

The Containment Room has a false floor of 600 mm depth and a false ceiling of 350 mm depth. Electric Bus Trunk system has been commissioned inside the room for distribution of power to the server racks.

Results:

The actual deployment of various components in Data Centre Hall in IT Building-A are shown in Pictures I.1.3 and I.1.4.



Picture I.1.3: View of Data Centre Hall – A.



Picture I.1.4: View of UPS and Battery Setup for DCH-A.

Acknowledgements:

We sincerely acknowledge the efforts of our colleagues especially from Civil Section, Electrical Section and Fire & Safety Section, who have provided vital inputs in the design phase of the project and worked with us hand in hand to complete the commissioning of DCH-A.

Conclusion:

A state of the art data centre conforming to ANSI/TIA-942 Rated-2/Tier-2 standards of data centre design has been commissioned at RRCAT. It is capable of accommodating servers and equipment with total input electrical loads up to 200kVA. Support of all capacity components have been ensured to be available for next 10 years by the respective

OEMs. Critical servers hosted in DCH-A will work in tandem with their counterparts hosted in DCH-B, thereby ensuring data centre level redundancy for the critical services.

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I.2: Roof Top Solar PV systems for common area Lighting

In continuation of the renewable energy initiatives, new solar photovoltaic generating systems have been commissioned on the roof top of Diamond Jubilee Guest House and multi storey building named 'Vindhya Tower', in off-grid configuration. Solar lighting systems have two basic advantages, firstly they contribute in conservation of fossil fuel based energy and secondly they also act as emergency lighting systems in case of power failures.



Picture I.2.1: DJ Guest House Solar PV modules



Picture I.2.2: Vindhya Tower Solar PV modules

The installed 2kWp solar power packs consist of 8 Nos. of 255Wp polycrystalline photovoltaic modules with 4 x 12V, 200Ah tubular battery, designed for feeding a maximum power of 1200W for 16 hours. These power packs provide lighting in the corridor, staircase, parking area, and elevator machine room in the multi storey buildings.

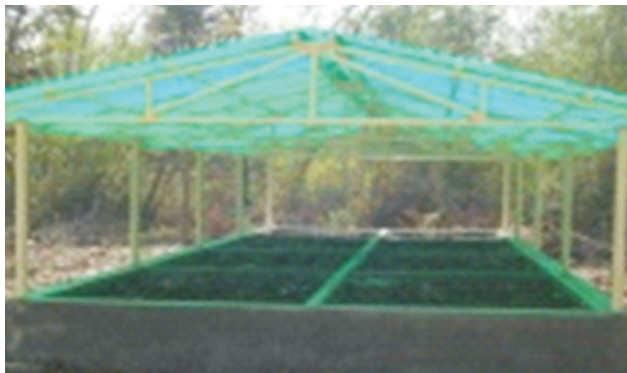
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Picture I.3.1: A heap of compost manure

I.3: Vermiculture: An eco-friendly way of waste disposal

Civil Engineering Section of RRCAT has always been proactive in adopting such methods of waste disposal which encourages safe re-use of wastes. The centre has witnessed successful re-use of domestic effluent for horticulture purposes in colony area since more than two decades. The treatment of wet waste collected from houses, cafeteria and guest-house is carried out in bio-gas plant since August 2014. This plant produces methane which is used as cooking gas in the guest-house. In addition organic manure in solid as well as slurry form is also available as by product from this plant.



Picture I.3.1: The Vermiculture Shed

The centre has now addressed the problem of disposal of organic waste generated as bio mass owing to natural fall of leaves, routine horticulture operations leading to left out shrubs, hedges, lawns, soft wood, trimmed/pruned plants etc. These organic waste thus generated is collected and processed in beds using earthworms (Bio-reactor). The compost thus generated is clean, odorless, dry vermin casting in granular form is ideal for use as manure The process of conversion gets completed in about 45 to 60 days in beds.

The two vermiculture plants housed in sheds of size 9.50 m x 4.50 m are located near east side of Central Complex and near bio gas plant respectively which together yield 3 MT of vermin-compost per month. The photograph of the Vermiculture Shed is shown in Picture I.3.1. The Picture I.3.2 shows a heap of compost manure.

As such these plants are expected to yield 36 MT of vermin-compost per annum resulting in to direct savings of about Rs. 1.40 lakh/annum towards procurement of manure. In addition to this saving, the system has manifold intangible benefits pertaining to conservation of environment.

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