

Bajaj Electricals adds light to the Sea Link

It is one more jewel in the crown for Mumbai that will leave many awestruck in the years to come.

Bajaj Electrical Ltd, which lit up Marine Drive here, commonly called the queen's necklace, due to the way the beach front road looks once it is illuminated at night, now has a string of pearls to showcase on the city's water front in the dark - a five km stretch of the Bandra-Worli sea-link.

The eight-lane bridge, which is bound to gladden the hearts of many a motorist once it is thrown open to public, is expected to cut travel time from the western suburb of Bandra to central Mumbai from 60-75 minutes to a mere seven minutes, sans blaring horns, frayed tempers and traffic snarls. Vehicular traffic is estimated at about 1.2 lakh passenger cars units each in the western end at Mahim.

Aligning and engineering its



electricals to illuminate the Rs 1800 crore bridge, Bajaj has gone about its task in right earnest.

Close to 100 km of cable has gone into the effort to wire the 5 km stretch over turbulent waters at a cost of Rs 9 crore. The cable length multiplied as a power saving mode was required to be installed, which in turn warrants control over each of the 350 electric poles that dot the entire span of the sea-link. The circuitry has been designed to ensure that the lights can be partly - either

alternate poles or every third pole can be switched off after midnight when traffic thins down.

Bajaj has opted for glass reinforced polymer (GRP) street-



Mr. Anant Bajaj lighting poles. Mr Anant Bajaj, Executive Director, said the main reason for going

in for GRP as against the conventional steel was to combat the high corrosive saline atmosphere above the waters. GRP poles are highly resistant to corrosion, chemical agents and UV radiation, besides possessing a better mechanical strength than steel. The poles are said to be impact resistant to a great extent, capable of bouncing back to position when rammed into as they present a much smoother and softer surface than steel. In addition, the

choice of colours the GRP poles offer is a welcome add-on to the overall aesthetics of the project. Installation was a challenge and specially designed 'base brackets' to align with the contours of the kerb and the crash barriers were made. Six anchor bolts, besides fasteners keep each of the poles in place.

Atop the poles, specially designed luminaires with adequate protection and high precise photometric distribution ensure smooth uniform illumination. Special care has been taken to curb spill over of light into the sea as it could affect marine life. The most visible portion of the bridge, where the cable stayed portions are, has been lit up using narrow beam metal halide floodlights. The longest lit cable stay rope is over 200 metres. A mix of street-lighting and the illuminated cable stay

ropes is to provide a fascinating view during the night, said Mr Lalit Mehta, Executive President, Engineering and Projects.

Bajaj Electricals has undertaken the entire electrical work, which include high and low tension cabling, sub-station equipment, comprising switchgear transformers and generators, besides taking care of the lighting requirements of the toll plazas. Total power requirement of the bridge is estimated at 900 KW with main power feeds coming from both sides of the bridge.

The sea link is bound to enter the tourist map and Bajaj in a way will end up lighting the hearts of the multitude who sight the engineering marvel defying the painting waves of the pouting waters between Mumbai shores.



Looking beyond the sea-link with visionary zeal and perspective, Mr Shekhar Bajaj, Chairman and Managing Director, Bajaj Electricals Ltd, said power sector is the key growth engine for the country to achieve 8 to 10 per cent GDP in the years to come.

With this in mind, Bajaj Electricals, in its own small way, had managed to gain a foothold in all segments of the power business such as lighting, transmission, distribution and generation.

The company's Ranjanjan plant was equipped to produce world-class high-mast and transmission line towers. A wind energy farm at Satara generated close to 2.8 MW. This apart, the com-

pany was into power distribution to provide electricity to over light up six lakh below the poverty line homes. In utility services, Bajaj Electricals was an established player in turnkey illumination projects with over 60 per cent market share in high-mast street-lighting, besides illumination of major power plants across the country.

Going forward, the company would consider taking up management of power distribution networks to provide efficient and uninterrupted power supply to the urban and rural population by bringing down transmission losses and system leakages.

MAKING OF A MODERN MARVEL

The Bandra Worli Sea Link constructed by MSRDC and HCC is truly a technological marvel. Apart from satisfying the main objective of considerably reducing traveling time from Bandra to Worli, the Sea Link project will be a great landmark for Mumbai City, the commercial nerve centre of India.

Bajaj Electricals (BEL) is indeed proud to be a significant contributor to this prestigious project by way of illuminating the link and adding to its glory. It was indeed a proud moment when HCC entrusted Bajaj with the illumination and electrical power distribution for the Project.

One of the main features of the Sea Link

Illumination is the use of Glass Fibre Reinforced Polymer (GRP) street lighting poles. This is the first major installation in India using GRP poles.

The major factor for selecting the street furniture for this project was the requirement of combating the highly corrosive saline atmosphere prevailing. GRP poles are highly resistant to corrosion, aggressive chemical agents as well as UV radiations. The mechanical strength of these poles is specially designed to be better than conventional steel poles. The smooth surface, tapering pattern of the poles and choice of colour adds to the overall

aesthetics of the engineering marvel. Installing the poles on

Jewel of the city



the sea link was another challenge which was overcome by specially

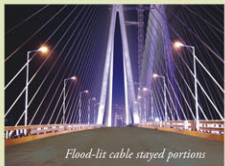
designed base brackets to suit the contour of the side kerb as well as to

Specially designed street light luminaires with high degree of ingress protection and precision photometric distribution ensure smooth and uniform illumination all over the bridge. The most visible portion of the bridge, i.e. the Cable Stayed portions, have been illuminated using extremely narrow beam metal halide flood lights. Combination of the street lighting and the individually illuminated cable stay ropes will give a breath-taking appearance during night time.

Apart from the illumination portion, BEL is also carrying out entire electrical works including HT/LT cabling, Sub-station equipment comprising of HT/LT switchgear, transformers, DG sets, illumination of the toll plaza, control building as well as high mast lighting in the surrounding area.

ILLUMINATING THE MUMBAI MARVEL

Lighting up this massive structure was no mean task. The Bandra-Worli Sea Link will witness a number of India's first in engineering. GRP street lighting poles resist corrosion due to the elements that the bridge will be subjected to at sea. The bridge will also see the installation of intelligent lighting that automatically dims when the traffic dies down. The innovation however that takes the cake are the extremely narrow beam metal halide flood lights that illuminate the cable-stayed portions of the bridge. This light up the entire length of the cables that make the sea link a stunning and breathtaking structure at night.



Flood-lit cable stayed portions

Mumbai's engineering is no doubt the first step towards inspiring the nation towards a glorious future.

