

E-Newsletter-Vol - XXVI

LIGHT HOUSE PROJECTS

March 31, 2023, New Delhi

Shri Kuldip Narayan, JS&MD, HFA chairs Project Monitoring Committee meeting

On 2nd March 2023, Shri Kuldip Narayan, Joint Secretary & Mission Director (JS&MD), Housing for All, Ministry of Housing & Urban Affairs (MoHUA) chaired the 12th meeting of Project Monitoring Committee (PMC) to review the progress of Light House Projects (LHPs) under Global Housing Technology Challenge-India (GHTC-India) initiative of Pradhan Mantri Awas Yojana -Urban.

Indore, Lucknow, Ranchi and Agartala are the LHPs which are under construction. The meeting was also attended by Shri RK Gautam, Director, HFA, respective officials from LHP sites, officials from the State and Ministry.

At the outset, JS&MD welcomed the participants and a presentation on the development of LHPs was made. Detailed progress of the projects was observed by



JS&MD. During the meeting, issues related to the ongoing construction activities, allotment process and fund release was also discussed. After taking a considerate view of the current progress of LHPs, JS&MD emphasised that all agencies must take necessary measures to complete the projects in all respect within a set time.



LHP Lucknow



LHP Indore



LHP Ranchi



LHP Agartala



Message from JS&MD (HFA) Shri Kuldip Narayan

At PMAY-U, we have made sure to adopt the futuristic technological innovations in the construction sector, which has helped us in transforming the urban landscape of India. Among the other technological measures taken under PMAY-U, six Light House Projects at six different regions of the country are the prime examples of how we have made way for new innovative construction technologies. The urban infrastructure development is helping us in building an 'AatmaNirbhar Bharat'.

The already inaugurated two LHPs have shown our commitment towards pushing for technological revolution in India and the completion of other 4 LHPs will provide a major push towards boosting the housing sector. Among these upcoming LHPs, Indore and Lucknow are already on the verge of completion while construction work at Ranchi and Agartala is proceeding at a fast pace.

I often travel to these locations to observe the progress made at the sites & instruct the concerned officials to give a holistic approach to the entire projects which would promote ease of living for its residents. My visit to LHP Chennai was a one-of-a-kind experience. The overall development of the entire area has ensured that the families are living a life of dignity & comfort – something which they also told me. Meanwhile, meetings are conducted often to review the pace of work at the LHP sites. Progress of the buildings are also sent to the Central team through other mediums on a daily basis.

This March, we once again successfully conducted 75 training programmes under RACHNA 2.0. The efforts taken up by the team to host these workshops in different parts of the country is commendable. I'd also like to thank all the participants who made it a successful show, again.

Here's to new opportunities!

Shri Durga Shanker Mishra, Chief Secretary, Govt of Uttar Pradesh reviews progress of LHP Lucknow



Shri Durga Shanker Mishra, Chief Secretary, Government of Uttar Pradesh reviewed progress of Light House Project Lucknow while chairing the 40th State Level Sanctioning and Monitoring Committee (SLSMC) of Pradhan Mantri Awas Yojana (Urban).

LHPs are devoted to developing affordable, durable, modern and innovative residential housing for thousands of families, for whom a pucca house was once a distant dream. Shri Mishra said that the project will significantly improve the quality of life of the poor. During the meeting, he was apprised about the current progress of LHP Lucknow, after which he directed the officials associated with the project to complete the work by May 2023 so that the beneficiaries are benefitted at the earliest. Shri Mishra also asked the officials to provide weekly progress of LHP.



At LHP Lucknow, finishing work is under progress. 1,040 dwelling units have been constructed using PVC Stay-in-Place Formwork System technology.

Light House Projects: Transforming Urban India with touch of technology

Light House Projects in a way have made the country ready to adapt to the innovative technologies for construction purposes. The LHPs have brought a paradigm shift in the manner construction has been perceived and done in the country. GHTC-India and LHPs aspire to develop an ecosystem to deliver on the technological challenges of the construction sector in holistic manner. Adoption of these globally innovative technologies would certainly contribute towards achieving the Sustainable Development Goals (SDGs), as laid out by the United Nations and the New Urban Agenda. As envisaged by the Hon'ble Prime Minister, these LHPs are sharing light with each other to learn, explore, share, evolve and customise these technologies as per local need and available resources for replication in other construction projects. Due to the all-round comprehensive activities (online and offline) carried out at different sites, the following results are visible on ground:

a) Andhra Pradesh, Tamil Nadu and Maharashtra through private/public agencies are constructing more than 10 lakh housing units using the Monolithic construction systems

b) Karnataka is using the Monolithic RCC using Tunnel Formwork for construction of 43,282 houses in the State through private/public agencies. This technology has been successfully used in LHP Rajkot, which was inaugurated by Hon'ble Prime Minister in October 2022



LHP Rajkot

c) Kerala has initiated construction of about more than 1,000 houses using Light Gauge Steel Frame Structure (LGSF) under PMAY(U) - LIFE Mission. This technology has been adopted in LHP Agartala

d) More than 6 lakh houses are being constructed using Precast RCC Technology in Maharashtra, Tamil Nadu, Delhi and Uttar Pradesh (Noida & Lucknow) through private/public agencies, a technology used in construction of LHP Chennai



LHP Chennai

e) Andhra Pradesh is also using the Precast 3D Volumetric Technology, being used in LHP Ranchi, for construction of more than 2,000 houses

f) Further, since 2019, CPWD has also initiated various projects worth ₹ 13,405.19 crore using various innovative construction technologies, including Monolithic Concrete Construction using Aluminium formwork, Pre-cast Concrete Construction System, Pre-engineered Buildings (PEB) - Steel Structure with light weight infills and Tunnel-form Technology. These projects are located in New Delhi, Chennai, Mumbai, Sholingaallur (Tamil Nadu), Bengaluru, Kolkata, Lucknow, Guwahati, Jammu, Jharsuguda (Odisha) among others

g) In addition, construction of 48,113 Affordable Rental Housing Complexes (ARHCs) Units is ongoing in Sriperumbudur (3,969 units and 18,112 units), Chennai (18,720 units), Hosur (6,576 units) in Tamil Nadu and at Kakinada (736 units) in Andhra Pradesh using Precast Concrete construction system and Monolithic RCC using Aluminium Formwork.

Glimpses of other projects using innovative technologies



Monolithic RCC using aluminium form work: 3,969 Units under construction at ARHC project, Sriperumbudur



Monolithic RCC using aluminium form work: 18,720 Units under construction at ARHC Project, Chennai



PEB Steel Structure, Office Building, KG Marg & Africa Avenue, New Delhi



Monolithic Concrete Construction System using aluminium form work - MP Flats at BKS Marg premises

Trainings under RACHNA 2.0 series were held in online and offline modes on varied subjects like innovative construction technologies, ways to enhance thermal comfort in affordable housing using passive building design, emerging construction technologies for thermal comfort, cutting-edge building technologies and thermal comfort, best construction practices for affordable housing, basics of thermal comfort and passive design strategies, among others. During some workshops, the participants also brainstormed on policy inclusions and implementation of thermal comfort in affordable housing sector.

Bhubaneswar, Port Blair, Gurugram, Lucknow, Gangtok, Shillong, Sonipat, Aizawl, Ranchi, Madurai, Patna, Indore, Nagpur, Vadodara, Guwahati are some of the places where RACHNA 2.0 trainings were recently conducted.





Activities under Climate Smart Buildings Programme

a) Thermal Performance analysis of Light House Projects

The CSB Cells are supporting upcoming PMAY-U projects in their cluster states with technical assistance to showcase these as demonstration housing projects for thermally comfortable affordable housing.

The projects shall be evaluated in terms of Heat gain analysis, Discomfort Hours, energy savings and various other parameters. Based on the analysis, design and material recommendations shall be proposed.

CSB Cell Lucknow has collaborated



with the Lucknow Development Authority to offer technical assistance to enhance thermal comfort in their upcoming housing projects.

CSB Cell Ranchi has identified 2 Demonstration projects, ENS Compliance report for one project has been completed. Further, two PMAY-U projects are identified as Demonstration projects for study.

b) Live measurements and post Occupancy Survey at LHP

CSB Cell at LHP Chennai is carrying out the post-occupancy survey & live measurements to understand the actual thermal comfort being experienced by the residents. The survey is being carried out with a number of beneficiaries with a specific set of questions to be filled in discussion with them.

Site visits at Light House Projects

a) Light House Project Indore



Light House Projects are serving as learning centres for Technograhis and other stakeholders, who have been

On 7th March 2023, Shri Bharat Yadav, Commissioner Urban Administration and Development Department, Bhopal visited LHP Indore to review the progress of project. Shri Yadav directed the construction agency to accelerate the work speed and finish the project at fast pace.

visiting different sites to gain experience on LHP technologies. On 28th March 2023, LHP Indore hosted engineering students and faculty from Oriental University. The team was introduced to Prefabricated Sandwich Panel technology, its use and further replication in Indian context.



b) Light House Project Ranchi

On 22nd March 2023, a 12-person team from Road Construction Department, Jharkhand, led by Er. MK Verma, Executive Engineer visited LHP Ranchi to understand the technology and its construction process along with quality control techniques.



c) Light House Project Lucknow

On 24th March 2023, Dr Shailesh Kr Agrawal, Executive Director (ED), Building Materials & Technology Promotion Council (BMTPC) visited LHP Lucknow to evaluate the work progress and held a discussion over the key areas of the project with officials.



PROGRESS OF LIGHT HOUSE PROJECTS AS ON MARCH 31, 2023

INDORE, Madhya Pradesh

Technology Name: **Prefabricated Sandwich Panel System**



No. of Dwelling Units : **1024 Nos. (S+8)**
 No. of Block / Tower : **8 Blocks**
 Units in each Block / Tower : **128 Nos.**

Activities	Progress
Superstructure	
PEB Work	72 out of 72 Floors completed in 8 blocks
Slab Work	72 out of 72 Floors completed in 8 blocks
EPS Panel work in Wall	59 out of 64 Floors completed in 8 blocks
Sample Unit	Completed
Infrastructure Work	Community Centre, Road work, underground tank, STP & Sewer line works completed and boundary wall work is in progress.



LUCKNOW, Uttar Pradesh

Technology Name: **PVC Stay in Place Formwork System**



No. of Dwelling Units : **1040 Nos. (S+13)**
 No. of Block / Tower : **4 Blocks**
 Units in each Block / Tower : **A(494), B(130), C(208) & D(208)**

Activities	Progress
Superstructure work of Building Blocks	
Pre-Engineered Steel Building (PEB) Work	<ul style="list-style-type: none"> Block A1 (Part of Block A), Block C & D - Completed Remaining Blocks (A2 & B) - In progress up to 10th floor level (A2) & 13th floor (B Block)
SIP Wall Form work	<ul style="list-style-type: none"> Block A1, Block C & D - Completed (All 208 DUs in Each Block) (Total of 848 DUs erected so far) Remaining Blocks (A2 & B) - In progress at 8th-9th floor level along with Electrical & Plumbing work
Shear Wall Work (Staircase & Lift well)	<ul style="list-style-type: none"> Block A1, C & D - Completed Remaining Blocks (A2 & B) - In progress up to 11th floor level
Social Infrastructure	Community Centre & Commercial Block - Structural work completed & the finishing work is in progress.
Infrastructure Work	<ul style="list-style-type: none"> Underground Water Tank- completed. Boundary wall- About 98% completed STP- RCC Wall casting work is in progress. Rain water harvesting Pits: Completed (5 Nos.) Road Work - in progress.



PROGRESS OF LIGHT HOUSE PROJECTS AS ON MARCH 31, 2023

RANCHI, Jharkhand

Technology Name: **Precast Concrete Construction – 3D Volumetric Construction**



No. of Dwelling Units : **1008 Nos. (G+8)**
 No. of Block / Tower : **7 Blocks**
 Units in each Block / Tower : **144 Nos.**

Activities	Progress
Casting Yard (Production of Components)	In the casting yard 7,726 numbers of Modules/ different components have been produced out of total requirement of 10,784 number of components
Foundation work	The Raft & Grade slabs of all 7 building blocks have been completed.
Superstructure	Block wise status of erection of Modules/building components: • Blocks (1 & 2) – All 9 Floors completed • Block 3 - 5 th floor is in progress • Block 4 - 2 nd floor is in progress • Block 5 - 4 th floor is in progress • Block 6 - 8 th floor is in progress • Block 7 - 9 th floor is in progress
Infrastructure work	Pre-cast boundary wall- About 56% of total length completed. STP: Reinforcement work is in progress. UGWT: Excavation work is in progress.

AGARTALA, Tripura

Technology Name: **Light Gauge Steel Structural System & Pre-Engineered Steel Structural System**



No. of Dwelling Units : **1000 Nos. (G+6)**
 No. of Block / Tower : **7 Blocks**
 Units in each Block / Tower : **A(111), B(152), C(125), D(167), E(167), F(167) & G(111)**

Activities	Progress
Foundation (Dwelling Units)	
Pile Work and Pile head breaking	Completed in 6 Blocks (A,B, C,E,F & G) & D -Block is in Progress.
PCC for foundation	A,B,C, E, F & G Block Completed.
Raft Foundation	A,C, E, F & G Block completed and B - Block is in progress.
Plinth Beam & Pedestal Column Casting	A,E, F & G Block completed and B & C Block is in progress.
Superstructure	A, E, F & G- Block is in progress. PEB up to 6 th floor - A & F Shearwall - up to Mumty floor - A, F, G & 6 th floor in E Block LGSF - in progress in Block - A & F SLAB - 2 slab each in Block - A & F

Social Media Corner

