

## E-Newsletter-Vol - XXII

# LIGHT HOUSE PROJECTS

November 30, 2022, New Delhi

## Shri Durga Shanker Mishra, Chief Secretary, Government of Uttar Pradesh visits Light House Project Lucknow, Uttar Pradesh



On 12<sup>th</sup> November 2022, Shri Durga Shanker Mishra, Chief Secretary, Government of Uttar Pradesh, visited Light House Project (LHP) in Lucknow, Uttar Pradesh to review the progress on site. Shri Amrit Abhijat, Principal Secretary, Urban Development, Government of Uttar Pradesh, and Shri R K Gautam, Director, Housing For All (HFA), Ministry of Housing & Urban Affairs (MoHUA), along with other State Government officials were also present during the site inspection. A detailed review of LHP Lucknow was undertaken by Shri Mishra where he was briefed about the progress of the project by the construction agency officials and other State Government officers.

Lucknow will be host to 1,040 modern, well-equipped houses for eligible beneficiaries. 'Stay In Place PVC Formwork with Pre-Engineered Steel Structural System' technology from Canada is being used here for construction purposes.

LHPs are a game-changer when it comes to the construction sector. The technologies being used in LHPs are among the best ones chosen from across the world. The technology in Lucknow has many advantages. The formwork being already as part of system, allows construction of building to be faster as compared to conventional buildings. The formwork needs some support only for alignment purpose. In case of concrete as filling material, the curing requirement of concrete is significantly reduced, thus saving in precious water resources. The formwork system does not have plastering requirement and gives a very aesthetic look.

Meanwhile, onsite awareness programmes, Thermal Comfort analysis & learning sessions are among the several activities being held parallelly at LHP sites. All these activities give a major fillip to the Mission. I take this opportunity to thank all academicians, domain experts, technology providers, stakeholders who have been associated with PMAY-U & its initiatives. Let us all keep doing our every bit that helps in transforming peoples' lives.

A group of eleven people, including men and women in safety vests and hard hats, standing in front of a large concrete building under construction. A red crane and a concrete mixer truck are visible in the background.

officials from across the county have visited these sites to know about the technologies in use, construction processes and other details. Recently on 26<sup>th</sup> November, a team of Project Monitoring Group (PMG), DPIIT, Ministry of Commerce and Industry visited LHP Ranchi. The key agenda of the visit was to review the progress and challenges of the project. They also noted the progress and adherence to timeline. The team also took time to understand the construction process.



## Activities under Climate Smart Buildings Programme

### LHP: Live Laboratory for the Technograhis

Climate Smart Building Cell Lucknow facilitated the onsite awareness and learning session on 21<sup>st</sup> November 2022 for a batch of Technograhis from the Bansal Institute of Engineering & Technology to explore, research, and learn about the Stay-In-Place Formwork technology at LHP Lucknow, learning regarding the innovative and advanced technology being used at the site. CSB Cell interacted with students, responded to their queries and encouraged them to participate and present their research papers on the innovative technology.



### Thermal Performance analysis of Light House Projects

Thermal Comfort analysis is being carried out by the CSB programme at various LHPs, considering Energy Simulation and onsite temperature monitoring. A study on Thermal Comfort levels in the Dwelling Units of LHP Rajkot is currently being carried out using advanced data loggers and real time monitoring. Further, with the help of simulation software, energy simulation is being performed for the LHP Indore. With the help of Temperature & Humidity Sensors, CSB Cell Indore is also doing onsite temperature monitoring. Sensors are installed at sample flat and temperature recording is being done for scheduled time periods. Climate Smart Buildings Cell at LHP Chennai has planned post occupancy survey & live measurements to understand real time thermal comfort achieved by the LHP technology. The cell is also working on the Life Cycle Analysis (LCA) for the LHP Chennai project to assess the environmental impact throughout its life cycle.



### Thermal Comfort Enhancement of the Demonstration Housing Projects

CSB programme is also working to provide technical assistance for enhancing Thermal Comfort in the upcoming affordable housing. In November, the Lucknow cell developed a thermal performance report to analyse the Thermal Comfort of the indoor environment of the buildings of the Lukerganj, Prayagraj, EWS, affordable housing project and recommended options to further enhance Thermal Performance of the project through a virtual 3D model in a computer-based simulation software by analysing the thermal comfort parameters.

CSB Cell Rajkot is supporting two upcoming affordable housing projects in Ahmedabad to achieve minimum Thermal Comfort standards. Further, Key Performance Indicators (KPIs) provide a glimpse of how the demonstration housing projects are performing in comparison to conventional buildings.



### LHP Site visits by beneficiaries

The beneficiaries are keen and regular visitors at LHP Lucknow to look at the project progress. They are informed by Climate Smart Buildings team about the new technology features and the Thermal Comfort aspects of the buildings. The beneficiaries take pride in sharing their experiences and learnings about this new concept of construction technology with their acquaintances and relatives.

# Exhibition on Innovative Construction Technology at IUHC 2022

Rajkot, Gujarat, 19-21 October 2022



**Sh. Manoj Joshi,  
Secretary,  
MoHUA**

“Realizing the vision of Hon'ble Prime Minister to provide Pucca Houses to All, PMAY(U) has proven to be a landmark Scheme which envisages construction of 1.2 crore houses. With Global Housing Technology Challenge, Technology has added a new dimension through speedier construction which is climate responsive, disaster resilient and sustainable. I am glad to see the innovative technologies swiftly replacing the conventional system in recent times.”



**Sh. Kuldip Narayan,  
Joint Secretary & Mission Director,  
(HFA)**

“Indian Urban housing Conclave at Rajkot is a sequel to GHTC-India and IHTM which has proven to be fruitful in bringing together Innovators, Start-ups and Entrepreneurs of Innovative and Alternate Construction Systems, Materials along with other stakeholders at the common platform. This event is going to pave way for further advancement in usage of new technologies in future projects.”



**Sh. Shailendra Sharma,  
Director General,  
CPWD**

“CPWD has already being incorporating Innovative technologies in their projects aiming for New Zero Buildings also. IUHC has given an appropriate platform to Technology providers, manufacturers of building materials and construction agencies to showcase their Projects and Technologies.”



**Prof. S. Chattopadhyaya,  
IIT Kharagpur**

Implementation of LHPs being constructed under GHTC has enabled the supply side and now research is needed to see the critical factors for ensuring successful scale-up of these new technologies. IUHC is a unique event where industry, Government Officials, academic and students have come at the same platform to share their views and experience.



**Mr. Tapesh Gupta,  
Regional Head,  
M/s Apollo Tubes Ltd.**

“We are grateful to Ministry of Housing and Urban Affairs, Government of India for giving us the opportunity to showcase our products and technology during IUHC, Rajkot. We had a wonderful experience while interacting with visitors specially the experts from various technical institutions, engineers from state government departments and students from engineering and Architecture colleges.”



**Prof. Mehar Prasad,  
IIT Madras**

“IIT Madras has been advocating and incubating new technologies. Mainstreaming of technologies needs commitment, patience and good leadership for faster scaling up. IITs have been supporting the endeavours of MoHUA in implementing new technologies under PMAY (U).”



**Mr. Yogesh Achyitte,  
Sr. GM,  
M/s B. G. Shirke Construction Pvt. Ltd.**

We are one of the agencies selected for implementing the Light House Project in Chennai using Precast Technology which was inaugurated by Hon'ble Prime Minister in May 2022. We have showcased the technology in IUHC for the benefit of visitors and also to create awareness among construction agencies, Govt. officials, students, academicians and general public.



**Sh. R. K. Gautam,  
Director HFA(V),  
MoHUA**

“Technological Intervention is a unique feature of PMAY(U) which started with setting up of Technology Sub-Mission to facilitate the adoption of innovative, sustainable, eco-friendly and affordable technologies. Through Construction Technology -India, New Delhi in 2019, IHTM, Lucknow in 2021 and now IUHC at Rajkot, it has been constant endeavour of the Government to identify new technologies suitable for the country. Implementation of Light house projects is the live example of it. These technologies will provide value addition towards achieving our goal of developed nation.”





# Exhibition on Innovative Construction Technology at IUHC 2022

Rajkot, Gujarat, 19-21 October 2022



**Dr. Shailesh Kumar Agrawal,**  
Executive Director,  
BMTPC

“

Identification of 54 Innovative Technologies through Global Housing Technology Challenge, 84 indigenous innovative technology under Indian Housing Technology Mela and Construction of Light House projects using these technologies has paved the way for future construction in India. IUHC is another milestone in that direction.”



**Mr. Jignasu Mehta,**  
CEO  
M/s Outinord Ltd.

“

With the support and initiatives of Govt. of India through GHTC-India and event like IHTM and IUHC on regular basis, our company has been able to implement and propagate Monolithic Tunnel Formwork Technology in India and also able to export the technology to 11 countries with the help of 'Make in India' initiative.”



**SPR City Estate Pvt limited,**  
Tamil Nadu

“

Affordable Rural Housing Complex (ARHC) Scheme of Govt. of India has given an impetus for providing rental housing to urban poor and migrants to urban areas with participation of private developers at affordable cost. Technology Innovation Grant to private agencies in ARHC has given additional boost to new technologies.”



**Dr. Ajay Chaurasia,**  
Sr. Principal Scientist,  
CSIR-CBRI Roorkee

“

IUHC has proven to be a great opportunity to all stakeholders for cross learning and sharing knowledge through panel discussions and showcasing of technologies, materials by the exhibitors. Events like these needs to be organised on continual basis so that maximum people could be benefited.”



**Sh. Amit Barde,**  
Head Precast Division,  
L&T

“

With the much-needed support of the Ministry of Housing and Urban Affairs, L&T has been able to implement many projects with new technologies, now the time has come to scale-up for large projects for which L&T would be interested to encourage and support new technologies and technology providers.”



**Sh. Suvasish Das,**  
Director HFA(I),  
MoHUA

“

It was an honour that Indian Urban Housing Conclave at Rajkot was inaugurated by Hon'ble Prime Minister. The event has been a successful in realizing its objective of providing an effective platform for showcasing of global and indigenous construction technologies, deliberations on mainstreaming and scaling up, cross learning and display of projects undertaken by various states. The PMAY(U) awardees for the year 2021 were also felicitated by the Hon'ble Minister of Housing and Urban Affairs.



**Prof. Y. Singh,**  
Department of Earthquake Engineering,  
IIT-Roorkee

“

On-the-spot evaluation of the technologies and materials which was showcased in exhibition during IUHC was a unique exercise under which presentations were done by exhibitors in front of expert panel. As a member of Technical Evaluation Committee it was a great experience and learning while interacting with fellow experts and presenters.”





# PROGRESS OF LIGHT HOUSE PROJECTS AS ON NOVEMBER 30, 2022

## 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
<b>Superstructure</b>	
PEB Work	71 out of 72 Floors completed in 8 blocks
Slab Work	67 out of 72 Floors completed in 8 blocks
EPS Panel work in Wall	50 out of 64 Floors completed in 8 blocks
<b>Sample Unit</b>	Completed
<b>Infrastructure Work</b>	Boundary wall, Community Centre, Road work, underground tank, STP & Sewer line works are 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
<b>Superstructure work of Building Blocks</b>	
Pre-Engineered Steel Building (PEB) Work	Structural Steel erection work is completed upto 13 <sup>th</sup> Floor in Block A1 (Part of Block A) & is in progress upto 13 <sup>th</sup> Floor in other 2 Building Blocks (Block C & D).
Shear Wall Work (Staircase & Lift well)	Shear wall work is near completion in Block A1, & Stilt to 9 <sup>th</sup> Floor work is in progress in all other Blocks.
Slab Work & SIP Wall Form work	<ul style="list-style-type: none"> <li>• Casting of Slab is in progress on 12<sup>th</sup> &amp; 13<sup>th</sup> floor in Block A1, and on 8<sup>th</sup> floor in Block C &amp; D respectively.</li> <li>• SIP Wall form installation &amp; casting is in progress upto 13<sup>th</sup> Floor level in Block A1, and at 8<sup>th</sup> floor level in Block C &amp; Block D along with Electrical &amp; Plumbing work.</li> </ul>
<b>Sample Unit</b>	Completed
<b>Social Infrastructure</b>	After completion of Plinth level works for Community Centre & Commercial Block, the Ground Floor steel structural work is in progress.
<b>Infrastructure Work</b>	Underground Water Tank Civil work is completed. About 98% of the Boundary wall work is complete & Wall casting work is in progress for STP.





# PROGRESS OF LIGHT HOUSE PROJECTS AS ON NOVEMBER 30, 2022

## 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
<b>Casting Yard (Production of Components)</b>	In the casting yard 3,857 numbers of different components have been produced out of total requirement of 11,151 numbers of components.
<b>Foundation work</b>	The Raft & Grade slab of all 7 building blocks has been completed.
<b>Superstructure</b>	The erection of building components in 4 Blocks namely Blocks. 1, 2, 5 & 6 are in progress at 8 <sup>th</sup> (Last floor), 7 <sup>th</sup> & 1 <sup>st</sup> Floor levels respectively.
<b>Infrastructure work</b>	The pre-cast boundary wall 323 m out of total 578 m length has been completed.

## 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
<b>Foundation (Dwelling Units)</b>	
<b>Pile Work</b>	Completed in 6 Blocks (A,B, C,E,F & G) & D Block is in Progress.
<b>Pile head breaking</b>	A, B, C, E, F & G Block completed.
<b>PCC for foundation</b>	A, E, F & G Block completed and B & C Block is in progress.
<b>Raft Foundation</b>	A, E, F & G Block completed and C Block is in progress
<b>Plinth Beam &amp; Pedestal Column Casting</b>	A, E, F & G Block is in Progress.
<b>Superstructure</b>	A & F Block is in progress.
<b>Sample Unit</b>	Partially completed



## Social Media Corner



#LightHouseProject Rajkot, which has been completed in 15 months time has all the basic amenities and services for a comfortable and dignified living.

#GHTCIndia #LHPs #ConstructionTechnology #AffordableHousing



5:47 PM - Nov 28, 2022

5 Retweets 1 Quote Tweet 32 Likes



#LightHouseProjects are an initiative to promote innovative technologies in building construction sector which ensure timely delivery of affordable & eco-friendly houses.

#GHTCIndia #LHPs #LHPRajkot



12:36 PM - Nov 11, 2022



Shri Kuldeep Narayan, JS&MD, HFA, MoHUA chaired the 8th meeting of Project Monitoring Committee (PMC) to review the progress of #LightHouseProjects at Indore, Lucknow, Ranchi & Agartala.



8:14 PM - Nov 15, 2022



Shri Durga Shanker Mishra, Chief Secretary, Govt. of Uttar Pradesh inspected the site and reviewed the progress of #LightHouseProject Lucknow.



2:00 PM - Nov 12, 2022

7 Retweets 42 Likes