intelligent **quotient**

The corporate office of the Indian Oil Corporation (IOC) in Delhi designed by Abhin Alimchandani of STUP Consultants is an energy conscious building with state-of the-art systems.

PHOTOGRAPHS: COURTESY, STUP CONSULTANTS

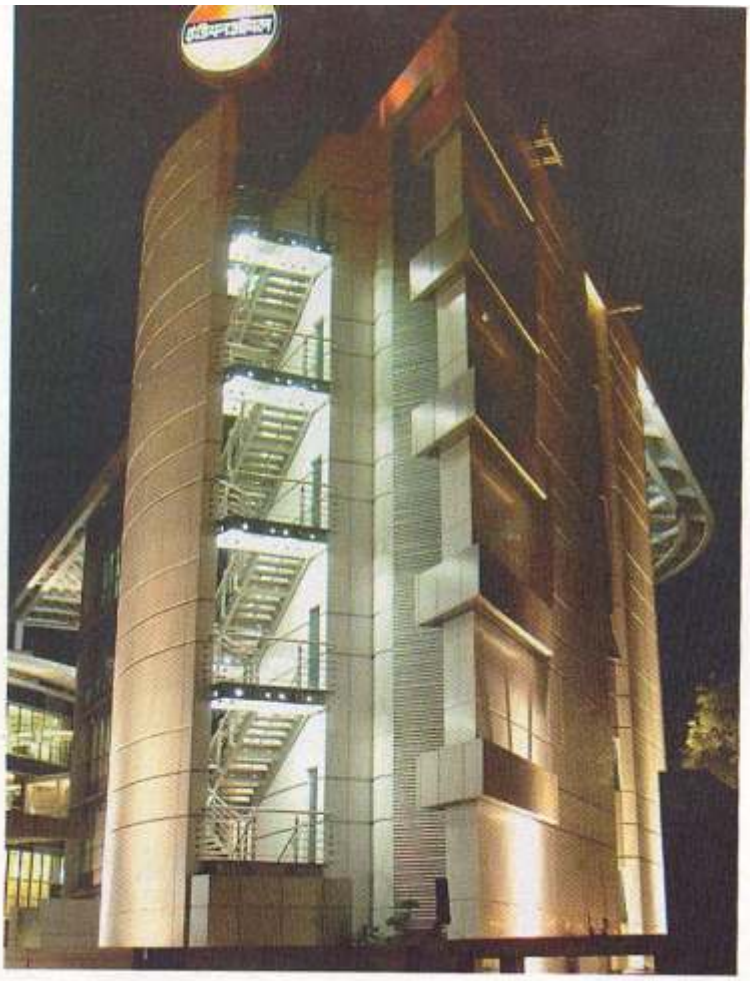
It was a prestigious project for STUP Consultants. They were selected to design the IOC office through an architectural design competition held at the national level. IOC wanted a building that would eventually 'emerge as the best and the most intelligent corporate office in the region if not in the country!' The brief also stipulated that the building should be energy conscious and incorporate state-of-the-art systems.

STUP Design Forum, the building group affiliated to STUP Consultants, took up this challenge with passion and deployed their senior architects and engineers to do a lot of background research work, creating their own parameters to meet the demanding goals set by their clients, which would incorporate:

- Energy conscious service systems while taking into account the capital as well as operating costs.
- State-of-the-art building automation and management systems.

The pergola of the atrium plaza ends in shade for the VIP entrance, while a glass canopy shades the main entrance.

The site has been well landscaped with the trees strategically placed to filter out the hot summer wind. The undulating landscape has solar panels integrated into it.



All the functional areas have a sophisticated lighting management system which automatically regulates the level of illumination, responding to the ingress of natural light and human occupancy.

OPPOSITE: The atrium plaza, open on two sides, with a pergola above, cools the building and the surrounding spaces, with the breeze being guided by aerodynamic forms, flowing over mist fountains. The north and south facades have special double glazing, while sun breakers on the south side have integrated photovoltaic devices, which not only shade the building but also generate electricity.

of the building, and resulted in significant energy saving. The north and south facades are fitted with structural glazing, and the southern face in addition responds to the movement of the sun, with sun shades fitted with solar collectors to generate solar energy. More solar collectors are installed on the roof as well as above the auditorium. The solar energy collected from all these is adequate to operate the lighting in the common area and part of the emergency lighting. The functional areas too have a sophisticated lighting management system, which automatically regulates the level of illumination responding to the ingress of natural light and human occupancy.

The building is centrally air-conditioned with one of the latest systems incorporating Variable Refrigerant Volume (VRV) that also makes for considerable energy saving, while a sophisticated building management system monitors and regulates the operations of all the equipment to an optimum level so as to further augment energy saving. The building is fitted with adequate fire protection systems including detection and fighting equipment.

There are two basements, which essentially contain building utilities, car parking spaces and some recreational areas. The vehicular traffic path around the buildings has been laid out so as to effectively segregate movement of visitors, general staff and executives. Every detail has been planned and carefully thought through to create a building that could perhaps become an architectural icon.

- Conceptualizing the interior spaces with the most modern materials and equipping with them with the most contemporary and stylish furniture.
- Achieving aesthetic excellence through the integration of an ideal structural system, innovative building form and pleasing interior treatment.

The complex basically comprises three buildings: the executive block, the general office and the boardroom block, which have been imaginatively grouped to form an interesting architectural composition with dramatic un-built spaces between them. While the executive and general office blocks are physically integrated, the boardroom one is somewhat separated. Linked by two glass bridges at the upper levels, and fitted with a sunscreen on the top, it seems to be floating in the central open space, while creating a semi-shaded open atrium. The boardroom block with its elegant building form, responds quite appropriately for its internal functions, while some of the rooms command a spectacular view of the adjacent garden.

The site had some inherent limitations with a fuel station occupying one of the vantage corners, which Abhin and his team successfully countered by careful positioning of the different blocks. They ensured that the larger facades would face the north and south, and the smaller facades would face the east and west. This has maximized the thermal efficiency