

No. I-14022/16/2017- HFA-V (FTS-3019656)
Government of India
Ministry of Housing and Urban Poverty Alleviation
(HFA-5 Section)

Gate No. 7, Technical Cell,
Nirman Bhawan, New Delhi-108.
Dated: 15th June, 2017.

To

As per list
(Principal Secretary/Secretary of UD/Housing Deptt./SLNA)

Sub: Operational guidelines for construction of Demonstration Housing Projects (DHPs) in the States/UTs using Green and Emerging Technologies under the Capacity Building initiative of PMAY(U).

Sir/Madam,

In continuation of this Ministry's D.O. letter No. I-16016/5/2014-H dated 5th June, 2015 regarding the construction of Demonstration Housing Projects (DHPs) across the country under Technology Sub-Mission of PMAY(U) Mission (**Annex-I**) this Ministry has formulated the operational guidelines for construction of Demonstration Housing Projects (DHPs) in the States/UTs (**Annex-II**). Proposals for construction of DHPs may be formulated by States/UTs in line with these operational guidelines.

2. This issues with the approval of competent authority.

Yours faithfully,



(S. K. Valiathan)

Deputy Secretary to the Govt. of India

Tel: 2306 1206

Copy for information & necessary action:

- (i) Chairman & Managing Director, Housing and Urban Development Corporation, HUDCO Bhawan, Core-7-A, India Habitat Centre, New Delhi.
- (ii) Chairman & Managing Director, Hindustan Prefab Limited (HPL), Jangpura, Near Rajdoot Hotel, New Delhi, Delhi 110014.
- (iii) Executive Director (Training), HSMI, HUDCO Bhawan, India Habitat Centre (IHC), Lodhi Road, New Delhi - 110003
- (iv) The Executive Director, Building Material and Technology Promotion Council (BMTPC), India Habitat Centre, Core 5-A, New Delhi.

Copy to:

- (i) PS to HM(HUPA)/ PSO to Secretary (HUPA)/ PS to JS(H)/ PS to JS & MD (HFA) for information.
- (ii) Director (HFA-5), DS (HFA-2/3), DS (HFA-4), DC (MIS), MIS Expert for reference, record and compliance.

डॉ. नदिता चटर्जी, आई.ए.एस.
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सत्यमेव जयते

सचिव
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निर्माण भवन, नई दिल्ली-110011
SECRETARY
GOVERNMENT OF INDIA
MINISTRY OF HOUSING
& URBAN POVERTY ALLEVIATION
NIRMAN BHAWAN, NEW DELHI-110011

D.O. No. I-16016/5/2014-H

Dated : June 05, 2015

Dear

Housing for All by 2022 is one of the important agenda of Government of India. The Government is planning to adopt an approach to act as a 'facilitator' and 'enabler' by developing suitable instruments to be used by the State Government for promotion of housing for the Economically Weaker Section (EWS) and Low Income Group (LIG) serviced with basic amenities.

2. In the context of the massive housing initiatives by the Government of India and various State/ UT Governments under various schemes and programmes, there is an urgent need to propagate and popularize the proven, green and emerging technologies vigorously and to introduce appropriate interventions to bridge the gap between availability of these technology options and application of the same increasingly in large scale Housing initiatives.

3. Building Materials & Technology Promotion Council (BMTPC), an organisation under this Ministry, has been promoting proven and emerging building materials & technologies in different regions of the country through identification, evaluation, standardization, certification, capacity building, training and field level application of such technologies. In the recent past, the council has constructed a number of demonstration houses in various parts of the country. The efforts of BMTPC have helped in building up confidence and acceptability of proven and emerging technologies among public and private construction agencies, professionals and others.

4. In a fresh bid to popularize and mainstream the Proven / Green and Emerging technologies and as a part of the effort to make housing affordable, BMTPC proposes to construct demonstration Houses with these technologies in various parts of the country. In this process of Demonstration, BMTPC will also provide training to local construction workforce and will organize capacity Building programmes for the state professionals at their cost. The states are hence requested to partner with BMTPC for the "Demonstration Housing Project". States that are willing to participate and partner the Demonstration Housing Project would be expected to commit to adopting these technologies for construction of houses in their mainstream public works agencies and departments.

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5. Each "Demonstration Housing Project" will comprise around 40 houses in each cluster in a single storey or in G+1 to G+3 having minimum carpet area of 25 Sq.mts. including on site infrastructure development like internal roads, pathways, boundary wall, UG tank, electrification etc. The cost of Demonstration Housing Project will be fully borne by BMTPC. The State Governments may please provide suitable land measuring approximately one acre free of cost to BMTPC for the demonstration construction with all necessary outside infrastructure support. States may also designate a nodal agency to coordinate the demonstration construction activities with BMTPC.

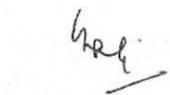
6. The salient features namely, its funding pattern and methodology are annexed herewith for your consideration please.

7. This is to request you to please confirm your state's participation in the "Demonstration Housing Project" and to accordingly send us due intimation at your earliest in this regard. In case of any clarification / information, you may please contact Dr. Shailesh Kr. Agrawal, Executive Director, BMTPC, New Delhi (Ph. No. 011-24636705; Email: ska@bmtpc.org).

With regards,

Yours sincerely,

Encl. : As above.



(N. Chatterjee)

o/c

To

The Chief Secretaries, Gujarat, Uttar Pradesh, Uttarakhand, Tamil Nadu, Bihar and Chhattisgarh.

CONSTRUCTION OF DEMONSTRATION HOUSES USING PROVEN AND EMERGING TECHNOLOGY IN VARIOUS PARTS OF INDIA

SALIENT FEATURES

- i. BMTPC will initiate demonstration housing projects of around 40 houses in each cluster in single storey or G+1 to G+3 storeyed structures depending upon the local requirement of the region.
- ii. Minimum carpet area of each unit: 25 Sq.mt. or as per the prevailing guidelines of the Ministry's ongoing schemes.
- iii. Minimum built up area of each unit: 32 Sq.mt with at least two habitable rooms, separate kitchen, bathroom, toilet and verandah/balcony.
- iv. Each project in cluster will include onsite infrastructure development like internal roads, pathways, boundary wall, Underground water tank, external electrification etc.
- v. Proven/green or emerging technology suitable to the region will be selected.
- vi. Houses will be designed keeping in view the dimensional requirements laid down in National Building Code (NBC) 2005.
- vii. Disaster resistant features as per the requirements of existing BIS and international standards pertaining to earthquake, cyclone and flood resistant features.
- viii. Good aesthetics, proper ventilation and adequate storage space with provision for vector free design.
- ix. Cluster design may include innovative system of water supply, drainage and rain water harvesting, renewable energy sources, minimum 15% common greens etc.

PROPOSED FUNDING PATTERN

- i. The State Government will provide land for the Demonstration Housing Project free of cost to BMTPC
- ii. The cost of the Demonstration Housing Project will be borne by BMTPC.

METHODOLOGY

- i. The State/UT Governments will be requested through Ministry of Housing and Urban Poverty Alleviation to provide their consent for undertaking demonstration housing project using proven and emerging technologies at

suitable location in their State with the approved funding pattern and no. of houses.

- ii. The State/UT Governments will be followed up by BMTPC through constant interaction to obtain their consent for undertaking the Demonstration housing project.
- iii. The interested State/UT Government will be requested to provide a suitable land free of cost and all encumbrances to BMTPC for construction of Demonstration Houses. All the cost towards outside infrastructure development will be borne by the State/UT Government.
- iv. BMTPC alongwith officials of State/UT Govt. will assess the suitability of the allocated land and chalk out the further modalities for undertaking demonstration housing project.
- v. The State/UT Government shall be requested to identify the beneficiary for the demonstration houses to be constructed under the project in advance.
- vi. The technologies for the demonstration housing Project will be selected in consultation with the State/UT Government keeping in view the geo-climatic, hazard condition and locally available materials of the region.
- vii. To popularise the technologies, BMTPC will organise sensitization programmes/exhibitions on proven and emerging technologies for the benefit of working professionals in the region before selection of suitable technologies for the Demonstration Housing Project.
- viii. After the possession of land from the State/UT Government, design of the demonstration housing project will be undertaken by BMTPC keeping in view the local building Byelaws and regulations and in consultation with State Govt. officials.
- ix. The finalized design will be submitted to the State/UT Govts. for their approval. Meanwhile, the estimates and the tender for the project will be prepared by BMTPC.
- x. After the approval of the design by the States, the tender will be floated in the newspaper for appointment of suitable contractor by BMTPC.
- xi. BMTPC may engage local technical/academic institution for third party monitoring, quality control and documentation of the project.
- xii. A Project Implementation Committee will be constituted in BMTPC having members from Ministry of HUPA and few experts in the field for monitoring the progress and release of funds. The Regional Centre of HUDCO may also be involved while taking the projects.
- xiii. During the construction, training programmes/capacity building programmes for local construction workforce and professionals will be organized.

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- xiv. After the completion of the project, the demonstration housing project will be handed over to the State/UT for allotment and upkeep of the houses.
- xv. The State Government will ensure to replicate the technologies in their future projects and will showcase the project to their professionals/general public for confidence building.
- xvi. To start with BMTPC will aim to take up two demonstration housing projects one in each State/UT in a year.
- xvii. The local body of the State/UT Government will be fully involved right from planning to execution of the project.

OPERATIONAL GUIDELINES FOR CONSTRUCTION OF DEMONSTRATION HOUSING PROJECTS (DHPs) IN THE STATES USING GREEN AND EMERGING TECHNOLOGIES UNDER THE CAPACITY BUILDING INITIATIVE OF PRADHAN MANTRI AWAS YOJANA (URBAN)

I. Preamble

To achieve the goals of Housing for All by 2022 and also to address global commitment on climate change, the Ministry is harnessing inhouse expertise as well as other national level technology institutions so as to put in place an eco-system for free flow of information and expertise on new/alternate technologies. The overall objective is to enable States/UTs/ULBs to leverage these technologies in their mass housing schemes including in those built with the support of PMAY(Urban) for which the Central Government plays the role of a facilitator.

2. To that end, as laid down in the PMAY(U) guidelines a Technology Sub-mission has been constituted under PMAY(Urban), *inter-alia*, tasked with the mandate to facilitate adoption of modern, innovative and green technologies and building materials for rapid construction of quality houses and also to facilitate preparation and adoption of layout designs and building plans suitable for various geo-climatic zones. It also envisages assisting States/cities in deploying disaster resistant and environment friendly technologies.

3. In the first instance, it is important to train and acquaint municipal engineers, architects as well as engineers and others associated with construction of houses promoted by private builders on the new/alternate technologies. Secondly, one of the challenges in mainstreaming new construction technologies and techniques is a perceived hesitation in the acceptance of these new technologies by the ultimate end user, the house owner. In order to alleviate such concerns, there is need to construct such houses as Demonstration Housing Projects and to allot the houses to the beneficiaries, which would, over a period of time, help in bringing about attitudinal change in favour of such houses.

4. Building Materials and Technology Promotion Council (BMTPC) under the Ministry of Housing and Urban Poverty Alleviation is playing a pivotal role in propagating new technologies and has the requisite expertise in the field. One of the objectives of the Organization is to “promote development, standardization, mechanization and large scale field application of proven innovative and emerging building materials and technologies in the construction sector”.

5. The broad approach in constructing the Demonstration Housing Projects was outlined to the States/UTs/ULBs earlier vide the D.O. letter No. I-16016/5/2014-H dated 05.06.2015 from Secretary, Ministry of Housing and Urban Poverty Alleviation addressed to Chief Secretaries of States. The need for accelerating the Demonstration housing Projects have also been emphasized in various National and Regional Workshops by the Ministry and BMTPC. The Ministry has been receiving requests from various State Governments for constructing Demonstration Housing Projects in their respective States. State Governments also perceive such projects as an important initiative in increasing acceptance of such technologies among the people.

6. In the above background and, with a view to delineating the overall approach that will guide the Ministry, BMTPC and the State Governments, it has been decided to put in place broad operational guidelines in the manner in which BMTPC will undertake construction of such Demonstration Housing Projects, hereinafter referred to as DHPs.

II. OBJECTIVE

- i. To orient housing practitioners, both from public and private sectors, in field application of new/alternate technologies for construction of houses.
- ii. To create awareness among stakeholders (State/UT/ULB officials, technical professionals, builders, development agencies, academic institutions and others) at the state/UT/ULB level on new/alternate technologies being adopted in respective DHPs.
- iii. To gather user feedback and enhanced acceptability with respect to houses built with new/alternate technologies.
- iv. Technical evaluation and documentation of the new/alternate technology adopted.

III. SCOPE

These guidelines lay down the manner in which requests for construction of DHPs will be processed based on requests received from States/UTs, the guiding principles involved, the roles of the State/UT/ULBs, the role of the Central Government in the Ministry of housing and Urban Poverty Alleviation and the operational and other responsibilities of Building Materials and Technology Promotion Council (BMTPC) which has been entrusted with the task of construction of the DHPs. As the DHPs are closely linked to the overall objective of the PMAY(Urban) Mission, the projects will be located in urban areas identified by the States/UTs. As the DHPs have been originally conceived keeping in view the expertise available with the BMTPC, the scope of these guidelines are

presently circumscribed and framed keeping in view the available mandate and expertise of that organization. In future, as and when a need is felt to expand the ambit beyond BMTPC to other organizations or entities with similar expertise, necessary changes/modifications, if necessary, will be carried out of these guidelines, with the approval of the Competent authority.

IV. THE CONCEPT AND SALIENT FEATURES OF DHPs

- i. A Demonstration Housing Project, conceptually speaking, will mean a model housing project built with new/alternate technology that provides on site orientation to practitioners in the housing sector with knowledge on the application and use of such technology. It will, simultaneously, provide end users the scope of residing in such houses so that acceptability of such houses is ascertained enabling scaling up the use of such technologies.
- ii. Each DHP will contain ordinarily around 40 houses using new emerging technologies suitable to the geo-climatic hazard conditions of the region.
- iii. The minimum size of houses constructed under DHP will be in accordance with the prevailing guidelines of the Pradhan Mantri Awas Yojana (Urban).
- iv. Each DHP will include on site infrastructure development such as internal roads, pathways, common green area, boundary wall, underground water tank, external electrification. Use of non-renewable energy will be encouraged.
- v. Houses will be designed keeping in view the dimensional requirements laid down in National Building Code (NBC) 2016 with good aesthetics, proper ventilation and adequate storage space, etc.
- vi. Disaster resistant features as per the requirements of existing NBC/BIS and applicable international standards pertaining to earthquake, cyclone and flood, will be incorporated.
- vii. Cluster design may include innovative system of water supply, drainage and rain water harvesting, renewable energy sources etc.

V. IMPLEMENTATION METHODOLOGY

- i. A State/UT, interested in a DHP, will make a formal request to the Ministry of Housing and Urban Poverty Alleviation for undertaking the project using proven and emerging technologies, after obtaining the approval of the SLSMC constituted under PMAY(Urban).

- ii. The interested State/UT Government will identify and provide a suitable area of land free of cost and without any encumbrances to BMTPC for construction of the DHP. All the costs towards outside/external infrastructure development will be borne by the State/ULB. BMTPC will be the implementing agency (IA) for the DHP unless decided otherwise, as stated in paragraph III above.
- iii. BMTPC, in consultation with the Ministry of HUPA, along with officials of States/UTs/ULB will assess the suitability of the allocated land and discuss the further modalities for undertaking the DHP.
- iv. BMTPC will request the States/UTs/ULBs to earmark the land for DHP project and shall, thereafter, submit a preliminary proposal to the CSMC in MoHUPA for PMAY(U) for 'in-principle' approval of the project.
- v. On receipt of 'in-principle' approval from CSMC of PMAY(U), the State/UTs/ULB shall be requested to provide site survey plan and to undertake soil investigation and other preparatory activities. Alternatively, in the interest of timely execution, the competent authority in the Ministry will accord 'in principle' approval and the decision will be placed for ratification in CSMC.
- vi. The State/UT Government/ULB will also identify the beneficiaries for the demonstration houses to be constructed under the respective DHP, in accordance with the guidelines of PMAY (Urban). It will be the responsibility of the State/UT Level Nodal Agency (SLNA) identified under the PMAY(U) Mission in the State/UT to get list of beneficiaries in the particular DHP validated and ratified by the SLSMC. The terms and conditions of allotment to the beneficiaries will be decided by SLSMC.
- vii. No subsidy will be payable to the beneficiaries under PMAY(U) if allotted under DHP. Beneficiaries of the vulnerable category, such as, the differently abled, single women, transgender may be given preference during such allotment. The SLSMC may decide on beneficiary contribution to be made for such allotments. The contribution so received should be retained by the State/ULB in a separate fund for maintenance of the DHP.
- viii. The technology for the DHP will be finalized in consultation with the State/UT/ULB keeping in view the geo-climatic, hazard condition and locally available materials of the region. Design of the DHP will be undertaken by BMTPC keeping in view the local building bye laws and regulations. The finalized design will be submitted to the State/UT/ULB for their approval.

- ix. After receipt of the finally approved dwelling unit plan and site layout, BMTPC will prepare the Detailed Project Report and submit it to CSMC of MoHUPA for approval. Simultaneously, BMTPC will place the proposal for construction of the DHP for approval/ratification by its Executive Committee and for information of Board of Management of BMTPC.
- x. After the approval of the project by CSMC, BMTPC will finalize and publish the tender document for appointment of the contracting agency and all other necessary formalities as per prescribed instruction in the GFRs-2017.
- xi. BMTPC will organize need based sensitization/ capacity building programmes on emerging technologies for the benefit of working professionals and local construction workforce in the region.
- xii. After completion of the project, the DHP will be handed over to the State/UT/ULB for allotment to the identified beneficiaries of PMAY(Urban) with the approval of SLSMC and Ministry will be duly informed of such handing over of the DHP.

VI. Operation and Maintenance

- i. Acknowledging the fact that field level expertise on the new technologies may not be available in the State/UT initially, any structural issues/distress occurring in the houses/project under DHP will be taken up by the implementing agency for rectification for a period of five years from the date of completion. It is expected that within the period of five years, the State/ULB would have developed the necessary skill set to independently take up such issues, if they occur, beyond the period of five years. Notwithstanding the above, even beyond the period of five years, the technical expertise of BMTPC will be available to the State/UT/ULB in an advisory/expert capacity. After completion of DHP, no expenditure will be borne on the part of MoHUPA/BMTPC.
- ii. All routine and daily maintenance issues arising out of normal wear and tear of items used in the house in the DHP will be the responsibility of the State/UT/ULB. BMTPC will not be responsible for such routine O&M tasks. A suitable budget may also be earmarked for the recurring expenditure on this account by the State/UT/ULB.
- iii. A set of rooms in the DHP may be earmarked dedicated staff of the State/UT/ULB for attending to complaints of allottees as well as to respond to queries relating to capacity building/orientation of practitioners..

VII. PROPOSED FUNDING PATTERN

The cost of the DHP will be funded through PMAY(U) under the capacity building head as decided in consultation with the Budget Division of the Ministry. The following procedure will be followed for release of funds:

- i. The funds will be released to BMTPC in 03 installments. 1st installment of 50% will be released on approval of the project by CSMC and 2nd installment of 40% based on utilization of 70% of the earlier installment and commensurate physical progress along with report of the evaluating agency as referred in para VIII(ii) of the guidelines and UC in the prescribed format as per GFR 2017. The final installment of 10% would be released on receipt on satisfactory completion report.
- ii. The entire project cost *viz.* the cost of housing along with internal Infrastructure including other applicable charges would be considered for sanction and will be payable to BMTPC. As per prevailing CPWD norms, these charges would include planning and design charges, preparation of DPR including architectural and working drawings, preparation of structural design, vetting of structural design, site visits, daily supervision and monitoring charges, quality assurance of the DHP, contingency charges, etc. Other charges such as training cost, cost of documentation and evaluation by reputed technical Institution, if any, will be reimbursed as per rates approved for the respective items of PMAY (U).
- iii. In case, BMTPC obtains alternate additional funding support then to that extent, the funding support from the Ministry will be reduced.
- iv. In case the tender award cost is more than the sanctioned Project cost, the award cost shall be placed for consideration by the CSMC based on proper justification by BMTPC.
- v. On final completion of the project, if the project cost is increased due to any unforeseen circumstances the same will be placed for approval of CSMC along with adequate justification by the BMTPC.

VIII. MONITORING & EVALUATION

- i. A Technical Group comprising (i) Representative of BMTPC (ii) Representative of SLNA (iii) Expert from local IIT/NIT/Research Institution, and (iv) Engineer from ULB shall be constituted to oversee the progress of DHPs and also to propagate emerging technologies used in the DHP for wider acceptability within the State Government. This Technical Group may meet once in a month till the handing over of the project and report progress of the project to the Ministry through BMTPC.
- ii. The project would also be evaluated and documented by reputed technical Institution such as IIT/NIT/ Government engineering college.

IX. RELAXATION

If any amendment or relaxation is required to be done in these operational guidelines, the same may be done with the approval of the same competent authority as that in respect of PMAY (U) guidelines.
