




DESIGN CASE STUDY

	<h1>NRL</h1> <p>Numaligarh Refinery Limited</p>
	Retail Identity for NRL
	
OVERVIEW	
<p><i>Introduction</i></p>	<p>Numaligarh Refinery Limited (NRL) was incorporated in 1993 and commenced operations in 2000. It is a subsidiary of Bharat Petroleum Corporation Limited (BPCL). In 2005, the company decided to foray into liquid fuel retail, diversifying from petroleum refining.</p> <p>The challenge was to rapidly establish itself as a reliable and innovative energy retailer. With this aim, NRL decided to commission attractive 'Energy Stations' which offered efficient service. All facility brands are pre-fixed "Quick" to emphasise prompt and efficient service. Besides this, numerous innovations were incorporated for customer convenience and faster turn-around.</p>
<p><i>Key elements of design strategy for NRL</i></p>	<p>With opening up of markets and the government granting licenses for marketing of transportation fuels, NRL decided to provide customers with the entire range of services from refining to retailing. 510 Retail Outlets, to be operated by NRL, have been approved by the Government of India.</p> <p>In a market dominated by established players and fairly saturated with Retail Outlets, NRL is gearing up to the challenge of growing mindshare and for capturing market share, primarily by providing customers with an excellent and highly differentiated retail experience.</p> <p>The concept is to project NRL as an organisation that is dynamic and sensitive to changing user expectations. This is reflected in the look and feel of its Retail Outlets, which are dramatically different from</p>

	<p>existing players.</p> <p>The Retail Outlets are called ‘Energy Stations’ so as to connote a future-looking organisation that promises to deliver future fuels, future energy needs, and partners with customers well into the future.</p>
<p><i>Innovation</i></p>	<p>Along with a different look and feel of the outlets, all facilities within address relevant customer needs; with unique facilities, such as:</p> <ul style="list-style-type: none"> > Bay status indicators, which show dispensers that are unoccupied, at-a-glance > Parallel display units - conveniently located large displays showing price and quantity of fuel being filled > Close circuit television through which customers can watch the filling process without stepping out of their vehicles > Printed bills and record of every transaction > Prices of fuels displayed (through LEDs) on the Monolith > Automation systems to ensure error-free inventory management and lean operations > Educating customers through Safety, Quantity and Quality assurance messages displayed on scrolling trans-lite displays > Correct tyre inflation pressures through input of vehicle make and model at ‘QuickAir’ – the digital tyre inflation gauge > Innovative illumination that uses the canopy as a branding element with a reflected glow > Pre-determined illumination levels, based on time and traffic, to maximise energy saving.
<p><i>Meet the team</i></p>	<p>BPCL assists NRL by providing knowledge support, wherever required. In this exercise, BPCL’s Engineering and Projects Division commissioned Incubis to design and develop the retail identity for NRL.</p> <p>Incubis, is one of India’s leading multi-disciplinary architecture and design firms, with several Fortune 500 multinationals, small and medium enterprises as well as start-ups, as clients. Incubis’ client list includes Whirlpool, WPP, Unilever, the Tata Group, Singer, Samsung, Nokia, Mahindra, MRPL, Hero Honda, Hilton Hotels, GE, Essar, Emaar MGF, Bridgestone Tyres, Bharti Wal Mart and Barista.</p> <p>Incubis’ clients value the unique ‘Experience Design’ process which brings together customer insight, local knowledge and innovative zeal to create a wide range of products, spaces and service offerings.</p> <p>Incubis was founded in 1995 by graduates of NID, IIT and TVB and has grown to a team of over 55 Architects, Designers and Engineers based out of studios in New Delhi and Bangalore.</p> <p>Incubis has also designed fuel retail outlets for ONGC-MRPL (in partnership with NID) and Essar Oil</p>
<p><i>Company's history</i></p>	<p>Numaligarh Refinery has been set up as a green field refinery at Numaligarh in Assam, in fulfilment of the commitment made by the Government of India in the ‘Assam Accord’. The company, Numaligarh Refinery Limited, was incorporated on April 22, 1993. NRL is promoted by BPCL and Government of Assam. The present share holding pattern is: BPCL 62.96%, Govt. of Assam 12.35%, Oil India Limited 12.35% and OIBD 12.34% respectively.</p>

	<p>The Refinery is designed to process 3 MMTPA of indigenous crude oil adopting state-of-the-art technologies. The refinery and the marketing terminal are fully automated and are supported by business systems driven by ERP. The total cost of the refinery and the marketing terminal is Rs. 2724 crores.</p> <p>The Refinery became fully operational from June 2000 with commercial production started from October 2000.</p>
EVOLUTION OF DESIGN	
<i>Design process evolution</i>	<p>The design exercise began by asking questions so as to uncover potential opportunities that a new player might leverage. Customer interactions were closely studied for need-gaps. Existing Fuel stations were evaluated in order to improve on efficiencies and safety. Layout and details were developed for a 'standard' site, with material specifications and bill-of-quantities. Thereafter, two more design standards were developed, viz. medium and economy, with progressively lower capital cost. Site specific adaptations are carried basis these standards.</p> <p>Three Canopy widths were also developed for varying site dimensions, viz. 17m, 14m and 10m.</p>
<i>Organizational position & influence of design at NRL</i>	<p>Since NRL is primarily a refinery company, experience regarding fuel retail was limited, initially. They were supported by BPCL's E&P team based in Noida, UP. Management in both BPCL and NRL realize that Retail design is an important tool to gain strategic advantage. All presentations to the team, by Incubis, were followed by detailed discussions and structured feedback.</p>
<i>Design capability building</i>	<p>Incubis was primarily brought on board for its ability to analyse customer needs and capability to operate across platforms, integrating knowledge in architecture, retail, product design; engineering (civil, structural, piping, electrical); with specialised inputs in automation and safety practises in the petroleum industry.</p>
<i>Market</i>	<p>NRL has decided to primarily cater to highway traffic, and is locating its Energy Stations next to national and state highways. Highways generate higher individual transaction values compared to cities. Layouts and facilities have been designed keeping this factor in consideration.</p>
<i>Status</i>	<p>NRL has rapidly gained stature as a trusted fuel retailer, especially in the North-Eastern states, with customers having faith in its quality and purity of product.</p> <p>48 Energy Stations have been commissioned across the country.</p>

<p>THE DESIGN PROCESS</p>	
	<p>The NRL project proceeded in the following sequence:</p> <ul style="list-style-type: none"> >Understanding fuel retail, studying various safety guidelines, gathering data on highways and local bye-laws concerning fuel retail outlets. Observing existing fuel stations to understand layout and traffic considerations, customer concerns and back-of-house operations. >Analysing the present situation and proposing solutions for the same. A few concepts were also developed as a capability demonstrator. >Once the project got underway, the objective was to develop a 'standard' site. Various formal languages were explored for the canopy, which were extended to buildings and signage. >Along with the identity, service and safety features were integrated to complete the package. The concept was presented through 3D renders, architectural drawings and a 1:100 scale model. >Post approval, medium and economic models were developed. In parallel, actual sites were identified and site specific adaptation drawings implemented. >Civil and services tenders were issued first due to longer lead times, followed by structural and signage tenders. Part prototypes of the canopy and monolith were erected. An automation vendor was selected to help develop the hardware and software package. >Post commissioning of the prototype sites, a design-manual - detailing all features - was developed to facilitate streamlined and well-harmonized roll-out as well as act as a handy orientation-guide for all team members at NRL >A detailed engineering manual was compiled for various canopy sizes and signage
<p>NRL CASE STUDY</p>	
<p><i>The business requirement</i></p>	<p>Roll-out has been designed such that sites can be designated under three categories: Standard, Medium and Economy. This is based on the size of site, expected volume of business, type of traffic, location, surroundings and competition.</p> <p>E.g. the categories have pre-designated sizes, cladding and finishes on the Canopy and Office block and facilities available. But, irrespective of site category, the emphasis will always be uniform quality of fuel and service, on efficient turnaround, emphasized by the qualifier "Quick" in all facilities, and automated systems for billing and inventory management. The automated billing coupled with visual display systems are designed to make each and every fill a memorable experience and, ultimately, a habit-forming activity.</p>

<p><i>Discover</i></p>	<p>Field visits showed that customers stepped out to observe the readings on the fuel dispensers. Illumination was poor. They had to wait for a Fore-Court Supervisor to usher them to an empty dispenser. A consistent source of dissatisfaction was regarding quantity of fuel and billing, with most bills being manually written, and therefore prone to tampering. Customers also primarily trust either one or two brands, and would seek them out to refuel.</p>
<p><i>Define</i></p>  	<p>Since 'trust' emerged as one of the major factors, it was decided to strongly project the brand as one synonymous with quality and trustworthiness.</p> <ul style="list-style-type: none"> > Automation and instrumentation have been designed keeping in mind the customer. While refuelling, customers need not strain their necks to see the small readouts provided on the dispensers. A Parallel display unit shows the same readings, real time, on large and bright LEDs positioned in front of their vehicles. It displays the unit price of the product to be dispensed, volume and price. > Housed within the same unit is a colour close-circuit television showing images, captured on a digital camera, of the entire filling operation. This facilitates the driver and co-passengers to supervise the fuelling process without disembarking. During the waiting period, the TV shows advertisements - which provide a source of entertainment as well as additional revenue. > After every filling operation, the system print outs a bill. All transactions are documented and archived for future reference. Data includes date, time, the dispensing unit, the salesman's ID, type of fuel, volume dispensed, price paid and mode of payment. > An interesting feature is a Bay status indicator, which displays the availability of pumps in a bay to incoming traffic. This guides customers to empty dispensers, reducing the role of traffic supervisor. > Another feature is display of product prices to passing traffic. The Monolith, on the highway, has wings with product names, and the corresponding prices displayed using LEDs. Any price change can be executed through the automation system. This feature is in line with NRL's future thinking, and will facilitate quick price changes keeping in mind future pricing policies. > Underground storage tanks are equipped with Tank Gauges which are linked to the automation system. Sales figures are tallied daily, and any discrepancies or losses highlighted. When the volume of stored fuel falls below a pre-determined level, the system sends a request to a pre-designated account, transfers funds, thereby enabling the closest depot to immediately send a tanker to the Energy Station. This ensures that a dispenser never runs dry – an important factor in building trust. > The digital tyre inflation gauge, called 'QuickAir', has a touch-sensitive toughened glass fascia. An advanced feature is a databank of tyre pressures, available on a vehicle-make-and-model basis. So customers have the choice to inflate their vehicle tyres as per manufacturers' recommendations. > Instead of just displaying statutory warning signs, an effort has been made to educate all customers. The messages are detailed and strive to communicate about Safety, Quantity and Quality assurance guidelines that need to be followed while refuelling. The messages are back-lit and are continuously shown with the help of scrollers. The scrollers are positioned perpendicular to the pump islands. This allows customers to view the scrolling messages from their vehicles, as they are fuelled up.

	<ul style="list-style-type: none">> The Canopy is the main branding element for any fuel retail outlet, and the shape and colour of the Canopy establishes the presence of NRL Energy Stations at all locations. The Canopy is designed to look dramatic and distinct from any existing canopy. This has been achieved by giving all elements of the canopy a degree of asymmetry and 'visual tension'. The formal language has been made more attractive through the use of brand colours and graphic elements.> The underside of the Canopy is illuminated by uplighters. This highlights the unique curvature, provides uniform illumination, reduces glare from downlighters and makes the canopy a giant reflector that acts as a beacon at night. There are narrow-beam down-spots which illuminate the area just in front of the dispenser, where fuelling activity takes place.> Every Energy Station is designed to operate at three illumination levels - depending on the time and the local traffic pattern – in order to be energy efficient. During peak filling hours in the evening, all luminaires are switched on for maximum illumination. Thereafter, medium, and finally, low illumination levels for the rest of the night. The circuitry is pre-designed and operated through a change-over switch.> There is an Add-on Unit with each dispenser. The unit has a backlit Product display (spreader) on top, Lubricants' display, co-branded products' display, workstation for the delivery salesman, brochure dispenser, and housing for all automation, card readers and printers.
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<p><i>Deliver</i></p>	<p>One prototype Energy Station was set up next to NH 37, near Kaziranga, Golaghat district, Assam. This station has a 17m wide Canopy with 6 HSD (Diesel) and 2 MS (Petrol) dispensers on a 55 x 45m plot. Another prototype was constructed within Guwahati city with a 14m wide Canopy.</p> <p>Thereafter, 48 Energy Stations have been commissioned at various locations across the country. The Energy Station at Jorabat, Meghalaya, has the third highest volume of sales in India, with an average sale of 108 Kilolitres per day.</p>
<p>EVALUATION</p>	<p>NRL Energy Stations are a completely different interpretation of a familiar space and service. Sensitivity to customer needs coupled with innovative design changes in space, form, process and material usage has resulted in a highly differentiated product.</p> <p>The brand has gained stature, especially in the North-East. NRL Energy Stations have featured in international publications as well, like the worldwide Alcan Corporate Identity brochure.</p>
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