



LEED Existing Building Operations and Maintenance V.4 – India ACPs

LEED Dynamic Plaque

GRIHA Summit

13th March 2015

Background

This presentation covers two of the key activities that TERI and USGBC are collaborating on:

- Development and operationalization of **Alternative Compliance Paths** (ACPs) for **LEED EBOM V.4** for **India**; and
- Operationalization of **LEED Dynamic Plaque** in **India**



PHASE – 1 ACPs

Following ACPs have been approved as part of Phase – 1 by LEED Steering Committee in January 2015:

- Prerequisite: EQ - Minimum Indoor Air Quality Performance
- Credit: EQ – Thermal Comfort
- Credit: EQ – Interior Lighting
- Credit: EA – Renewable Energy and Carbon offset



CREDIT: EQ - MINIMUM INDOOR AIR QUALITY PERFORMANCE

CREDIT INTENT :

- To contribute to the comfort and well-being of building occupants by establishing minimum standards for indoor air quality (IAQ).



For Mechanically Ventilated

ORIGINAL CLAUSE	ACP
<p>Spaces to meet minimum outdoor air requirements as per ASHRAE Standard 62.1–2010</p>	<p>Alternative Compliance Path allows projects in India to use the NBC 2005 & CPCB NAAQS as an alternative to ASHRAE 62.1 – 2010</p> <p style="text-align: right;">CPCB - Central Pollution Control Board NAAQS – National Ambient Air Quality Standards NBC – National Building Code</p>



Naturally Ventilated Spaces (including Mixed-mode systems – when mechanical systems are inactive)

ORIGINAL CLAUSE	ACP
<p>Spaces to meet minimum outdoor air requirements as per ASHRAE Standard 62.1–2010 & CIBSE AM</p>	<p>Alternative Compliance Path allows projects in India to use the NBC 2005, BIS SP-41 & CPCB NAAQS as an alternative to ASHRAE 62.1 – 2010</p> <p style="text-align: right;">BIS SP-41 – Bureau of Indian Standards Special Publication 41</p>



CREDIT: EQ – THERMAL COMFORT

CREDIT INTENT :

- To promote occupants' productivity, comfort, and well-being by providing quality thermal comfort.



CREDIT: EQ – THERMAL COMFORT

ORIGINAL CLAUSE	ACP
<p>Requires buildings to have a permanent monitoring system to ensure ongoing building performance to the desired thermal comfort criteria, as specified by ASHRAE Standard 55–2010</p>	<p>Alternative Compliance Path allows projects in India to use the NBC 2005 as an alternative to ASHRAE 55-2010 thermal comfort condition requirements.</p> <p><i>India specific Adaptive Comfort standard to be included once published.</i></p>



CREDIT: EQ – INTERIOR LIGHTING

CREDIT INTENT :

- To promote occupants' productivity, comfort, and well-being by providing high-quality lighting



CREDIT: EQ – INTERIOR LIGHTING

ACP ADDITION :

- **Establishment Option 2: Lighting Quality - Additional Strategy (No. 9)**

Assuring minimum lux levels are achieved in the building

Projects in India may, in all regularly occupied spaces, meet or exceed the lower illuminance levels listed in the Bureau of Indian Standards (BIS) code - IS 3646 recommended Illumination levels



CREDITS WITH ACPs developed as part of LEED EBOM 2009



CREDIT: EA – RENEWABLE ENERGY AND CARBON OFFSETS, PERFORMANCE

ACP :

Allows projects in India to purchase RECs sold on power exchanges that operate REC trading with approval from the India Central Electricity Regulatory Commission (CERC), with additional parameters, as an alternative to Green-e Certified RECs.



CREDITS WITH ADDITIONAL GUIDANCE



Additional Guidance has been added to the following Credits

- Prerequisite : SS – Site Management Policy
- Credit: SS – Site Development-Protect or Restore Habitat
- Credit: SS – Heat Island Reduction
- Prerequisite: WE – Indoor water use reduction
- Credit: WE - Indoor water use reduction
- Prerequisite: EA – Energy Efficiency Best Management Practices
- Credit: EA – Existing Building Commissioning – Analysis
- Prerequisite: EA – Energy Efficiency Best Management Practices
- Credit: EQ – Interior Lighting
- Credit: MR – Purchasing–Ongoing



LEED DYNAMIC PLAQUE



The LEED Dynamic Plaque is a performance award that recognizes the measured performance of the building across five categories:

certified projects, providing annual

recertification and global

benchmarking.

Gold

Platinum

Transportation

Human Experience



LEED India Hub



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Thank You

