding Unit. As per TEFR, the site shall be requiring nominal-to-moderate site preparation, grading and development works, towards which a nominal lump sum amount has been considered in the capex estimates.

The nearest railway station from the proposed plant site is at Ingotha at a distance of about 2.5 km. The other nearest railway station is at Bharuwa Sumerpur located about 9 km from the site. The company has not proposed any railway siding at Grinding unit. However, as per Holtec, significant rail transport of material is not foreseen for either inward or outward movement of material at Grinding Unit at this stage of the project.

Mining land:

As per TEFR report prepared by HOLTEC, the company has executed mining lease agreement dt. 23.09.2020 for land admeasuring 1594.34 ha at Karka, Kamtana Judi, Saptai, Devri Purohit & Devra, Amanganj Tehsil, Panna District in Madhya Pradesh.

As per TEFR report, the total land of ~1594.34Ha has been granted under Mining lease out of which, ~75.754 Ha is govt. waste land and balance ~1518.586 is private land. JCL initially plans to purchase 621.075 Ha mineralized private land in Kakra block. As per

TEFR report, based on third party investigation, the cement grade limestone reserves is estimated at 237.27 million tonnes.

Branch may obtain Mining lease deed along with the copy of third party investigation report on limestone reserves with the help of LIE and keep on record.

As per TEFR report, the estimated limestone reserves shall meet the requirement of clinkerisation plant for about 80 years for the envisaged production capacity of 2.64 MTPA clinker at Raw material to Clinker factor of ~1.51 times.

The distance from mining land to cement plant is not provided in TEFR. The company has proposed to install crusher near mines for crushing of limestone and then transport the crushed limestone by way of belt conveyors. LIE's opinion on feasibility of Over Land Belt Conveyor (OLBC) may be obtained.

Civil Works & Structures:

The company has estimated civil works and structures cost of Rs.378.63Crores for IU and Rs.82.05Crores for GU. The total civil works cost works to ~ 15.50% of total project cost.

As per TEFR, based on the plant technical concept, HOLTEC database and discussion with JCL personnel, the civil cost have been estimated.

The details of built up area are not provided in TEFR report, hence we are not able to comment up on the construction cost (per sqft). The company is yet to obtain the approved building plan for the project.

Branch may obtain civil cost estimates along with BOM/BOQ as per the approved building plan from panel Chartered Engineer/LIE. Further, branch may obtain the copy of approved building plan and keep on record.

Plant & Machinery:

The TEFR consultant has estimated the cost of plant and machineries at Rs.1285.24Crores for integrated unit and Rs.211.63Crores for grinding unit. The total P&M cost works to 50.39% of project cost. The details of the main machinery and storage and sizing for the project is given in Annexure 1 of the report.

The details of Major cost heads are as under:

(Rs. in Cr)			
SN	Particulars	IU	GU
1	Total cost of Mechanical and Electrical equipment	895.10	173.80
2	Equipment for Distribution of Power	148.63	29.80
3	Waste Heat Recovery System (WHRS) based Power Plant -22MW	200.00	-
4	Mining machinery	41.50	-
5	Equip. Foundations' (Machine Foundations.) civil cost component	-	4.23
7	Laboratory equipment & setup	-	0.85
8	Fire-fighting equipment & hydrant system	-	0.40
	Water treatment system	-	0.50

	Multi-utility equipment (front-end loader, fork lifts, truck-mounted lifting crane)	-	1.30
	Weighbridges	-	0.75
	Sub-total	1285.23	211.63

The detail list of plant and machineries is captured in the TEFR report. As per TEFR, the Kiln based on Dry process is proposed to be installed at Integrated Unit. The technology proposed is common technology used in the other plants in India.

As per TEFR report, the Max power requirement for IU and Mines is estimated at ~34 MW, out of which ~ 22MW power requirement shall be met by Waste Heat Recovery System (WHRS) and balance requirement of ~20 MW by way of grid connectivity through nearest 132 kV grid sub-station located at distance of ~45km from proposed plant site. The route survey and right of way details are not provided in TEFR. The company has also considered the CAPEX cost for laying of power Transmission line as a part of plant and machineries mentioned above.

The company has not proposed any Captive Power Plant (CPP) in the project. The company proposes to install waste heat recovery based boiler which is expected to generate about 22 MW power from heat available. As per TEFR estimates, the CAPEX cost for WHRS (Waste Heat Recovery System) which is considered under project cost works ~Rs.9.09Crores per MW which appears to be reasonable.

Similarly, for Grinding Unit, the maximum power requirement is estimated at ~12MW which is proposed to be met by grid sub-station of U.P. Power Transmission Corporation Ltd (UPPTCL) at Sumerpur which is about 6 km of aerial distance from GU. The company has also factored the cost of power transmission line in P&M cost. To meet the emergency power requirement, 1,250 KVA DG set has been envisaged in the investment cost estimate.

Miscellaneous Fixed Assets (MFA):

The company has estimated the cost of Misc. Fixed Assets at Rs.30.18Crores for IU and Rs.2.10Crores for GU. The total MFA works to ~1.08% of total project cost.

Engineering and Know How:

The TEFR consultant has estimated Technical Know How Fees for various consultants at Rs.11.00Crores for Integrated unit and Rs. 4.00Crores for Grinding Unit. The total cost works to ~ 0.50% of the total project cost.

Pre-operative Expenses:

The TEFR consultant has estimated total pre-operative expenses of Rs.247.78Crores which works out to ~8.34% of the total project cost. This includes the cost of IDC of Rs. 130.31 crores, expenses for CSR activity of Rs. 45.80 crores and Rs. 34.80 crores for salaries during construction period. The reasons for including CSR activity cost in the project may be ascertained from the company.

Margin Money for Working Capital:

As per TEFR report, the margin money for working capital for both the units is estimated at Rs.14.94Crores which appears on lower side. However, branch may reassess the margin on working capital on actual COD of the project as per the industry standards.

6. UTILITIES:

6.1 Integrated Unit (IU):

Raw Material:

The main raw material for the integrated unit i.e clinkerisation plant is limestone. The company propose to utilize the captive limestone mines. The crushed limestone from the crusher shall be brought in the plant by using conveyor belt. As per TEFR, About 237.27 MTPA of cement grade limestone reserves have been estimated by JCL in Kakra ML area. As per TEFR, the estimated limestone reserves shall meet the requirement of clinkerisation plant for about 80 years for the envisaged production capacity of 2.64 MTPA clinker.

As per TEFR, the average raw material to clinker conversion factor estimated at 1.51 which seems to be in line with industry average.

The clinker produced at IU is proposed to be transported to GU at UP by way of road transport and no railway sidings is proposed in the project.

The details of raw material required and the source of the same is provided below.

Raw material	Source Locality	Source Category	Road distance from plant (km)	Remarks
Limestone	Spanning across Kakra, Kamtana, Judi, Saptai, etc. villages of Amanganj tehsil, M.P.	Captive	-	The crusher is proposed to be located in the periphery of mines. Crushed limestone from the crusher shall be transported to plant by belt conveyor
Bauxite	Various sources from Maihar tehsil, District Satna, M.P.	Purchase	100	To be used as corrective and shall be transported by trucks to plant site.
Iron ore	Various sources from Sihora tehsil, Jabalpur, M.P.	Purchase	130	To be used as corrective and shall be transported by trucks to plant site.
Gypsum	Imported gypsum from Gulf region through sea port(s) located in Andhra Pradesh	Purchase	1,200 to 1,350 depending on receiving seaport	To be used as an additive. Shall be transported to plant site by trucks from the sea port.

Fly ash	Various thermal power plants in the radius of ~200km from plant site like Bajaj Hindustan CPP, Lalitpur TPP, Sanjay Gandhi TPS, etc	Purchase	200	To be used as an additive. Shall be transported to plant site by bulkers.
Indian Coal	Sohagpur Coalfields, SECL, M.P.	Purchase	400	Major component of the fuel mix. Shall be transported to plant site by road.
Pet coke	Majorly imported from various sources and received via sea port(s) located in Andhra Pradesh	Purchase	1,200 to 1,350 depending on receiving seaport	To be used as fuel and shall be transported by road to plant site.

Source: TEFR

The company has not proposed any railway siding in the project and propose to use the trucks for transportation of finished goods and raw materials. The company logistic cost may increase due to this. The company may explore to enter long term agreement for procuring fly ash from the nearby power plants and coal supply agreements for smooth operations.

Power & Fuel:

As per TEFR, the maximum power demand for the proposed Plant and Mines has been estimated at around 34 MW. The power requirement is proposed to be met through a combination of Grid and Waste Heat Recovery System (WHRS) based thermal power plant. At potential clinker capacity of 10,000 tpd clinker, the WHRS capacity is estimated to be about 19 MW. However, company plans to install a WHRS of 22 MW capacity to exploit benefit from operations optimization in future.

Grid connectivity of about 20 MW is envisaged from the nearest 132 kV grid sub-station located at a distance of about 45 km from the proposed plant site. Branch may obtain the LIEs opinion on route survey, ROW and feasibility from competent authority for laying of the transmission line and associates cost for the same.

A blend of Indian coal (80%) and Petcoke (20%) is envisaged to be used as the fuel mix. Indian coal shall be sourced from Sohagpur Coalfields of SECL located at a distance of about 400 km from proposed plant site. Petcoke is primarily envisaged to be sourced from various overseas sources. The imported pet coke has been considered to be transshipped from sea-ports in Andhra Pradesh. In addition, indigenous sources (Jamnagar & Bina refineries) may also be explored in future. The prices of pet coke and coal is volatile in nature. The company has not proposed any DG set under proposed project.

Based on the technical concept, specific power consumption has been considered as 48 kWh/ t for clinker by the TEFR consultant.

Timely completion of the transmissions lines at both the project locations is important for power supply to the plant.

Water:

In respect of integrated unit, water is required for cement Plant, drinking, sanitation, Mines, WHRS etc. the avg. water requirement per day is estimated at about 2500 m³/day for IU.

As per TEFR, water requirement is envisaged to be primarily met from mines pits, check dams, rain harvesting, etc. besides Ken River. For domestic purposes, water requirement may be augmented utilizing underground sources (bore well) for which requisite statutory approval (CGWA approval) is reported to be obtained in February 2020.

Manpower:

In respect of the integrated unit, the company is proposing to hire 65 people (9 persons may be on contract) during the implementation phase and a total of 450 person (out of this 183 persons on contract basis) during project operation phase.

Considering the companies experience and presence in sector, company don't foresee any problem in recruiting the required manpower for the project.

6.2 Grinding Unit (GU):

Raw Material:

The company is proposing to manufacture 100% produce Portland Pozzolana Cement (PPC) at grinding unit located at Hamirpur district in the State of Uttar Pradesh.

Clinker is envisaged to be received at the GU by trucks from JCL's proposed integrated unit in Panna district of adjoining Madhya Pradesh state, located at an approximate distance of 240 km from Hamirpur GU. The landed cost of clinker has been estimated as Rs.3,300/-MT (sourced at Rs.2,700/-MT ex-gate at upcoming Panna IU) via road transport.

The details of raw material required and the source of the same is provided below.

Raw material	Source Locality	Source Category
Clinker	JCL's upcoming integrated unit in district Panna (M.P.) planned to be located at an approximate distance of 240 km from the plant	Internal Transfer
Fly ash & Pond ash	3x660 MW Ghatampur Thermal Power Station(TPS) of Neyveli Uttar Pradesh Power Limited (NUPPL) located at an approximate distance of 30 km from the plant	Purchase
Gypsum	Various (Imported from Oman/Iran, and sourced through operators and importers via East coast of India), in pre-crushed and sized form	Purchase

Coal (for HAG – Hot Air Generator)	Various sources from the regional coal hubs, through traders, in pre -crushed and sized form	Purchase
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The company may explore to enter long term agreement for procuring fly ash from the nearby power plants and coal supply agreements for smooth operations.

Power & Fuel:

As per TEFR, The total maximum power demand for the proposed plant has been estimated as about 12 MW, which is envisaged to be met from the Sumerpur grid substation of U.P. Power Transmission Corporation Limited (UPPTCL) located at about 6km distance from the Proposed plant. Branch may obtain the LIEs opinion on route survey, ROW and feasibility from competent authority for laying of the transmission line and associates cost for the same.

To meet the emergency power requirement, 1,250 kVA DG set has been envisaged in the investment cost estimate.

Water:

The total water requirement for the Grinding unit is 300 m³/day, which is envisaged to be met from underground sources and secondary sources like rainwater harvesting, etc. Branch may obtain the copies of approval for ground water drawl from competent authority and keep on record.

Manpower:

As per TEFR, company has estimated about 30 personnel for implementation phase, and about 204 personnel estimated for operation phase. Considering the companies experience and company don't foresee any difficulty in recruiting the required manpower for the project.

7. APPROVALS & CLEARANCES:

As per TEFR, some of the major approvals required under proposed project are as under:

S.No	Particulars	Status as per TEFR
1	Railway Siding Final Approval from Railway Authorities	Not applicable
2	Environmental Clearance	As per TEFR, Environment clearance obtained on 31 st August 2020 from MoEFCC for a maximum limestone production capacity of 4.08 MTPA per annum. However, the company is yet to obtain the environmental clearance for Integrated Unit and Grinding Unit.
3	Consent to Establish from Pollution Control Board	To be obtained
4	Consent to Operate from respective Pollution Control Board	To be obtained (before commercial production)
5	Water connection	To be obtained
6	Power connection	To be obtained
7	Labour license	To be obtained
8	IEM	To be obtained
9	Boiler registration	To be obtained
10	CLU for land if applicable	To be obtained
11	Mining lease approval	As per TEFR, Mining lease agreement executed on 23.09.2020.
12	Mine Environment & Mineral Conservation(MEMC) report	To be obtained
13	Approved Building Plan	To be obtained
14	Fire NOC	To be obtained
15	Factory Inspector certificate	To be obtained

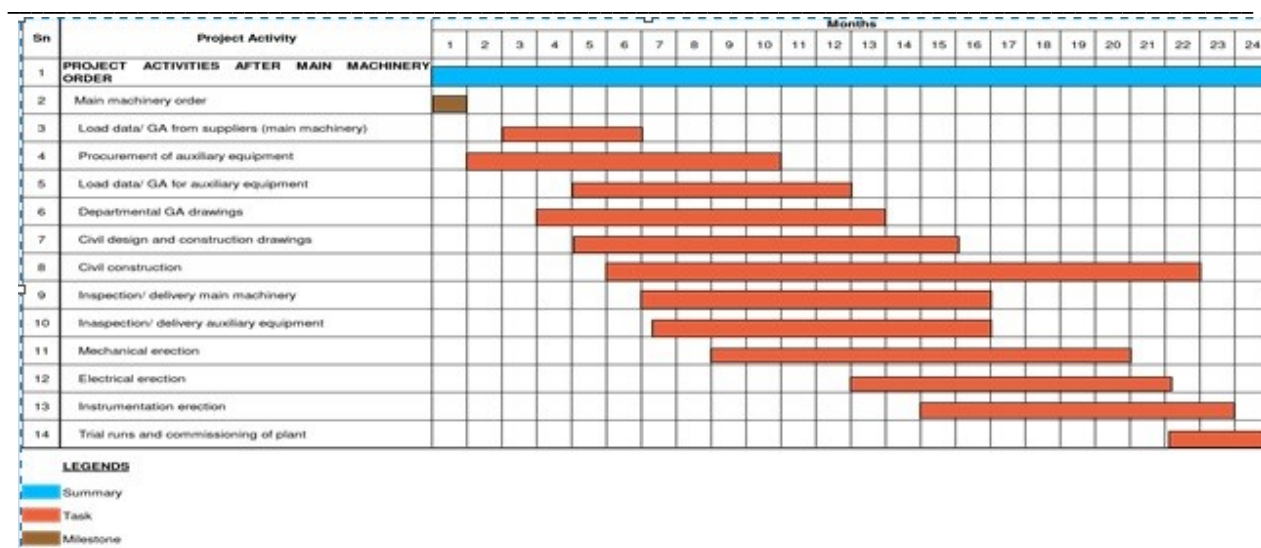
Branch may obtain copy of all required approvals and clearances necessary for the instant project for both the locations in the name of the company with the help of LIE and keep on record.

8. IMPLEMENTATION SCHEDULE:

a. Integrated Unit (IU):

As per the TEFR, the total implementation period for the proposed IU unit is around 24 months after completion of pre project activity. Hence, timely completion of pre-project activity like land acquisition, clearance from statutory authorities such as Pollution control board, industry etc., preparation of tender document, receipt of offer from bidder, offer and evaluation order etc will be crucial for timely completion of project.

As per TEFR, project implementation schedule after order for main machinery is placed detailed as under:

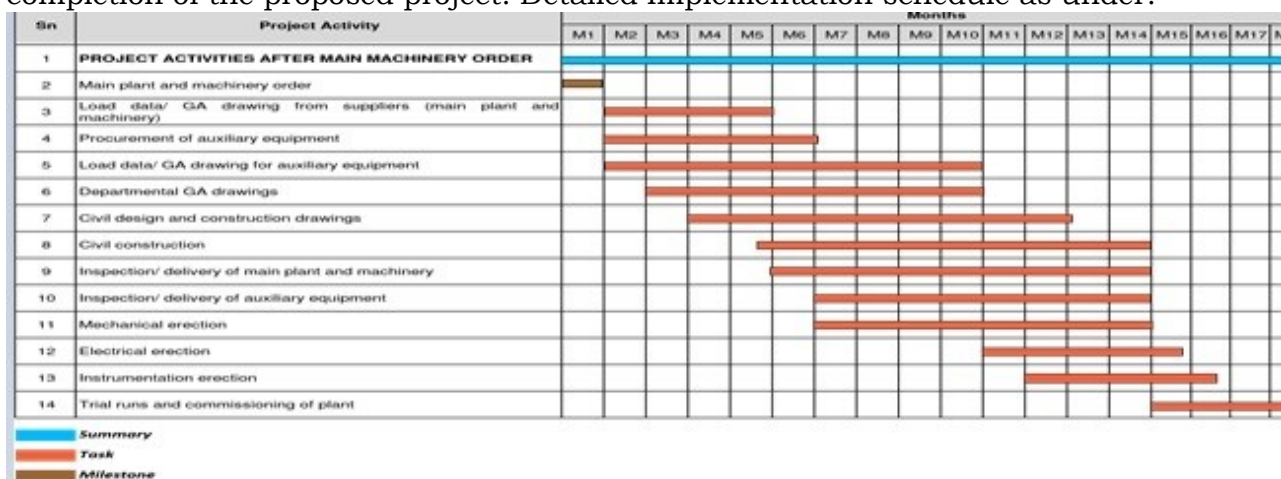


Source: TEFR

The industry average gestation period for cement plant ranges from 3 to 4 years for a Greenfield of integrated cement plant as per CRISIL. The proposed implementation schedule of 24 months seems to be on much lower side considering the industry average and project size. Timely land acquisition and the receipt of key approvals are important for timely completion of project.

b. Grinding Unit (GU):

As per TEFR most-likely implementation period of 18 months from the date of signing/ effectiveness of the contract is envisaged, further it has been mentioned that “Zero date” for a project is generally reckoned as the date on which the contract for “main plant and machinery” becomes effective. Hence, it is observed that obtaining the basic required approval and order placement for the major machineries will be crucial for the timely completion of the proposed project. Detailed Implementation schedule as under:



Source: TEFR

As per CRISIL for a grinding unit, the gestation period is around 18-24 months excluding time required for the environmental clearances. In view of the same, the proposed implementation schedule of 18 months seems lower than industry average as the company is yet to obtain Environmental Clearance. Timely land acquisition and receipt of approvals which will be crucial for the timely completion of the project.

Branch may closely monitor the account with help of LIE for timely completion of project.

9. COMMENTS ON ASSUMPTIONS:

Installed Capacity:

The company has proposed to install 8000 TPD clinkerization plant with total working of 330 days per annum. Considering the above, installed capacity of the IU plant works out to 2.64 MTPA.

The company has also proposed to set up a grinding unit of 2.00 MTPA. (i.e. 6060 TPD).

LIE certificate on the installed capacity may be obtained after finalization of the key machinery.

Capacity Utilization:

TEFR consultant has considered capacity utilization at max. of 100% for cement unit and for clinker unit as under:

Particular	FY23	FY24	FY25	FY26	FY27& Onwards
Capacity Utilization of Integrated Unit	-	84%	90%	96%	100%
Capacity Utilization Grinding Unit	81%	87%	93%	100%	100%
Total	40%	85%	91%	98%	100%

The capacity utilization assumed by TEFR consultant based on demand analysis both for cement and grinding unit seems to be on the higher side, considering the industry average. The details of the group cement plants capacity utilization is not provided in TEFR. We have done sensitivity analysis on capacity utilization.

As per TEFR, the demand forecasting results would vary if the COVID-19 pandemic is not contained. The consultant opined that the demand forecasts will need to be reviewed as the situation changes.

As per CRISIL, the past industry avg. of capacity utilization for Grinding Unit is at avg. of 61-63% of installed capacity. The Clinker unit capacity utilization in central India is estimated to be around 71% of installed capacity for the next five years (the same was around 73% for last five years) as per CRISIL report dated 31.03.2021.

Revenue:

As per TEFR, the company is proposing to sell OPC & PPC cement & clinker during the project loan tenure. However, as the entire clinker production is proposed to be utilized by grinding units as internal consumption, the revenue from clinker may not be available.

The sales composition and the price assumptions for the same as per TEFR is given below:

Product	% of Net Sales	Selling Price Rs./MT
OPC	17.00%	6441.16
PPC	69.00%	6241.16
Clinker	14.00%	3300.00 (internal transfer)

Source: TEFR

The prices assumed for OPC & PPC cement works out to about Rs.318/Bag & Rs.308/Bag respectively which seems to be in line with Central India prices as per CRISIL of Rs.344-353/Bag as on April 2021.

The company has estimated ex-gate price of Clinker at Rs.2700/MT. The clinker is proposed to be sent from the IU in Madhya Pradesh to GU in Uttar Pradesh. The company has considered the freight cost of Rs. 600/MT for 240 KM which is already included in the above cost which seems reasonable. However, any adverse increase in diesel prices may affect the logistic cost of the company which is one of the key component in the cement industry.

As per TEFR, the target markets are to be serviced from M/s JCL's proposed units at Panna, Madhya Pradesh and Hamirpur, Uttar Pradesh.

Net Realization:

(Amt. in Rs.)

Particulars	IU		GU
	OPC	PPC	PPC
Retail Prices	6441	6241	6475
GST @28%	1409	1365	1416
Freight	894	894	623
Margins	500	500	500
Net Realization (Rs./bag)	192	174	197
Net Realization (Rs/Ton)	3639	3492	3936

Source: TEFR

The net realization for the company works out to a range of Rs.3492-3936/MT as against Rs.4942/MT average net realization for blended cement as per CRISIL for Q3 FY 21. As such, the net realizations estimated by company for the instant project is on a conservative side.

Other Income:

As per TEFR, M/s JCL is expected to avail of Uttar Pradesh SGST exemption (70% of SGST for sales in Uttar Pradesh, max up to 300% of Fixed Capital Investment for 15 years).

As per TEFR, M/s JCL's Panna IU is also eligible for Investment Promotion Assistance of Rs.150.00 crore to be reimbursed over 7 years as per the Madhya Pradesh Incentive Policy.

It is observed that the TEFR consultant has considered incentives (other income) of Rs.979.58 crore over a period of 15 years as income. We have done sensitivity analysis excluding income from incentives (other income).

Raw material prices:

As per TEFR, the actual raw material mix shall be prepared/finalized based on actual quality of raw material and available fuel. The details as per TEFR is given below:

Raw Materials & Consumables	IU (Cost/MT)	GU(Cost/MT)
Limestone (Avg. all grades)	181.21	-
Bauxite	1500.00	-
Iron Ore	1100.00	-
Clinker	-	3300.00
Fly Ash	681.00	350.00
Coal 80 % & petcoke 20%	5375.60	-
Gypsum	3700.00	4500.00
Consumables	85.00	35.00

The company's average cost of raw material to net sales for the entire project loan tenure is on a higher side as it works out to around 28.00% of net sales as against industry average of 13.13% as per CRISIL as on April 2021.

The company has assumed raw material mix for clinker as under:

Component	Proportion % by Weight
Limestone	96.60%
Bauxite	2.20%
Iron Ore	1.20%

As per TEFR, M/s JCL proposes to produce 80% PPC & 20% on the overall volume. Product mix at IU at 60% PPC, 40% OPC and GU is 100% PPC. Blending ratios for the same is as follows:

Raw Material	OPC	PPC
Clinker	90%	60%
Gypsum	5%	5%
Blending Limestone	5%	-
Fly Ash	-	35%

It is observed that the company has assumed to start commercial operation at the grinding unit on Feb 2023 which is 2 months prior to assumed COD for Integrated Unit i.e. April 2023. The TEFR has not commented/provided any details of sourcing of clinker for production of 1.67 Lac MT of PPC cement during Feb 2023 and Apr 2023.

We observe that raw material prices are volatile in nature. The company's ability to pass on any increase in raw material will remain crucial.

Power Cost & Fuel:

Company has considered the power requirement and cost per kWh as under:

Power Consumption/Ton	
Clinker	48 kWh
PPC	65 kWh
OPC	80 kWh
Power Rate/ kWh	
Rate/kWh (IU)	Rs. 4.79 (WHRS)
Rate/kWh (GU)	Rs.7.69

The company has assumed the power and fuel cost on lower side. The total power and fuel cost in proportion to net sales is estimated at approx. 13.54% as against the industry average of 19.1% (as per CRISIL - Mar 2021). However, any increase in power cost may affect the cash flows of the project. We have done sensitivity analysis on power cost.

EBITDA:

The company has estimated average EBITDA margin of ~26.39% of net sales, which seems to be on slightly higher side as against existing performance of group flagship company M/s J.K Cement Ltd. (FY2019-20) & CRISIL Industry Average (Mar '21) at 23.48% & 24.20% of net sales respectively.

Repayment:

The TEFR proposes total door to door tenor of 13 years with 24 months moratorium and 11 years of ballooning repayment at ROI 7.50% P.A throughout the project loan tenure.

10. FINANCIAL PARAMETERS:

Debt Service Coverage Ratio (As per TEFR):

Particulars	YR1	YR2	YR3	YR4	YR5	YR6	YR7	YR8	YR9	YR10	YR11	YR12	YR13	YR14	YR15
	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34	FY35	FY36	FY37
PAT	1.50	155.04	209.23	263.94	294.57	300.53	309.46	319.39	312.42	320.65	304.18	310.93	318.06	324.95	165.96
Depreciation	2.98	122.34	121.58	121.58	121.58	121.58	121.58	121.58	121.58	121.58	121.58	121.58	121.58	121.58	60.79
Total Interest	3.58	129.59	130.06	129.11	124.47	116.92	105.58	92.99	80.40	67.81	55.22	42.63	30.04	18.20	6.63
Total Inflow	8.06	406.98	460.87	514.63	540.62	539.02	536.62	533.96	514.40	510.04	480.97	475.13	469.67	464.72	233.37
Total Interest	3.58	129.59	130.06	129.11	124.47	116.92	105.58	92.99	80.40	67.81	55.22	42.63	30.04	18.20	6.63
Total Term Loan Repayment	-	-	-	50.37	67.15	134.31	167.89	167.89	167.89	167.89	167.89	167.89	167.89	167.89	83.94
Total Outflow	3.58	129.59	130.06	179.48	191.63	251.23	273.47	260.88	248.29	235.70	223.10	210.51	197.92	186.09	90.57
DSCR	2.25	3.14	3.54	2.87	2.82	2.15	1.96	2.05	2.07	2.16	2.16	2.26	2.37	2.50	2.58
Average DSCR	2.38														
Minimum DSCR	1.96														

Source: As per TEFR

*It is observed that the DSCR calculation done by TEFR consultant takes into consideration interest of both TL & Working Capital Limit.

Debt Service Coverage Ratio:

The details of DSCR as per TEFR report:
(after excluding interest on working capital in DSCR)

Particulars	YR1	YR2	YR3	YR4	YR5	YR6	YR7	YR8	YR9	YR10	YR11	YR12	YR13	YR14	YR15
	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34	FY35	FY36	FY37
PAT	1.50	155.04	209.23	263.94	294.57	300.53	309.46	319.39	312.42	320.65	304.18	310.93	318.06	324.95	165.96
Depreciation	2.98	122.34	121.58	121.58	121.58	121.58	121.58	121.58	121.58	121.58	121.58	121.58	121.58	121.58	60.79
Total Interest	2.69	125.91	125.91	124.50	119.62	112.06	100.73	88.14	75.55	62.96	50.37	37.77	25.18	13.35	1.78
Total Inflow	7.18	403.30	456.72	510.01	535.77	534.17	531.77	529.11	509.55	505.18	476.12	470.28	464.82	459.87	228.52
Total Interest	2.69	125.91	125.91	124.50	119.62	112.06	100.73	88.14	75.55	62.96	50.37	37.77	25.18	13.35	1.78
Total Term Loan Repayment	-	-	-	50.37	67.15	134.31	167.89	167.89	167.89	167.89	167.89	167.89	167.89	167.89	83.94
Total Outflow	2.69	125.91	125.91	174.86	186.77	246.37	268.62	256.03	243.43	230.84	218.25	205.66	193.07	181.24	85.72
DSCR	2.66	3.20	3.63	2.92	2.87	2.17	1.98	2.07	2.09	2.19	2.18	2.29	2.41	2.54	2.67
Average DSCR	2.41														
Minimum DSCR	1.98														

Sensitivity Analysis based on TEFR:

SN	Particulars	AVG. DSCR	MIN. DSCR
1	Base Case as per TEFR	2.38	1.96 (FY2029)
2.	Base Case (excluding working capital interest)	2.41	1.98 (FY2029)
2	Reduction in sale price of cement by 5%	1.84	1.53 (FY2029)
3	Increase in raw material price by 5%	2.22	1.83 (FY2029)
4	Increase in power cost by 5%	2.39	1.96 (FY2029)
5	Reduction in Capacity Utilisation by 5%	1.86	1.54 (FY2029)
6	Increase in ROI by 1%	2.29	1.89 (FY2029)
7	Excluding Other Income derived from Government Incentive	2.08	1.69 (FY2029)

#TEFR consultant has considered interest on working capital in the DSCR calculation. We have excluded Interest on Working Capital in DSCR calculation of sensitivity analysis.

It is observed that the cash flows are sensitive to reduction in sales price of cement, reduction in capacity utilization and excluding other income derived from government incentive.

IRR:

IRR for the proposed project is 16.40% as per TEFR financial model, however, company has considered discounted value of the asset at the end of 15th year instead of net block as of 15th year. After considering the WDV of the asset (as of 15th year) the IRR works out to 15.40%.

11. CONCLUSION:

As per TEFR Consultant, M/s HOLTEC Consulting Pvt. Ltd the project exhibits an Internal Rate of Return on Total Investment of 16.40% & the Average Debt Service Coverage is 2.38. As per TEFR, these returns are taking into account the incentives provided by the government. In view of the acceptable level of returns, the TEFR consultant has concluded that project is financially viable and technically feasible.

In view of foregoing, we concur with the opinion of the TEFR consultant barring unforeseen circumstances.

Date: 23.06.2021.

BCC, Mumbai.

12. ANNEXURE 1: DETAILS OF P&M & STORAGE

Operation	Equipment/ Storage	Unit	Required Capacity	Recommended Capacity
Raw Material Preparation	Limestone crusher	tph	1,656	1,600(25% screening by wobbler)
	Limestone Storage	t	37,025	2 x 40,000
	Corrective Crusher	tph	55	300
	Bauxite storage	t	4,762	7,500
	Iron Ore storage	t	2,324	7,500
	Raw mill (CCRP)	tph	688	2 x 375
	Raw meal storage	t	25,886	10,000
Pyro Processing	Rotary kiln	tpd	8,000	8,000
	Clinker cooler	tpd	8,000	8,000
	Clinker storage	t	80,000	100,000
	Coal crusher	tph	166	300
	Pet Coke stockpile	t	2,333	2 x 3,000
	Rail	tph	2x1500	Auto
	Coal stockpile	t	8,121	2 x 10,000
Clinker Grinding	Coal mill (VRM)	tph	78	90 (Coal)/ 50 (Petcoke)
	Gypsum storage	t	2,522	2,100
	Limestone storage	t	387	1,000
	Fly ash storage	t	5,248	5000 Flyash
	Cement grinding	tph	332	1 x 300
	(VRM)	tph	6x100	Semi-Automatic
Packaging & Dispatch	Cement silos	t	18,182	3 x 5,000 (RCC)
	Packing	Tph	463	2 x 240

Source: TEFR