
The Third Party Assessor Model for ECBC Compliance and Enforcement

Background: The Bureau of Energy Efficiency (BEE), India, launched the Energy Conservation Building Code (ECBC) in 2007. In order to achieve significant compliance and subsequently, higher energy savings, the code must be adopted by the states and enforced by local governments. However, government and public sector agencies currently do not have the manpower or expertise to enforce ECBC. It is, therefore, crucial to build capacity and create a cadre of professionals outside the public sector.

1. Overview

The objective of this project was to develop a framework for Third Party Assessor (TPA) model to facilitate ECBC compliance and enforcement. In order to develop this framework, various successful TPA models in India and worldwide were studied. Some of these TPA models were related to building energy codes or ratings systems, while others were from the non-building sector, but offered valuable insights towards developing a TPA model for ECBC implementation and enforcement in India. A large stakeholder engagement provided useful feedback for the development of the TPA's role and organizational framework. Some of the benefits of the TPA model are:

- Increasingly popular mode of enforcement of building codes around the world
- Allows easier scale up and down of capacity to handle growth
- Market driven model will ensure availability of TPAs across India
- Adopted in China with substantial success - 80% compliance reported
- Offers a good resolution to challenges related to municipal level regulatory enforcement – used in Canada in similar context
- Over 90% of the US State of Pennsylvania's 2,562 municipalities have enforced the code locally, via employees or certified TPAs
- Building Performance Rating systems with TPAs used in Australia (NABERS) and USA (HERS)
- Proposed cost of the TPA work for ECBC compliance could be less than INR 0.002/kWh of energy saved.

2. The TPA Model

The proposed framework is based on issues of capacity, finance and administration of a TPA scheme and includes roles, scope of work, deliverables, eligibility, examinations and qualifications, quality assurance and funding and financing mechanisms. It defines the relationships between the project teams, TPAs, ULBs, SDAs and BEE, for ECBC compliance and enforcement.

2.1 Roles and Responsibilities

TPA framework includes roles for the following organizations and individuals:

- **Bureau of Energy Efficiency (BEE):** In-charge of the technical standards, administering the system with oversight and certifying the TPAs.
- **Project Team:** Team consisting of the developer, owner, architect, engineers, contractor and the person responsible for ensuring that the project complies with the ECBC requirements.
- **ECBC Accredited Professionals (ECBC APs):** Individuals, either hired specially or as part of the existing team, with relevant qualifications to provide assistance in developing ECBC compliant building design. They are responsible for preparation of the compliance documentation to be submitted to ULBs.
- **TPAs:** Qualified individuals that check compliance of the building with ECBC requirements during design and construction. A TPA is required to be a building professional with an undergraduate degree and must possess relevant qualifications as notified by BEE. TPAs will be listed on BEE's website and permitted to provide compliance checking services across the country. They will be hired by project team but will not be paid by them directly.
- **State Designated Agencies (SDAs):** Statutory bodies set up at the state level to implement the Energy Conservation Act 2001, which includes the ECBC. As nodal agencies at state level, they will coordinate and cooperate with BEE at the central level.
- **Quality Assurance (QA) Bodies:** Organisations appointed by BEE to review TPAs' work for quality and consistency. A national level technical committee will help BEE select the QA bodies. QA bodies will be paid by the BEE through the central government funds which are specifically allocated for measuring and improving ECBC compliance rates.
- **Urban Local Bodies:** Development authorities and municipal corporations responsible for providing construction and occupancy permits to buildings based on the TPA's recommendation. The approval will be in two stages: construction permit and building occupancy certificate.
- **Financing Mechanism:** A national bank and its selected state branches that collect and disburse payments to the TPAs. The SDA notifies the bank to release payments to the TPA for each milestone reached and deliverable completed.

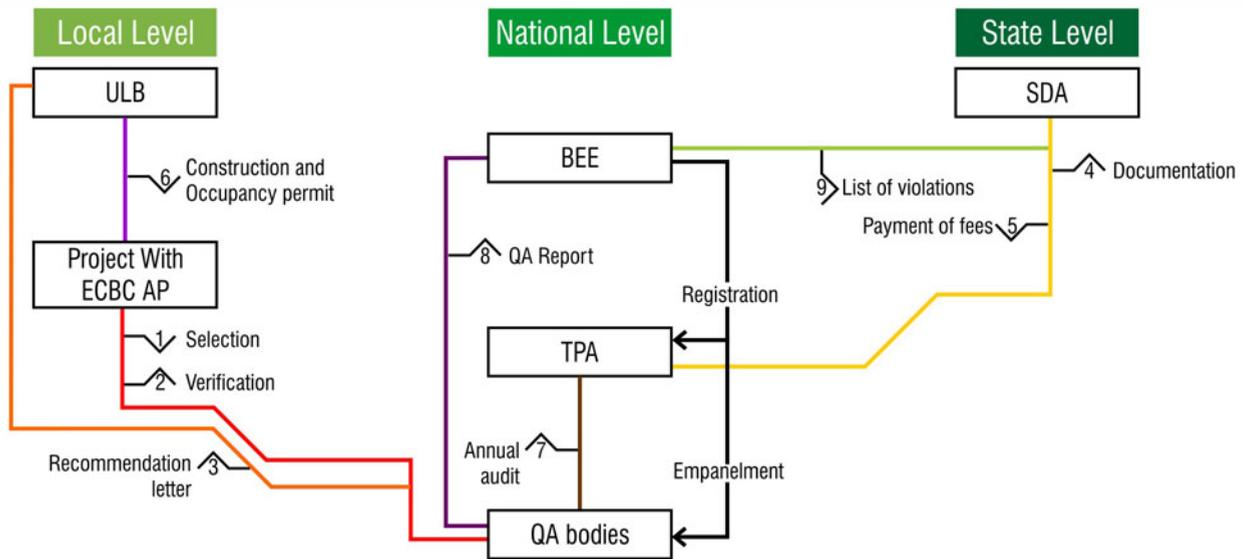


Fig 1. Operating model for Third Party Assessment for ECBS Compliance Checks

2.2 The Operational Framework

The project team selects a TPA for its project, and the TPA is required to declare no conflict of interest for each project he/she reviews. Project team will follow all other processes to acquire building construction and occupancy permits as required by the concerned ULB. The TPA will only check for ECBC compliance and not any other aspects of the building code. Engaging a TPA on the project requires the project team to provide the TPA with a 'Letter of Credit' of the bank selected in that state. The TPA reviews each building project in two stages to determine ECBC compliance. The first stage is the design review and the second stage is the construction review.

During the design review stage, the TPA reviews the drawings, specifications, and ECBC compliance forms to ensure that the Energy Conservation Measures (ECMs) are appropriately documented in the project design documents. During the construction review stage, the TPA reviews the ECBC compliance forms and inspects the building to ensure that the ECMs are incorporated in the construction of the building and the installation of its systems. If the design or construction does not meet the ECBC requirements, the TPA notifies the project team and requests for detailed documentation of non-complying ECMs.

The TPA ensures that the EPI of the proposed building is reported consistently to BEE using the ECOnirman Whole Building Performance tool. If the proposed building complies with the ECBC, the TPA sends a 'Letter of Recommendation' along with the checklist to the ULB and the SDA.

The ULB uses the TPA's recommendation in its usual process of construction and occupancy approvals. The SDA compiles the records and authorizes the bank to release payments to the TPA for each milestone reached and deliverable completed.

2.3 Stakeholders' Feedback

In most of the states, officials were receptive of the proposed TPA framework. They expressed their preference to use experts to provide TPA services to overcome potential barriers related to capacity and skills. ULB officials expressed a concern that TPAs, as individuals, are likely to be pressured and influenced into approving compliance. SDAs also stated that BEE would have to take the responsibility for overall quality assurance of the TPA work, and that the agency would prefer not to be directly involved in financial transactions for the TPA work.

Recommendations

- BEE needs to appoint a Technical Committee to appoint QA bodies to oversee the operation of the TPA model, and select the first group of TPAs who can provide services across India while the rest of the TPA institutional infrastructure is set up.
- BEE needs to appoint an examination agency that can develop and administer TPA examinations and conduct awareness and promotion campaigns over a long term.
- BEE needs to develop a curriculum guide and a corresponding examination material for TPA training and examinations.
- Template documents and checklists to be used by TPAs need to be developed based on the tiered approach.
- There is a need to identify a financial institute and develop template 'Letter of Credit' payment system to be used by SDAs to work with state level branches.
- BEE needs to appoint experts who can provide consultation to the SDAs for setting up the TPA model in states that are leading the ECBC implementation activity, such as Gujarat, Rajasthan, Orissa, Tamil Nadu, Maharashtra, etc.

Conclusions

The proposed Third Party Assessor framework can resolve the issues of capacity and expertise to enforce ECBC at the local government level. However, co-ordinating with different government agencies and other relevant stakeholders to incorporate the TPA framework would be a challenging and time consuming initiative. State level initiatives demonstrating effectiveness of the TPA framework may help overcome some of the aforementioned barriers.

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