Precast & PEB Construction
Opportunities for Entrepreneurs



C. A. Prasad, Director, Metey Engineering & Consultancy and President, PSI, Hyderabad, guides entrepreneurs on the various aspects of Precast and PEB construction business.

Quality assurance and timely construction using Precast and PEB produced elements are the reasons behind their increasing demand. These elements are cast by the industry at a centralised location where all facilities for production, testing, and curing are available. Elements produced in precast are:

- Precast prestressed Hollow core slabs
- Precast solid elements like slabs, columns, walls, beams, stairs, and (occasionally) precast footings.

Similarly, in the PEB industry, elements produced include:

- Structural steel columns
- Structural steel rafters, portal frames, trusses, and beams
- Purlins, roofing sheets

All these are prefabricated as per the required size.



How to meet increasing demand for Precast & PEB structures

Demand for Precast and PEB structures is coming from the far interior regions, including tribal areas, so much so that the Indian Government is planning construction of high-quality, sustainable buildings for tribal people in the interiors and at sectors located far away from the cities.

However, precast industries are located near cities and towns, so how will the industry provide the prefabricated structures to the interior areas and to faraway places?

Option1: Produce the precast elements in the industry located in the city and transport them to the faraway areas.

Option 2: Set up a temporary precast facility in a nearby, centrally located area to reduce cost of transportation of the elements. There should be a sufficient number of precast productions for the temporary set up to make the project cost-effective.

In both the options, the precast production of elements should be done by a company experience in this field of work as it will have all the facilities for production, QA&QC assurance, testing, and automated curing system to make the elements produced robust and durable.

Challenges & Opportunities in Transportation and Erection

One of the challenges experienced by the Precast/ PEB industry is the transportation and erection of the precast elements. Many



precast producing companies are looking for external agencies to offload this work.

If transportation of the elements is taken up by an entrepreneur, it will reduce the burden on the Precast/PEB industry, which is looking forward for entrepreneurs to come forward to undertake this activity.

However, entrepreneurs need to be trained on the Transportation and Erection systems such that they will get employment or business opportunities from the precast companies.

Certified Course for budding entrepreneurs

PSI (Pre-Engineered Structures Society of India www.pessi.in) is looking forward to running a certified course in Transportation and Erection of Precast and PEB elements with the help of the Precast Industry. Its aim is to impart knowledge to qualified engineers on how to transport and erect the elements safely at sites. (Details on the certified course will be announced shortly through this magazine).

Cost economics of transportation of elements

Precast elements are heavier while PEB elements are lighter. Usually, a distance of 60 to 80 km is considered as cost effective and is very competitive compared to conventional construction.

However, the Precast Industry is also transferring elements to faraway places of 300 to 400 km distances as per the demand of clients and project sites. Transporting long distances and setting up a facility to cater to faraway places poses the following challenges:

- Non availability of labour in a remote place.
- Providing labour accommodation is uneconomical and not viable.
- Non availability of materials in the vicinity.
- Time required to complete the structure is less.

Considering the above constraints, companies like Precast India Infrastructure in Pune and Inventaa Industries in Vijayawada are catering to clients requesting the precast industry to deliver the precast structures to faraway/remote places. The two companies have successfully delivered precast elements to far off distances of 250 to 300 kms and thereby set a trend for constructing precast structures in any part of the country.

Cost of Transportation & Erection

The prevailing market rates for transportation and erection rates are as follows:

Up to 25km: ₹500/ton

Up to 60km: ₹750/ton

Up to 80 km: ₹900/ton

Installation/Erection rate: ₹1500/ton

CPWD SSR (DSR/DAR) gives the desired information on costing of precast elements, transportation, erection, grouting, stressing strands, sims, etc.

Acknowledgement: The author expresses his gratitude to Inventaa Industry and to Kirby for providing the required information.