

# NUCLEUS TOWER

**NON RESIDENTIAL NEW CONSTRUCTION [NRNC]**

**OWNER/APPLICANT**

BOUSTEAD NUCLEUS SDN BHD

**PROJECT ADDRESS**

10, JALAN PJU 7/6, MUTIARA DAMANSARA, 47800 PETALING JAYA, SELANGOR, MALAYSIA.

## PROJECT DESCRIPTION

Nucleus Tower is a MSC Cybercentre status and GBI Gold Grade A office tower which occupies a prominent corner site within the popular Mutiara Damansara area. The Mutiara Damansara MRT Station is accessible via a direct pedestrian covered linkway, surrounding retail & entertainment precinct makes this a great public accessible Office tower. Direct link to public transport helps reduce the carbon footprint of travellers to the building. The development is easily accessible to both Penchala Link and Lebuhraya Damansara Puchong (LDP).

This development consists of a 24-storey office tower, a 3-storey annexe commercial block with auditorium and 4 floors of basement parking commands a prominent view to the surrounding neighbourhood.



Having planned from its initial stage of going green and coupled with an MSC status, much emphasis was employed in its passive design initiatives and balanced by its active components to make it an Energy Efficient building. High efficiency glazing with double glazed 12.88mm glass, gives the advantage of low E with superb performance and durability assured.

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Its appearance is also aesthetically pleasing. Glazing selection is so important to mitigate Heat Gain into the offices and this building has taken measures, with an excellent low SC 0.46 rating of the glass performance together with vertical shading, Nucleus Tower is able to reduce the energy consumption in the building and achieved an Overall Thermal Transfer Value (OTTV) of 42.31 (W/m<sup>2</sup>).

The installation of integrated building management system solution, Smartstruxture, further enables the Facility Team to effectively monitor, measure and optimize energy efficiency and health & wellbeing of the air system in the building. All these active features are commissioned by a Certified Commissioning Specialist.

Another interesting feature of the building is the use Underfloor air conditioning system or in technical terms air distribution system (UFAD) for the offices to reduce the cooling zones. This in turn will reduce the energy requirement for cooling. The UFAD air system is installed with CO<sub>2</sub> sensors and the air supply terminals in the floor have individual temperature controls while passive diffusers have manual damper control and are an easy placement during final fit out by individual tenants.

Other Energy Efficiency features includes lighting motion sensors, photo sensors at perimeter offices and LED lights, all aid in minimising internal heat generated in the offices. Floor air terminals have individual temperature controls while passive diffusers have manual damper control and are an easy placement during final fit out.



COMPLETION & VERIFICATION ASSESSMENT

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During the Construction Stage, Nucleus Tower also adopted environmentally friendly processes such as use of Mivan System Formwork to reduce formwork waste and 38% of the building materials was regionally sourced. Encouraging recycling, the building used approximately 21.7% of recycled content in the construction materials. Nucleus Tower is also MASMA, ESC and QLASSIC compliant.

The development uses 66.7kWp solar panels which collects sunlight and helps to generate electricity. The renewable energy will improve energy efficiency and reduce cost for the occupants.

Other green features for Nucleus Tower include installation of non-chemical water treatment system, dynamic balancing control valve system for chilled water piping systems (PIBCV), Thermal Mass Storage System and Dessiccant, Heat/energy recovery wheel, regenerative lifts, utilization of treated rainwater, treated basin and condensate water.

In combining all these sustainable measures Nucleus Tower achieves a BEI (Building Energy Intensity) of an exceptional Gold Certified building measuring a low 113 kWh/yr/m<sup>2</sup> of energy in a year, a 53% reduction of energy compared to a usual office tower.

