

## Replies to queries during webinar for GRIHA V 2019 (17-04-2020)

**Q1: Whether GRIHA certification is done for larger industrial building**

R1: GRIHA does not rate industrial buildings. However GRIHA does rate office and other non-industrial spaces/buildings located inside industrial complexes which require human comfort.

**Q2: Any tenure for GRIHA projects? Is there any timeline within which we have to complete the projects?**

R2: The project team must submit all the documents to GRIHA Council and attain their rating within 7 years from the date of registration, failing which an extension fee must be paid by the project team to the GRIHA Council.

**Q3: Difference between GRIHA & IGBC rating**

R3: GRIHA rating has been developed by TERI with support from MNRE as a National rating system of the country. It has also been recognized as one of the tools to measure carbon mitigation in the built environment in the INDC's submitted by GoI to UNFCCC for attaining the Paris agreement goals.

**Q4: Which authorities recognize GRIHA as additional benefit & what regulatory authorities give any relaxation in tax or anything?**

R4: Please refer the GRIHA website for detailed list of incentives offered by various authorities: <https://www.GRIHAindia.org/>

**Q5: Hi, when we say mature tree, how old it should be?**

R5: Any woody plant taller than 2.00 m, with a well-distinguished trunk or trunks below the leaf crown will be considered as mature.

**Q6: What are the passive strategies in Low Impact Design Strategies?**

R6: The suggestive low impact design strategies for different climate typologies are listed under Appendixes 1C and 1D of the GRIHA v2019 abridged manual uploaded on the GRIHA website. Link: <https://www.GRIHAindia.org/sites/default/files/pdf/Manuals/GRIHA-v2019-abridged-manual.pdf>

**Q7: Is this webinar certified? Are we entitled to get a certificate of participation?**

R7: Sorry, we are not offering certificates for the webinar.

**Q8: Is UTCI based simulation allowed to show reduction in UHIE**

R8: Universal Thermal Climate Index based simulations are allowed for UHIE calculations.

**Q9: How many GRIHA projects have been implemented in India?**

R9: More than 1768 projects have been registered under various GRIHA rating system variants, with a footprint of 5,25,02,869 sqm. Please refer to the GRIHA Website for more details.

**Q10: How long is the GRIHA AP valid from the date of clearing the exam and How do I Renew it?**

R10: The validity period is 2 years. The validity could be renewed by giving the GRIHA CP examination again or fulfilling any of the criteria (elaborated on <https://www.GRIHAindia.org/GRIHA-community>) during the 2 year validity period.

**Q11: We have to use ENVI-met software or other software as well for the simulation of UHIE**

R11: Other validated simulation softwares for performing UHIE calculations are also acceptable.

**Q12: 7 years from date of registration ...don't you feel it's too long a duration?**

R12: This is calculated based on the projects so far registered and rated in GRIHA, unexpected circumstances may arise any time such as lockdown, natural calamity, legal issues, strikes, fund problems etc. which are covered under this time frame, although projects can attain rating within 1 to 7 years from the date of registration of the project.

**Q13: What software will be considered by GRIHA to demonstrate EPI?**

R13: Any software which can give you an hourly calculation of energy consumption calculating for annual energy consumption such as eQuest, HAP, IES etc.

**Q14: Are there any tree families excluded from the re-planting requirement ? Eg. Date palms.**

R14: Existing invasive species may be exempted from replantation requirements. Efforts should be made however to preserve or replant all existing foliage.

**Q15: For a mixed use building, which criteria has to be followed? For example, a retail and office building**

R15: For calculating EPI for mixed use buildings please refer to a similar query: <https://GRIHAservice.zendesk.com/hc/en-us/articles/207271229-Kindly-provide-the-EPI-value-for-a-mixed-use-building-in-moderate-climate->

**Q16: What is the capacity of the systems installed in GRIHA?**

R16: This is a consultancy based query. System sizing has to be done as per the project requirement?

**Q17: Does EPI include loads from plug and process loads?**

R17: Only HVAC and Internal lighting loads have to be used in EPI calculation. Plug loads are not included.

Q18: Which version needs to be used for designing a naturopathy health care centre ?

R18: The project can be registered under GRIHA v. 2015 for now. GRIHA v. 2019 registrations will open from Jan 2021.

Q19: For GRIHA evaluator exam do we prepare as per GRIHA V15 or V19

R:19: Currently V 2015. The evaluator exam for GRIHA v.2019 will start from January, 2021.

Q20: Which is the best WWR (window wall ratio) for all the buildings?

R20: As per ECBC WWR should be less 40%. However, WWR is a matter of building aesthetics and owner requirements.

Q21: What does daylight autonomy mean? How do you calculate the same and how is it different from sDA?

R21: Daylight autonomy is the percentage of time that daylight levels are above a specified target illuminance within a physical space or building for a given duration of time. Mean DA is the average of DA values for the entire daylit area.

Spatial Daylight Autonomy (sDA) is a measure of daylight illuminance sufficiency for a given area, reporting a percentage of floor area that exceeds a specified illuminance level (e.g. 300 lux) for a specified amount of annual hours (e.g. 50% of the hours from 8am-6pm).

Q22: If I register the project today, in which version will it be registered weather in v2015 or v2019?

R22: Registrations for GRIHA v.2019 will open in January 2021. Meanwhile projects can be registered under GRIHA v.2015.

Q23: Please throw light, how an Architect like I am, can become a Sustainable Energy consultant Or contribute to sustainability in any way.

R23: Please refer GRIHA website under the community center for engagement of technical professionals with GRIHA Council as GRIHA CP and evaluators

Q24: What if we want to get a building rated which has already been constructed 3 years ago?

R24: The project can be rated under the GRIHA EB ( Existing Building) variant.

Q25: What about the thermal comfort requirements for an air-conditioned building with some operable windows?

R25: Project team can demonstrate the thermal comfort via Indian adaptive thermal comfort model and as per NBC 2016.

Q26: What is the name of software used for simulation?

R26: Query not clear. Please specify what kind of simulation you are referring to.

Q27: What will we call the areas having Evaporative air cooling? Air-Conditioned or non air conditioned?

R27: Yes, the area using the Evaporative air cooling counted as a conditioned area.

Q28: Is the Certified exam based on GRIHA V2019 from next month? From when it will be started?

R28: Currently as per the health advisory, all the GRIHA exams are postponed until further notice. However, the exam for GRIHA v. 2019 will start from January 2021.

Q29: What is used for the Fresh air monitoring system located in AHU Room?

R29: As per GRIHA V 2019 to monitor the circulation air temperature, RH% and CO2. The sensor can be installed at AHU level or at space level.

Q30: What is the water performance index?

R30: The WPI of a building is the ratio of the annual fresh water demand (L) per person per day.  $WPI (L/person/day) = \frac{|WM| [Annual\ freshwater\ demand\ (L)]}{(Building\ occupancy \times No.of\ working\ days)}$

Q31: For a project with a number of buildings with a total built up area of 21000sqm over 65acres land area , is the EC mandatory for GRIHA certification?

R31: Please check respective state EC requirements for EIA clearances.

Q32: Generally nowadays people propose exotic palms in their projects which are not at all native species, can any GRIHA criteria keep check on that ?

R32: GRIHA has always encouraged plantation of native and naturalized species on project sites to maintain biodiversity and reduce landscape water consumption. All GRIHA compliances are checked through a robust system of documentation reviews and site visits at different stages of construction.

Q33: Is Gray water the water from the kitchen sink, washbasin, showers etc?

R33: Any discharge other than from WC & urinals is considered as grey water.

Q34: How to get the base cases?

R34: Query not clear.

Q35: Query: For thermal comfort criterion, can the compliance shown in PMV(Predicted Mean vote) method?

R35: No PMV method cannot be adopted to demonstrate project thermal comfort.

Q36: Is there a cut-off kind of transition to move from GRIHA 2015 to 2019 version?

R36: All projects registered under GRIHA v.3 and GRIHA v.2015 shall have an option to upgrade the rating under GRIHA v.2019

Q37: What is grey and black water?

R37: Wastewater, which is sourced from baths, showers, hand basins, washing machines, dishwashers, and laundries, can be considered as greywater. Wastewater, which is sourced from WCs and urinals can be considered as black water.

Q38: Can you tell us the chemical free STP?

R38: Soil bio-technology, dewats etc are examples of chemical free STP systems.

Q39: For a mixed use building, which renewable energy utilization system, DA annual analysis hours benchmarks, etc. criteria has to be followed? For example, a retail and office building or a retail and residential building

R39: Project team can derive the new benchmark via extrapolation depending on the share of built-up area.

Q40: Are there any additional points that one can get if the self-sufficiency through WPI-reduction from base case is more than 75%?

R40: The project will be eligible for 5 points, if the percentage reduction is more than 75% from the GRIHA benchmark for WPI.

Q41: What are the Rainwater runoff measures as advised by GRIHA in projects?

R41: This is a consultancy query, please contact your consultant for suggestions. However following tips can be used when discussing with the consultants:

Rain water can be handled in 3 ways on site and each of these strategies in combination has many parameters to be looked before proposing -

**-Recharging**

Conducting hydro geological study of the site ( very essential in case of large site areas)

Post monsoon water table

Soil percolation capacity ( for a large site specially with rocky profile there are chances to find fishers which can be easily used as good water holding & percolation points.)

Rainfall considered (for optimum system working do consider average (3-5 years) of peak hourly rainfall data to calculate the runoff from site)

Run off calculation ( considering correct run off coefficient)

De-silting /grease traps (workable design as per site)

Recharge section (workable design as per site)

**- Storing and reuse**

Segregation of roof runoff and site run off

Treatment system

Storage tanks capacity ( the raw water/treated water tank can be used with proper system)

Rainfall considered ( Use average ( 3-5 years) of peak daily )

Reuse purpose

**- Delaying the run off (one of the most easiest, cost friendly )**

Landscaping elements (such as open channels,swells, collection ponds etc.) to hold the water and delaying the run off to drains

Reducing hard paving as much as possible

This combines the concepts of recharging and storing in natural grounds

***A combination of all of the above strategies can be implemented in each site with the correct process in place. If not designed considering these site parameters it results in high risk urban flooding.***

**Q42: Should one consider Peak rainfall in mm/hr of last year? Where should one get this information from?**

R42: For designing recharge section average of 3-5 years peak hourly rainfall should be considered. The data can be purchased from National Data center - <http://dsp.imdpune.gov.in/>

**Q43: Government Garbage plant will fall under which category of project?**

R43: Depending on the built up area of the project, all habitable spaces within the project can be rated under GRIHA. Please visit the GRIHA variants tab on our website for more details. <https://www.GRIHAIndia.org/>

**Q44: What is green water and blue water?**

R44: Blue water refers to rainfall that enters lakes, rivers and groundwater. Whereas, green water refers to the amount of rainfalls taken by soil and vegetation.

**Q45: Do we have to use any software for calculating the Life cycle of structure?**

R45: To encourage the market for developing larger capabilities and ease of adoption within the GRIHA framework, there has been an update in compliance requirements. Projects which are targeting the GRIHA LCA and LCC criterion shall be required to carry out LCA and LCC analysis which meets the criteria set out in the GRIHA Manual. Project teams will be expected to perform the LCA and LCC calculations using a third-party validated IT software solution.

**Q46: What are the advantages of obtaining GRIHA certification?**

R46: It is a tool to evaluate environmental performance of a building holistically over its entire life cycle, based on quantitative and qualitative criteria, thereby providing definitive standard for green buildings and habitat, some ULB's and state government offer incentives (tax rebate, additional FAR) to GRIHA certificate buildings

**Q47: What is a virgin material?**

R47: Virgin materials are previously unused raw materials that are sourced directly from nature, such as wood or metal ores.

**Q48: When should GRIHA certification be obtained for existing/old and new building?**

R48: New buildings should register during the design stage for including sustainable design measures during design. For existing building any project which is more than 3 years old can be registered

**Q49: Is there any LCA calculation method provided in the GRIHA Manual?**

R49: While the scope of LCA study has been clearly outlined in the GRIHA manual, to encourage the market for developing larger capabilities and ease of adoption within the GRIHA framework, there has been an update in compliance requirements. Projects which are targeting the GRIHA LCA criterion shall be required to carry out LCA analysis which meets the criteria set out in the GRIHA Manual. Project teams will be expected to perform the LCA calculations using a third-party validated IT software solution.

**Q50: LC calculation payback considers the depreciation also into consideration?**

R50: GRIHA LCC does consider depreciation values for different systems.

**Q51: Is there any tool GRIHA is using to calculate LCA and LCC?**

R51: To encourage the market for developing larger capabilities and ease of adoption within the GRIHA framework, there has been an update in compliance requirements. Projects which are targeting the GRIHA LCA and LCC criterion shall be required to carry out LCA and LCC analysis which meets the criteria set out in the GRIHA Manual. Project teams will be expected to perform the LCA and LCC calculations using a third-party validated IT software solution.

**Q52: Is there any testing agency for checking recycled content in materials?**

R52: Please refer to NABL website for the same.

**Q53: Is creche for families to work & live at site or only family working?**

R53: Creche facility is to be provided in case families of labourers engaged in the project are residing in the labour accommodation provided by project team (owner or contractor).

Q54: Are GRIHA & IGBC the same certification agency

R54: Both are different certification agencies.

Q55: How long is the GRIHA AP valid from the date of clearing the exam and how do I Renew it?

R55: There is no such category as GRIHA AP however Validity for a GRIHA CP(Certified Professional) is 2 years from the date of qualifying the exam. Please refer to the following link for more details: <http://community.GRIHAindia.org/index.php?pageid=gcp>

Q56: Is there any online software you would suggest to simulate energy efficiency??

R56: Most of the energy simulation tools are offline; you can install those software and use them.

Q57: I am a civil engineer with 22 years experience in Infrastructure projects. Whether I can become a GRIHA Certified professional. Pls let me know the procedure

R57: Please refer to the link <https://www.GRIHAindia.org/GRIHA-community>

Q58: One of our customers asked for a GRIHA rating of 39 points for the Industry. How to take approval. The GRIHA guidelines are applicable for the entire site or can approvals of few buildings be done?

R58: Query is not very clear. However, please note that GRIHA rating is not applicable for Industries, but habitable spaces in the industrial set up like administration block, canteen and so on can be registered under GRIHA by creating a virtual boundary.

Q59: What all criteria shall be applicable for the Service Building and Administration Building provided in a Power Plant or Refinery site?

R59: Applicability of criteria shall be dependent upon the site condition and building typology. Therefore please check the applicability clauses provided in various criteria.

Q60: What about the regional climatic variations? There are many guidelines which do not practically apply to the rather colder regions of our country. People do live within the laps of snow capped mountains. Are there any specific exceptions to the rating guidelines for buildings being constructed in those areas?

R60: Guidelines setup by the local authorities can be overridden with GRIHA requirements in these special zones/regions. Climate resilience factors have been introduced in the rating system along with the incorporation of benchmarks for cold climates and strengthened requirements for a broader range of building typologies. Please write to us on our help center with more site specific challenges for a detailed response.

**Q61: Kindly mention the software accepted by GRIHA and its related parameters for the mean DA simulation?**

R61: Any validated software capable of performing mean DA simulation such as DIVA for Rhino, Radiance, IESve etc can be used.

**Q62: How do you define capita in a project to understand green space requirement?**

R62: The per capita availability of green spaces for the project site should be more than the GRIHA threshold of minimum 9 m<sup>2</sup> of green cover per capita. Green space development does not include play areas, provision of landscape, sitting/resting area, softscaping, waterbodies, etc.

**Q63: What is pre qualification criteria to become certified evaluator**

R63: Please refer the eligibility criteria to become a certified evaluator on the link:  
<https://www.grihaindia.org/griha-community>

**Q64: When is the next 3-day workshop for GRIHA scheduled in bangalore?**

R64: All 3- day training programs are currently on hold as per the advisory issued by the Ministry of Health until further notice.

**Q65: What are the minimum points required for getting GRIHA certification?**

R65: Please refer detailed GRIHA requirements provided in abridged manual uploaded on GRIHA website  
<https://www.GRIHAindia.org/sites/default/files/pdf/Manuals/GRIHA-v2019-abridged-manual.pdf>

**Q66: Suggest some software to simulate lux level inside i.e daylight simulation**

R66: Daylight simulations can be performed using any validated software such as IESve, DIVA, Radiance etc. For lux level simulations VELUX, DIALUX etc may be used. You may refer to ECBC 2017 manual for more details.

**Q67: GRIHA accredited vendors service providers will help to achieve the results. Do you have a list?**

R67: Please visit the GRIHA Product catalogue. Link:  
<https://www.GRIHAindia.org/products-catalogue>

**Q68: what is the meaning of gender neutral toilets?**

R68: Gender neutral toilets, or gender-inclusive toilets are public toilets that are not separated by gender or sex. These are provided to benefit all genders including transgenders.

**Q69:When is the sunset period for the GRIHA v 2015 system?**

R69: The sunset period would be for around 6 months/1year (depending on the industry demand) from the official day when GRIHA V 2019 registration starts.

Q70: [When is the next GRIHA CP exam to be conducted online?](#)

R70: All 3- day training programs are currently on hold as per the advisory issued by the Ministry of Health until further notice.

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