



जवाहरलाल नेहरू पत्तन न्यास
JAWAHARLAL NEHRU
PORT TRUST





WE HAVE ALL BECOME
WAYFARERS AND TRAVELLERS
MARCHING ON AND ON
YET, FOR THOSE WHO CAN ADAPT
THEMSELVES TO THIS
CONTINUOUS JOURNEYING,
THERE IS NO REGRET
AND THEY WOULD NOT HAVE IT
OTHERWISE.

~ Jawaharlal Nehru ~



MESSAGE FROM
MINISTER OF ROAD TRANSPORT
HIGHWAYS & SHIPPING
GOVERNMENT OF INDIA

Nitin Gadkari

It gives me great pleasure to know that JN Port is publishing a Coffee Table Book to commemorate its Silver Jubilee Year. JN Port has played a pivotal role in the development of the economy, trade and commerce of not just Maharashtra, but the entire nation. As front-runners in the Indian maritime sector, JN Port is setting the way forward for other terminal operators. In its understanding of the growing needs of the Indian trade, and its endeavours to meet the demand, it has undertaken many developmental initiatives.

I take this opportunity to congratulate all the stake-holders involved, who have been instrumental in making JN Port the premier gateway port of India.

My best wishes to Jawaharlal Nehru Port Trust on crossing this significant milestone and for continued success.

Nitin Gadkari



MESSAGE FROM
SECRETARY,
MINISTRY OF SHIPPING
GOVERNMENT OF INDIA

Dr. Vishwapati Trivedi



It's indeed a glorious day in Jawaharlal Nehru Port's history, when we look back at its journey of 25 Years. It has been the dedication and relentless efforts of Jawaharlal Nehru Port personnel, besides the trust of stakeholders, that JN Port could become India's No. 1 Container Port.

Jawaharlal Nehru Port is the lifeline for many business. Jawaharlal Nehru Port has witnessed a meteoric growth in terms of containerized cargo handling. As the most modernized port in the country, it has embarked on ambitious plans for further development with its 330 metre stand-alone container terminal, the mega Fourth Container Terminal and Port based SEZ, which will further consolidate its position as India's premier gateway port.

In order to mark its Silver Jubilee, Jawaharlal Nehru Port is coming out with this book which gives a glimpse about the Ports's fascinating journey of 25 years. My best wishes to Jawaharlal Nehru Port Trust.

Dr. Vishwapati Trivedi



FOREWORD

By **SHRI N.N. KUMAR,**
CHAIRMAN, JAWAHARLAL NEHRU PORT TRUST





It gives me great pleasure to present “Sailing to Success” on the occasion of the 25th anniversary and Silver Jubilee celebrations of the Jawaharlal Nehru Port Trust. This book is an exercise in chronicling the Port’s eventful, albeit short, history – its journey through its conception, commissioning and the challenges it has faced and surmounted successfully over the last 25 years.

As one of India’s youngest ports, JN Port’s growth story runs parallel to the country’s own – from being India’s first mechanized Port, to the first large-scale public-private partnership in the development of its container terminal, to battling challenges with innovative ideas and an almost entrepreneurial skill.

For JN Port to maintain its pole position as India’s premier port for container traffic has long been a challenge – we wear the title of being an autonomous Port under the aegis of the Central Government as a badge of honour – having proven our ability to maintain high levels of consistency and efficiency, and still able to be financially self-sufficient in our planning and development of new projects, even as we withstand mounting competition from private ports. India’s international trade accounts for over 40 percent of its GDP, and consequently, traffic growth at our ports is integral to the nation-building exercise. As these growth trends are expected to maintain their steady rise, the challenges facing our Port today are manifold: our ability to meet the

increasing demand, improve connectivity, and explore new avenues for fiscal growth.

The Port’s ever-growing cache of awards stands testament to its milestones and its progress has been well recognized by various stakeholders. But we cannot rest on our laurels if we are to soar even higher. With the Union Government’s encouragement for private sector investment in port infrastructure, several capacity expansion projects already under implementation, and a renewed look at proper strategy and planning, JN Port is poised for spectacular growth.

A Silver Jubilee year affords us an opportunity to pause and introspect about the factors that have contributed to JN Port’s present position and to chart its onward course for the decades ahead, with the wisdom gained by looking through the lens of the past. Indeed, isn’t it only when we capture the prism of the present that we are able to create a rainbow for the future? To that end, I am certain this book will serve not only as a reminder of how far we have come in the last 25 years, but will also provide us with the momentum to reach even farther.

Shri N.N. Kumar
Chairman, JNPT

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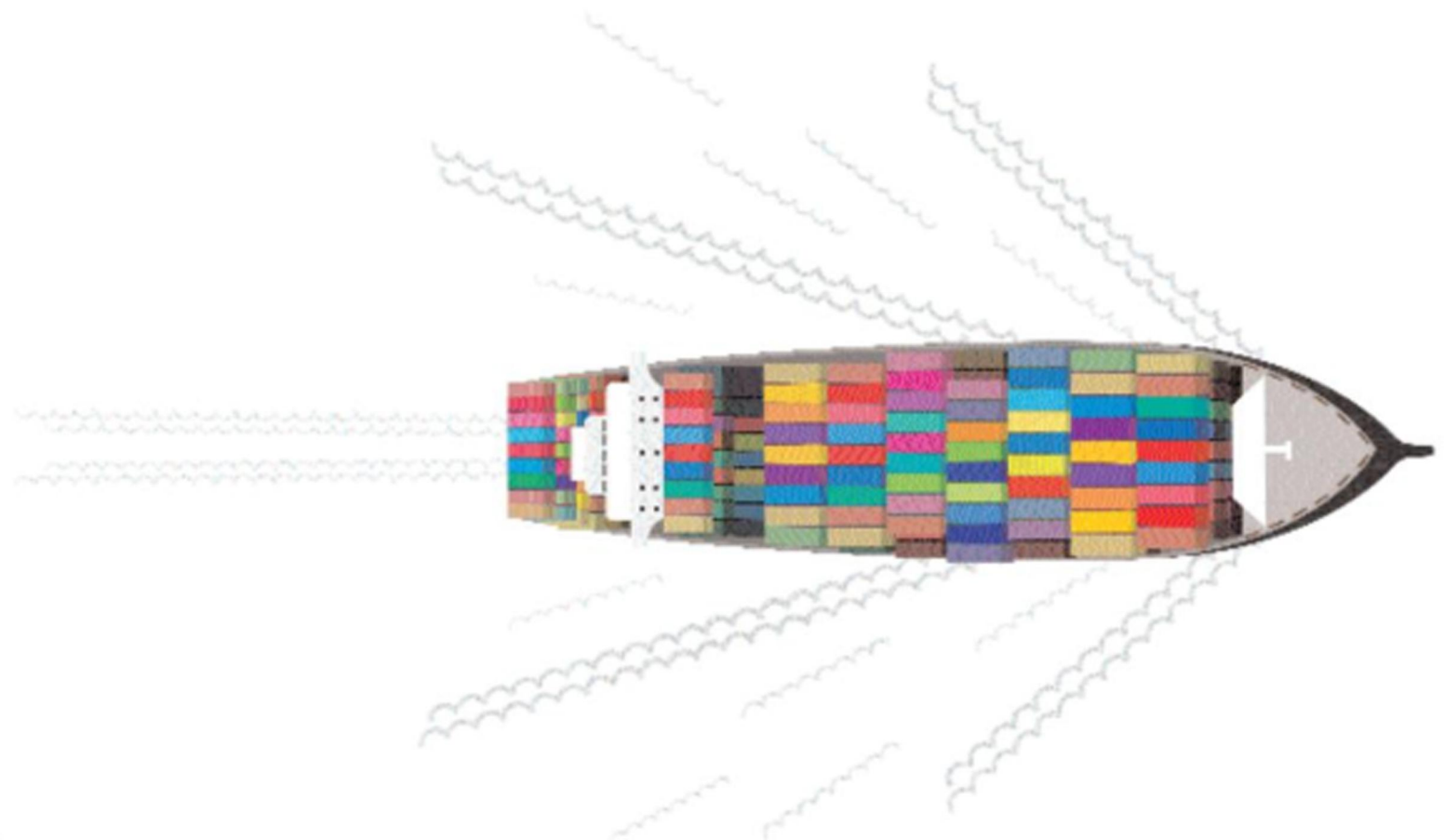
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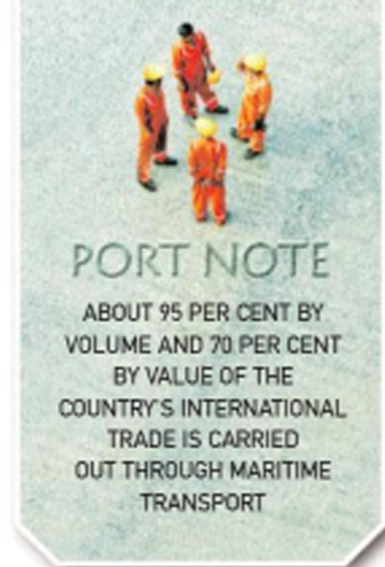
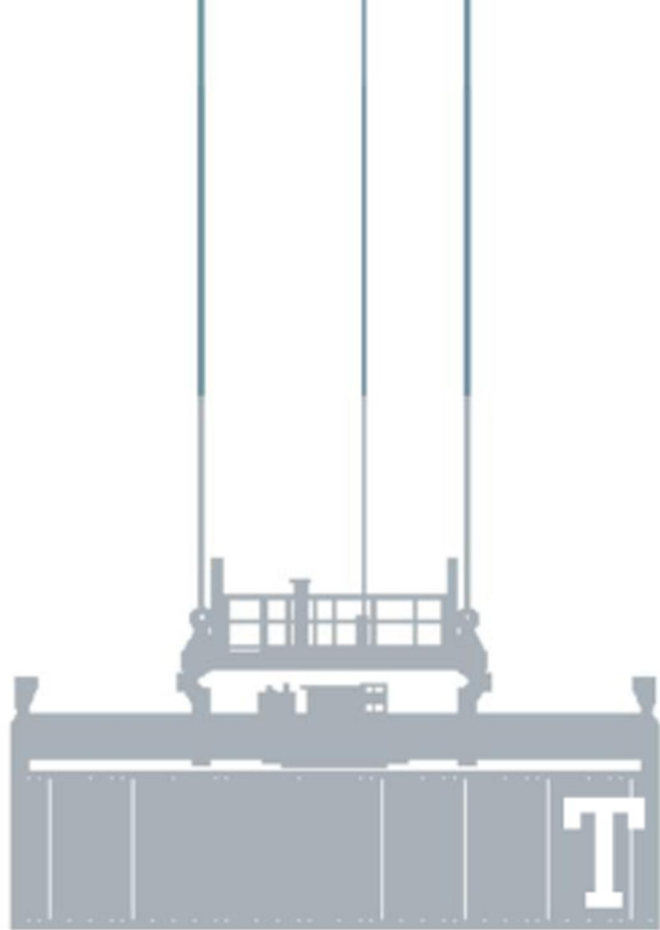
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INTRODUCTION

*“Like the birds of the sea,
men come from the
ocean — the ocean of the soul.”*

— Rumi

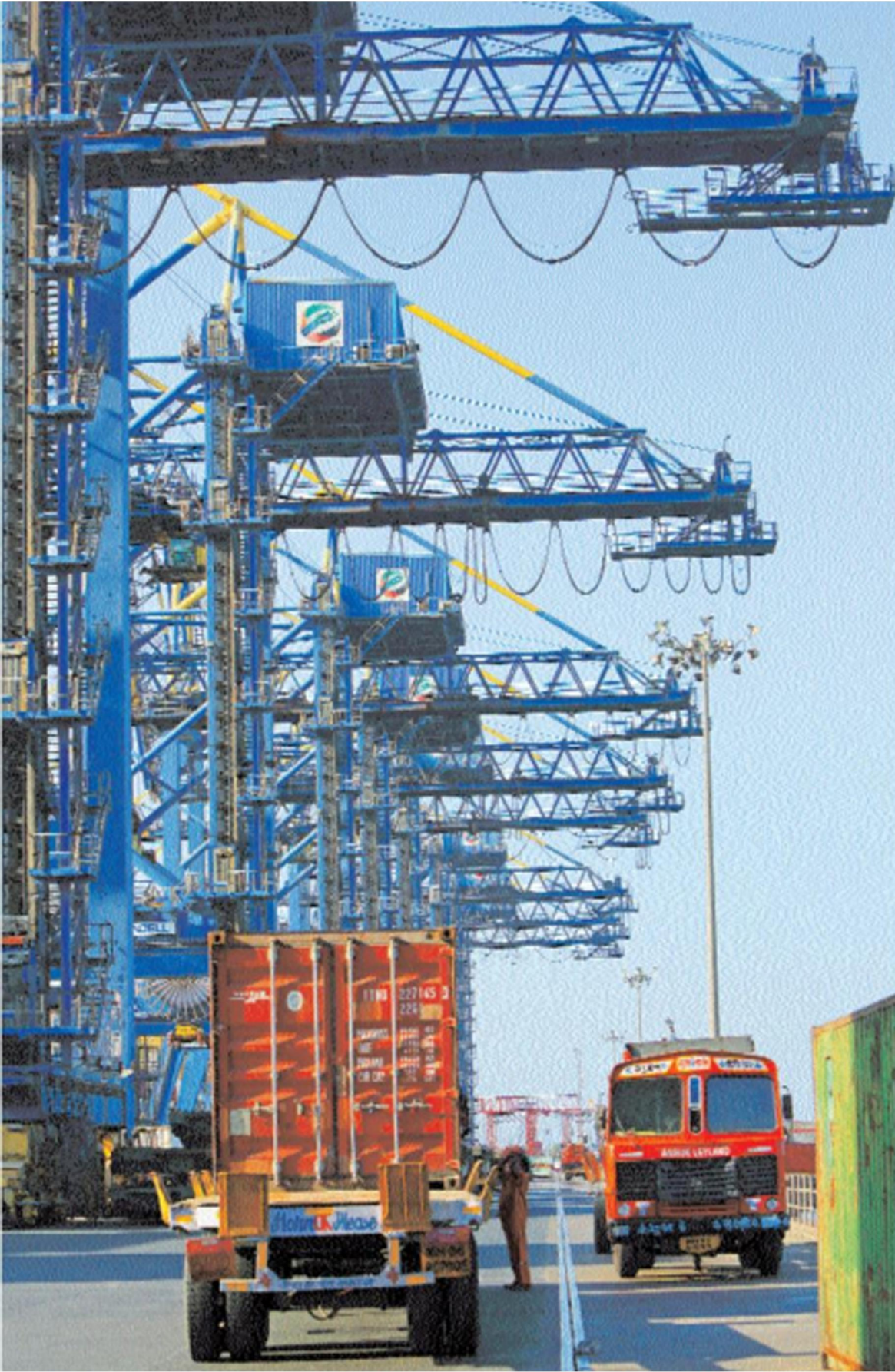


The pace of global integration through the exchange of goods and products, information, knowledge and culture, has helped the last century leapfrog into this one, at a rate not seen since perhaps the Industrial Revolution. For the port sector in India, the 1990s and the 2000s have been at the fulcrum of important developments in the import and export trade, with liberalized legislation opening up the sector to deregulation, international trade and investment, and privatization. The Jawaharlal Nehru Port Trust (JN Port) has played an important role in this process, and since its inception, has often been viewed as a key driver of this climate of growth, setting the standards of efficiency and profitability that have enabled it to become the country's premier container port.

Indeed, the Port's growth has been a catalyst for maritime progress in the country, with many firsts to its credit, chief among them being home to the country's first privatized container terminal - an experiment that proved to be so successful to both the local community and the trade at large, that it changed the way ports in the country operated, by laying down the path for similar public-private partnerships in this and other sectors.

Ports play a vital role in India's economic development, and though it is often a remote entity for most of us, its impact is ubiquitous. Everything - from the cement that builds our homes, to the clothes we wear, to the food we eat - has often traversed thousands of miles of ocean to reach us. Exporting a diverse spectrum of commodities - from nuclear reactors to iron to jewellery - India's export trade is as vibrant as its demographics.





With maritime transport handling almost the entire volume of India's trade, ports and ships have come closer home than ever before.

"The British, a maritime power, turned the cities of Mumbai, Kolkata and Chennai into big commercial centres on the strength of their ports," says D.T. Joseph, former Director-General, Shipping, and former Secretary, Ministry of Shipping. "But later, through the 50s, 60s, and 70s, we felt it was difficult to manage both a big city and a big port, straining costs, infrastructure, transport, and power. So the idea was to move ports out of the big cities, to divert the port traffic, and ensure low pollution levels, etc., away from the city. So that was how the idea of developing a port outside Mumbai was born."

The development of Haldia as a major riverine trade port, some 50 km away from Kolkata, followed by Ennore Port (commissioned in 2001, and now renamed Kamarajar Port), situated 20 km away from Chennai were envisioned primarily to decongest and improve the environmental quality at the bustling Chennai and Kolkata Ports.



THE BRITISH, A MARITIME POWER, TURNED THE CITIES OF MUMBAI, KOLKATA AND CHENNAI INTO BIG COMMERCIAL CENTRES ON THE STRENGTH OF THEIR PORTS.

D.T. Joseph,
FORMER DIRECTOR GENERAL OF SHIPPING AND FORMER SECRETARY,
MINISTRY OF SHIPPING

→ JIN PORT'S TWO BIGGEST ACHIEVEMENTS OVER 25 YEARS HAVE BEEN TO DECONGEST THE CITY OF MUMBAI GIVING IT A HEALTHIER ENVIRONMENT AND TO PROVIDE EMPLOYMENT AND BUSINESS OPPORTUNITIES TO THOUSANDS



▲ A MAERSK VESSEL CARRYING CONTAINER SHIPMENT DWARFS A PILOT LAUNCH AS IT DEPARTS FROM A BERTH AT JN PORT



PORT NOTE

IN 2011-12, THE PORT HANDLED 4.32 MILLION TEUs OF CONTAINERS. A TEU IS AN ABBREVIATION FOR 'TWENTY-FOOT EQUIVALENT UNIT' I.E. ONE STANDARD-SIZE CONTAINER. THIS WAS THE HIGHEST HANDLED SINCE INCEPTION.

"JN Port's two biggest achievements over 25 years have been, first, to decongest the city of Mumbai, giving it a healthier environment. If you're doing over 4 million standard containers a year, you need 9 million trucks to ply the roads. That's 9 million less trucks in Mumbai," says Mark Fernandes, a Port Board Member, who also has been one of its most outspoken critics on crucial policy issues. "Secondly, it has created tremendous employment for the State, opening up business opportunities and thousands of jobs for people, townships and the trade. To a great extent Navi Mumbai has got prominence because of the Port. And it's the Port's responsibility to develop the city surrounding it with progressive, sustainable and environmentally responsible policies."



Conceived originally as primarily a bulk terminal to handle India's food-grain and fertilizer imports, few imagined that JN Port, even as it was rising up on what was then a remote wasteland outside Mumbai, would achieve the volumes of container traffic it does today.

Once described as the 'fashion' by the international community in the sixties, containerization today has become almost synonymous with cargo shipping. It took a focus shift from bulk cargo to containerized cargo in the late nineties for JN Port to emerge the undisputed leader of container traffic in the country. Even though the competition is increasing, JN Port remains the preferred first port of call over private players along the western seaboard coast, particularly Mundra, Pipavav and Dighi ports.

If you're doing over 4 million standard containers a year, you need 9 million trucks to ply the roads. That's 9 million less trucks in Mumbai

Mark Fernandes,
LEADING CUSTOM HOUSE AGENT

← A VESSEL BERTHED AT JNPCT, THE CONTAINER TERMINAL OWNED AND OPERATED BY JN PORT





1 JN PORT HANDLES OVER HALF OF THE COUNTRY'S CONTAINER TRAFFIC VOLUME, RANKING AMONG THE TOP 35 GLOBAL CONTAINER PORTS IN THE WORLD



1 TRACTOR-TRAILERS LINE UP TO OFFLOAD CONTAINERS AT THE RAIL-MOUNTED QUAY CRANES ON THE QUAY AT JN PORT

Today, the Port handles over half of the country's container traffic volume, ranking among the top 35 global container ports. In the financial year 2013-14, the Port handled a total cargo of 62.35 million tonnes. Out of this, containerized cargo makes up the majority (over 55 million tonnes), followed by liquid cargo (6.3 million tonnes), and break bulk and dry bulk making up the rest.

Says D.T. Joseph, "It was mechanized right from the beginning, unlike Mumbai Port Trust that was resting on human shoulders with a massive workforce, and was always in danger of coming to a standstill and causing a national crisis if labour became aggressive, a frequent occurrence in those days. Being entirely computerized, there aren't too many avenues for any major

hiccups at JN Port."

But for any government port, even mechanized ones, maintaining cordial labour relations, while fostering symbiotic relationships with private partners, is a slippery slope at the best of times. "We pride ourselves on being an engineer's port, run by technocrats who understand the industry inside out," says S.K. Kaul, Chief Manager (Administration), JN Port. "One of the key reasons we've managed to keep litigation almost negligible and labour relations cordial is simply because our doors are open 24/7. We've never lost sight of the fact that constant engagement and commitment to society is as important as commercial considerations."



We pride ourselves on being an engineer's port, run by technocrats who understand the industry inside out.

S.K. Kaul,
CHIEF MANAGER (ADMINISTRATION) & SECRETARY,
JN PORT

Still, as they say, the proof of the pudding lies in the eating. Through all the calls for corporatization, accelerated decision-making, deregulation of tariffs and infrastructure expansion, JN Port has remained steadily focused on its core strength: the constant thrust on maximizing throughput with diligent infrastructure development and capacity expansion. In a scenario when every extra minute a ship spends at a port costs owners thousands of dollars, JN Port's differentiation is that it remains a preferred port of call for customers and shipping lines. Says Pradip K. Agrawal, CEO, APM Terminals, Mumbai, "Shipping lines look at turnaround time at any port - how long it takes a vessel to arrive, unload, and leave the port. Turnaround time at JN Port is under 24 hours, and waiting period for vessels arriving at this Port is consistently less than an hour on average, because the windows are fixed. This is made possible even though there are so many uncertainties involved in maritime transport."

↳ ONCE DESCRIBED AS THE 'FASHION' BY THE INTERNATIONAL COMMUNITY IN THE SIXTIES, CONTAINERIZATION TODAY HAS BECOME ALMOST SYNONYMOUS WITH CARGO SHIPPING





VIEW OF SHIP HOLD FROM CRANE TROLLEY



To achieve these targets, synergy among the three container terminals at the JN Port - Jawaharlal Nehru Port Container Terminal (JNPCT), owned and operated by the Port Trust, and two private terminals namely Nhava-Sheva International Container Terminal (NSICT) owned by DP World, and the Gateway Terminals India (GTICT), a joint venture between APM Terminals and CONCOR, is crucial. Apart from this, there is a Liquid Cargo Terminal (managed by BPCL and Indian Oil Corporation), and three shallow water berths for smaller ships, owned and operated by the Port.

The Nhava-Sheva International Container Terminal has special significance for JN Port as representing India's first experiment in privatization after the liberalization of the economy. The public-private partnership between JN PORT and Sydney-based P&O Ports (which later was acquired by Dubai-based DP World) broke new ground as the first public-private partnership in a major sector, with direct foreign investment, and was keenly watched by every sector of commerce and industry. Its unmitigated success after its commissioning in 1999, in port operations, infrastructure development, and most crucially, in overall revenue, resulted in a radical change in the organizational model of other ports in the country. The watershed partnership converted JN Port from a service port into a landlord port, retaining the infrastructure and regulatory functions, leaving private operators to provide port services.

→ TO ACHIEVE ITS TARGETS, SYNERGY AMONG THE THREE CONTAINER TERMINALS AT THE JN PORT, IS CRUCIAL.






It ushered in a plethora of similar partnerships in this and other sectors, leading to jubilation for supporters of the partnership and acceptance among critics. Says AL Bongirwar, former Chairman at JN PORT who oversaw the subsequent second partnership with APM/CONCOR for the GTI Terminal, "Three factors made this PPP model a success: stringent training of the staff (particularly JNPCT staff who now had to match up to higher standards seen at the private terminals), improved efficiency because of better, newer machines that drove up the number of containers moved per hour, and aggressive marketing by private companies to increase awareness, and consequently traffic, at the Port."

The impact on the bottom line was virtually immediate, with the Port able to haul itself out of the red, and repay its loans to the World Bank in full, within just two years of privatization. It was an overwhelming experience that taught India the virtues of professionalism, and the importance of a robust and comprehensive corporate governance structure. JN Port hasn't looked back since. It has grown into the biggest container handling port in India, handling around 44 per cent of the country's containerized cargo, first crossing the historic landmark of 4 million TEUs in container throughput in the year 2007-08.



1. IN 2013-14, THE PORT HANDLED A TOTAL CARGO OF 62.35 MILLION TONNES. OUT OF THIS, CONTAINERIZED CARGO MAKES UP THE MAJORITY (OVER 55 MILLION TONNES)



PORT NOTE

INDIA HAS 12 MAJOR PORTS AND AROUND 185 MINOR PORTS. THE MAJOR PORTS ARE GOVERNED BY THE MAJOR PORT TRUSTS ACT AND THE CENTRAL GOVERNMENT DICTATES POLICY AND REGULATORY FUNCTIONS FOR THEM. MINOR PORTS ARE GUIDED BY STATE GOVERNMENTS.

Out of the three container terminals, JNPCT and GTI have been growing steadily for the past few years. At JNPCT, especially, the traffic has cumulatively increased by more than 25 per cent in the past two years.

It signifies a success that has managed to hold steady despite challenges from every quarter. While a port should ideally function at 60 per cent of its capacity to be cost-effective for the import-export trade and shipping companies alike, it is an acknowledged view that JN Port is straining to meet the excess demand, functioning at almost 130 per cent of her capacity, by some estimates. Nearby ports are profiting from the spillover, even though India currently handles only 10 million TEUs, having remained historically at least 10 years behind international containerization trends due in part to its concentration on raw material export rather than finished goods.





Consider this: the single Shanghai Port handles three times the container traffic of the entire subcontinent. Ditto with Singapore's Port that also does over 30 million TEUs. China's ports together do more than 15 times India's traffic (Hong Kong Port alone handles twice India's entire container volumes).

The lag means that growth in traffic on the subcontinent is largely contingent on capacity and can be exponential. The country's minor ports (over 185 of them) have emerged as an important competitive alternative to the major ports and have become important players in cargo handling in the last decade. From handling a meagre 10 per cent of the country's maritime traffic in 1996-1997, their share has gone up to around 40 per cent, and is only set to grow at a rapid rate over the next few years.

Despite the intense competition in this sector, analysts feel JN Port's ability to maintain its pole position is admirable. But the Port's contribution for the last 25 years goes beyond the numbers. Says Dinesh Lal, former Group Director, AP Moller-Maersk, India, and a long time Trustee of both JN Port and the Mumbai Port, with an unambiguous view of what JN Port has achieved, "They have put up among the best container terminals in the country which can match productivity and efficiency with any port in the world; in their handling of millions of containers JN Port has ensured India's place on the world map in this sector. It has proven India is not an inefficient country."







WHERE IT ALL BEGAN: THE HISTORY OF JN PORT

The Government of India sanctioned the Nhava-Sheva Port Project in 1982 with a view to take care of the future growth of traffic in the Mumbai region as well as to relieve the Port of Mumbai from perpetual overload and congestion. It was envisaged that this new port would accrue substantial economical benefits to the nation, and, in addition, would also trigger the development of a twin city of Mumbai across the creek, invite industries and new job opportunities in its hinterland, decongest Mumbai, and thus improve the quality of life in the region.



INCEPTION: THE SIXTIES

“Much needs to be done urgently and the modernization of the port is of very great importance to the economy and well-being of the country.”

The tone of the opening lines of the report submitted by London-based engineering consultants Bertlin and Partners (India), entrusted with the Herculean task of recommending and executing the modernization and expansion of the Bombay Port Trust docks as part of its Dock Expansion Scheme, is indicative of the perennial pressure ports in and around Mumbai have historically faced to keep up with the accelerated pace of export and import trade and development in the region.



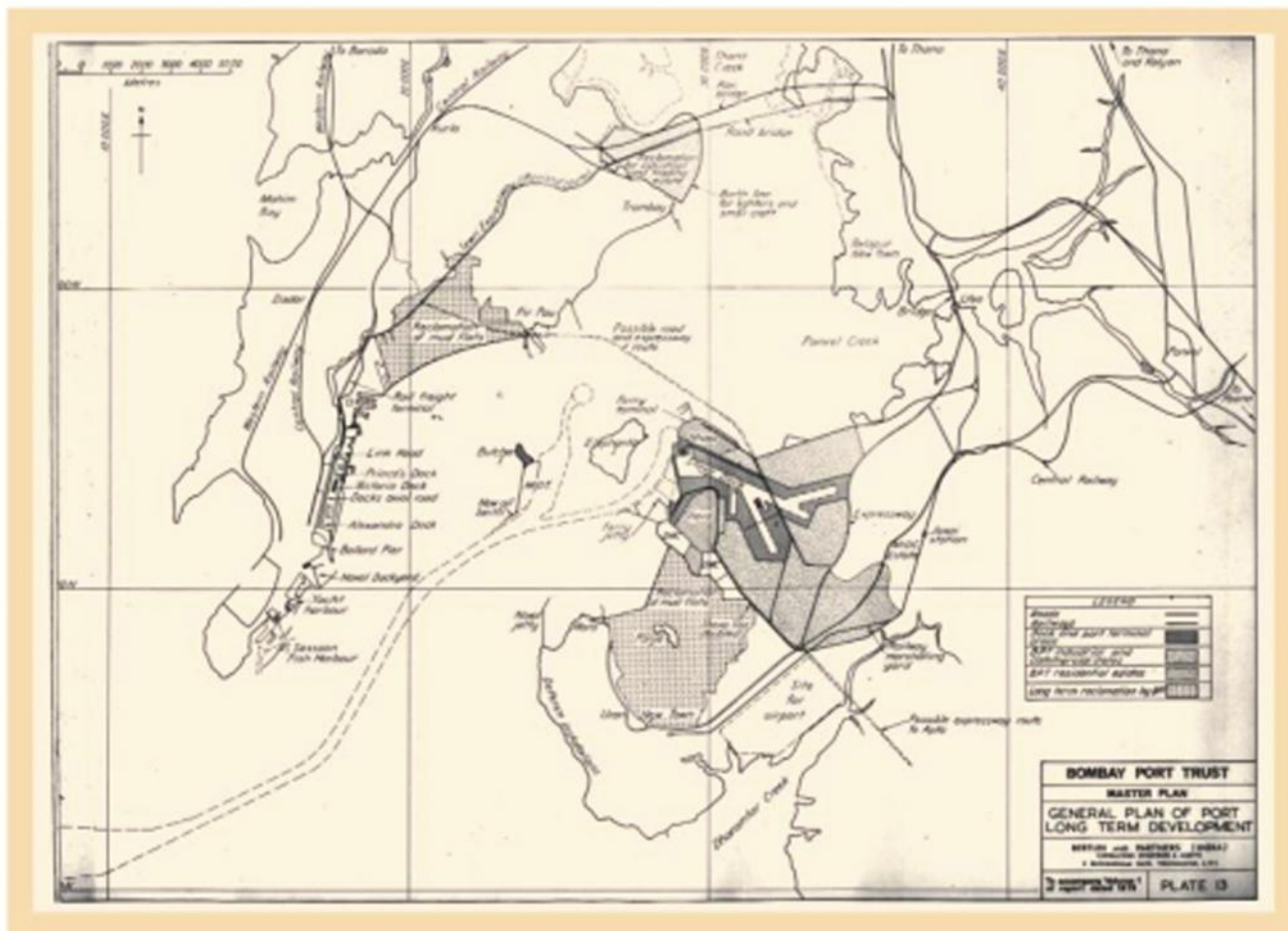
1. FIRST ARTIST'S IMPRESSION OF THE PRELIMINARY PLAN OF SHEVA DOCK AS ENVISIONED IN 1970 BY BERTLIN & PARTNERS, CONSULTING ENGINEERS FOR BOMBAY PORT TRUST (PHOTO SOURCE: BOMBAY PORT TRUST, MASTER PLAN IN FOUR VOLUMES, VOLUME 1, MAIN REPORT, BERTLIN & PARTNERS 1970)

Pegged at a cost of Rs 93 crore in 1967 (equivalent to approximately Rs 2,400 crores at today's prices), it is in this expansion Master Plan that JN Port's genesis is found – this very first concrete envisioning of a new dock, the precursor to what was to become the Jawaharlal Nehru Port Trust. It recommended:

“...construction of a new dock, which we have referred to as Sheva Dock, on the east side of the harbor. This would be provided initially with six berths – five for handling bulk commodities

(Manganese ore, fertilizers and fertilizer raw materials, food grain, oilcake and sugar, cement/clinker and salt) and one for handling containers. The new dock and its access channel and entrance lock would be designed for laden ships up to 80,000 DWT but would include a dry dock and repair facilities designed for ships of 100,000 DWT. The first stage should be completed by 1978.”

(Bombay Port Trust, Master Plan in Four Volumes, Volume 1, Main Report, Bertlin & Partners 1970)



THE PLAN FOR LONG-TERM DEVELOPMENT OF JN PORT IS OUTLINED IN THIS DRAWING BY LONDON-BASED CONSULTING ENGINEERS BERTLIN AND PARTNERS IN 1970

The works for the new Sheva Dock, with associated reclamation, services, dredging, etc., were alone estimated to cost the Trust Rs 85 crores (1967 prices, approximately Rs 2,100 crore in today's prices). It was a cost that would be amply repaid by the relief offered to the Mumbai Port, then already bursting at the seams – over-staffed, over-burdened, and battling an influx of traffic that kept growing at a galloping rate, just like the city beside it.

"In the seventies, the congestion at Mumbai Port had reached almost unmanageable levels," recalls D.T. Joseph "My first posting at Mumbai was as MD of the Konkan Development Corporation in Mumbai, and from my 15th-floor residence in south Mumbai, especially during Diwali, we would often see a long line of ships waiting. Those days, it would take four days to unload a ship, and one would see merchant navy officers sightseeing in the city. Today, they only see the cargo unloaded and loaded, and then the ship sails. Today, time is money. May be it wasn't in those days."

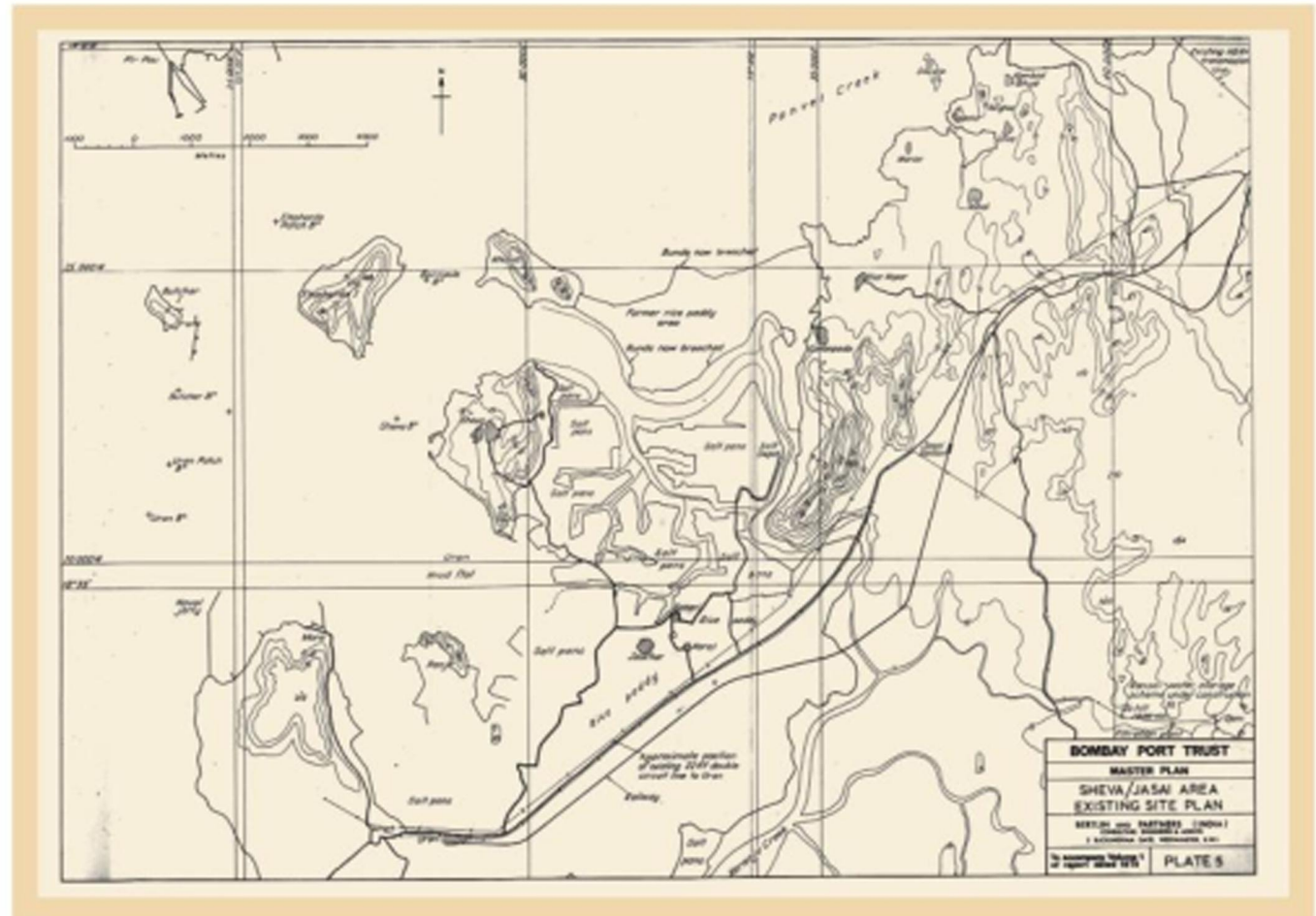


FROM MY 15TH-FLOOR RESIDENCE IN SOUTH MUMBAI, ESPECIALLY DURING DIWALI, WE WOULD OFTEN SEE A LONG LINE OF SHIPS WAITING. THOSE DAYS, IT WOULD TAKE FOUR DAYS TO UNLOAD A SHIP AND ONE WOULD SEE MERCHANT NAVY OFFICERS SIGHTSEEING IN THE CITY.

D.T. Joseph,
FORMER DIRECTOR GENERAL OF SHIPPING AND FORMER SECRETARY,
MINISTRY OF SHIPPING

Plans for the new Port were drawn up in the Master Plan by Bertlin and Partners (India) following a recommendation first made in 1961 by UN expert F. Posthuma that such a master plan be prepared. Posthuma's services were obtained by the Indian Government under the UN Assistance Programme for advice on a number of port expansion schemes.

Sheva Dock, from its earliest avatar until construction, was primarily envisioned as a bulk terminal, to handle large quantities of food-grain and fertilizer imports. India in the sixties was still importing vast volumes of its grain requirements and the new port was recommended and designed keeping this aspect at the front and centre of its utility. The Green Revolution was as yet at a nascent stage, and while the early plans for a new port noted that the excellent food crop from harvest experiments of that time was 'heartening', it was thought that large-scale food-grain self-sufficiency was still several years, if not decades, away. The plan pointed out that "crops are still dependent on rain and monsoons will certainly fail in some years ahead. We think therefore, that it would be prudent to make provision for grain handling at Sheva".



1. BEFORE CONSTRUCTION OF JN PORT BEGAN, SHEVA AND JASAI VILLAGES IN RAIGAD DISTRICT WERE ALMOST ENTIRELY MADE UP OF SALT PANS AND PADDY FIELDS



ENGINEERS INSPECT SHEVA HILL, WHERE THE PORT ADMINISTRATION BUILDING NOW STANDS, IN THE EARLY STAGES OF CONSTRUCTION



FORMER CHAIRPERSON OF JN PORT ANNA R. MALHOTRA CONSULTS WITH PROJECT HEADS IN THE EARLY STAGES OF CONSTRUCTION

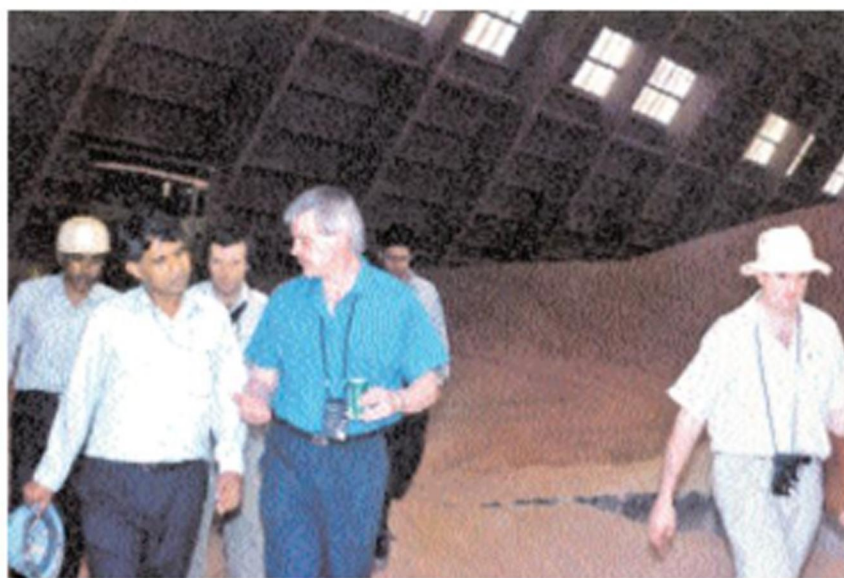


ANNA R. MALHOTRA, IAS
(CHAIRPERSON, JN PORT, 1983-1990)

||| The uniqueness of this Port lies in the fact that a port of this magnitude and complexity has been constructed anew entirely from nothing – starting from land acquisition, reclamation, installation of systems and equipment and an entirely new organization with modern work practices.
(Press statement in 1989)

Even if India reached a position of exporting substantial amounts of food-grain, the early architects believed, a bulk terminal would still be a useful infrastructure. Was the conception of JN Port as a bulk terminal short-sighted? The question begs itself, especially given the successful development of high-yielding varieties of cereal grains by then (most notably the new rice variety IR8, dubbed 'Miracle Rice' because of its super yield), and expansion of irrigation infrastructure.

Not if you consider how skeptical India's traditional rural populace was about technological innovation, says Joseph, who was tasked with increasing awareness about new grain varieties among farmers on his earlier postings in Maharashtra in the early seventies, "To sell hybrid seeds to farmers was an uphill task in those years. Farmers were resistant to irrigation, saying they preferred depending on being rain-fed, because that was what their ancestors did. So I doubt whether anyone would have been able to tell you confidently that there would be no imports."



1. FOREIGN CONSULTANTS WALK THROUGH ONE OF THE BULK TERMINAL SHEDS MEANT FOR STORING FOOD GRAIN (SEEN BEHIND)

DID YOU KNOW?

During the months of October and November, north-easterly winds known as 'Elephantas' blow in the Port region. The waves are called so because of the Elephanta caves located to the east of Mumbai, across from JN Port.

And initially, the Port did see enormous amounts of grain and fertilizer imports. Says Anna Malhotra, former Chairperson of the Port who was closely involved in its construction, "You can't plan for 50 years. You plan for an immediate requirement, but things change. At that time, we badly needed a bulk terminal."

Notably, Bertlin and Partners, even as early as 1967, paid close heed to the rapid technological advancements in shipping, acknowledging the growing trend of containerization:

"A word about containers. "Containerization" is now in fashion. It is obviously here to stay. Very great sums of money have been invested in the containers themselves, their carriers and the port facilities to handle them. This can lead to great economics. But there is an important proviso. In view of the capital cost involved they must be handled in large numbers and extremely efficiently if they are to be economical. Every stage must be planned with the utmost care."

It would be at least another two decades before the 'fashion' of containerization would change the face of shipping in India. To their credit, Bertlin and Partners noted the east side of the harbour, i.e. Nhava-Sheva, was well-positioned in terms of draught (depth) and space for the purpose of building two container berths and allocating space to more in the future, should they be required.

The berths were to be an extension of the Bombay Port so that it could have deeper draught and handle bigger vessels.

"Container vessels require much greater depths," says Mark Fernandes, a former Board Member of Mumbai Port Trust and part of the planning committee for the new port. "Earlier, ships would go to the port. The new trend was the ports would go to meet the ships. So you start building piers on piles and move the jetty outside to deeper draught."



RUMINATION: THE SEVENTIES

Governmental approval of one of the biggest maritime infrastructure projects India had seen in almost a century hit the expected procedural delays. It took the entire Seventies for the Nhava-Sheva Port (as it was called by then) plans, to be ruminated upon and for Sheva to be finalized as the ideal location for the new port. Soon after the Bertlin Plan, a Working Group on Ports set up in the Ministry of Shipping and Transport recommended the construction of the Nhava-Sheva Port in their report submitted in 1973.

The Planning Commission agreed to an amount of ₹ 3 crore for the Nhava-Sheva Port for 1975-76. But before it could take off, three additional Working Groups that were set up to deliberate on projections of coal, food-grain, sugar, oil-cakes, fertilizer and container traffic and environmental implications of the proposed Port, found that because of oil finds at off-shore rigs at Bombay High, they had to re-assess their projections. Some 2.6 million tonnes of coal traffic had been projected for the Nhava-Sheva Port but now that was not expected to materialize.



THE SITE WHERE JN PORT STANDS TODAY BEFORE CONSTRUCTION BEGAN, IN 1965

“The congestion at Bombay Port Trust was becoming unmanageable. Makeshift container yards could barely handle the amounts of cargo. There was an urgent need for a new Port.”

C.R. Nambiar,

CEO, SEAHORSE SHIPPING AGENCIES

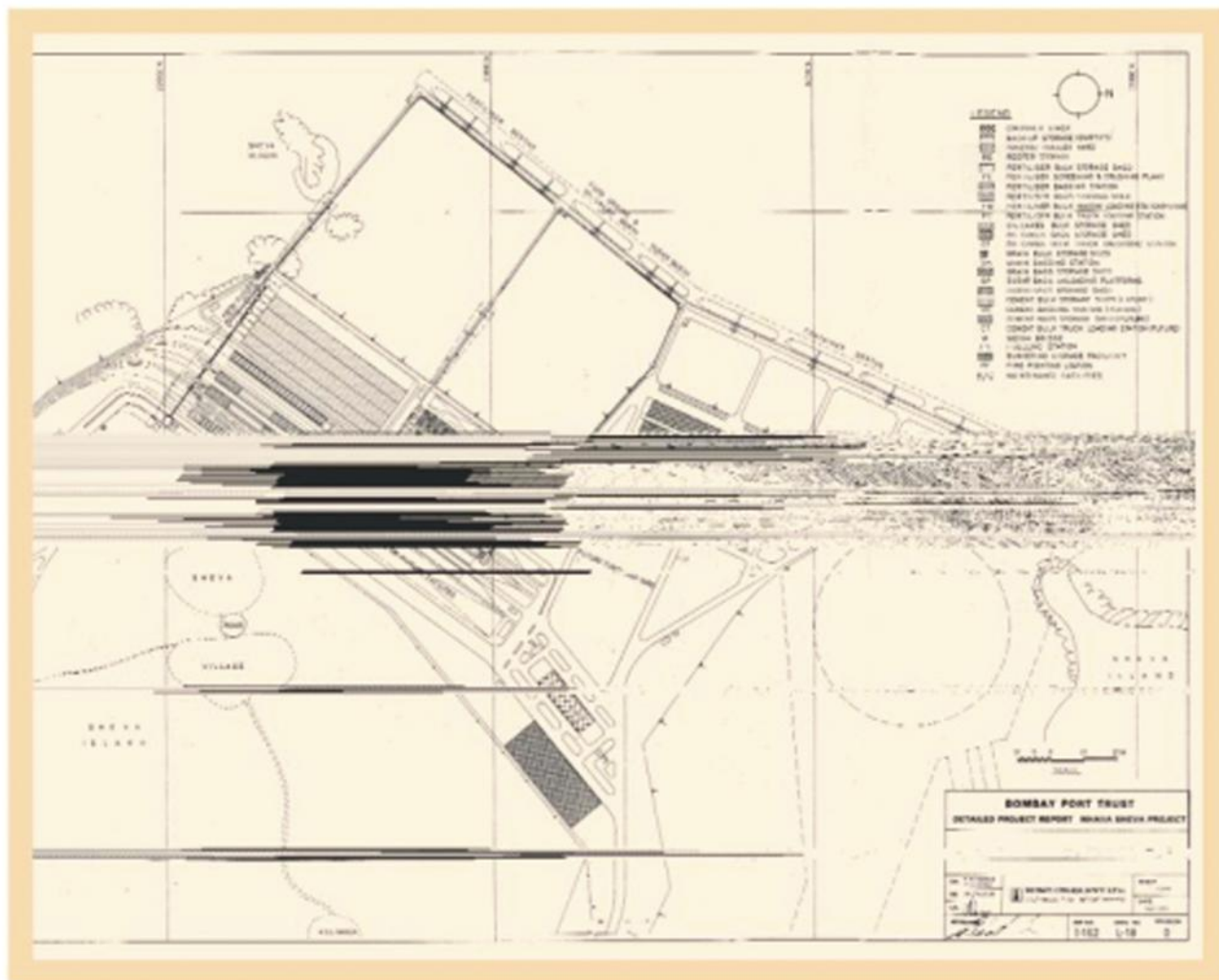
By 1978, the Shipping Ministry renewed its efforts at getting the new Port going. A new Working Group was set up, with the Planning Commission Secretary as its Chairman, and the Shipping Ministry Secretary as one of its members. This time, the group aimed to assess the costs and benefits of the project to the country's economy as a whole. New traffic projections, the problems of congestion at Bombay Port and the recommendations for diversion of cargo to other ports were also studied. Development of other ports like Mormugao, Ratnagiri and Kandla as alternatives to Bombay Port, instead of building a new port at Nhava-Sheva, were considered, but were deemed unsuitable either due to lack of depth or distance from Mumbai or exorbitant dredging cost. Eventually, the Working Group concluded that a port at Nhava-Sheva was justified on 'techno-economic considerations' and the Planning Commission agreed to a provision of ₹ 60 lakh during 1979-80 for the preparation of the detailed project report and soil investigation for the Nhava-Sheva Port Project.



1. CONSTRUCTION OF THE BULK TERMINAL IS UNDERWAY IN 1988. VISIBLE ARE THREE LARGE SHEDS FOR STORAGE OF FERTILIZERS, ORE, AND FOOD GRAIN, IN THE EARLY STAGES OF CONSTRUCTION

The twin islands of Nhava-Sheva had been eyed for a long time as an excellent location for a new port, situated along the eastern side of the Bombay Harbour opposite the Elephanta Island with good natural depth of about 9m to 12m. The island of Bombay would act as a natural breakwater for the waves and the high ground of Elephanta Island would shield the site from wind.

On one of the first visits that the Bombay Port Trust Board members undertook to Nhava-Sheva to consider the new location, it was found that Nhava had far more habitation and less depth than Sheva. So while the name Nhava-Sheva stuck, the Trust decided to abandon the idea of constructing anything at Nhava at the planning stage itself.



1. ARCHITECTURAL DRAWING DEPICTING OVERALL LAYOUT OF PORT FACILITIES, WHERE THE BULK TERMINAL STOOD ADJACENT TO THE CONTAINER TERMINAL.

IN 1971, THE NEW NHAVA-SHEVA PORT WAS PROJECTED TO HANDLE AROUND 6 MN TONNES OF CONTAINERIZED CARGO BY 2000-01. BUT BY 2000-01, THE PORT WAS HANDLING ALMOST THREE TIMES THAT AMOUNT – AROUND 17 MILLION TONNES. A TESTAMENT TO THE TRADE'S EXPONENTIAL GROWTH



PORT NOTE

This time, Howe (India) Pvt. Ltd. (HIPL), a subsidiary of Canada based Howe International Ltd. were appointed as the consulting engineers for the project and were tasked with presenting the crucial Detailed Project Report (DPR), at the behest of the Bombay Port Trust. The late seventies provided a better vantage point for the study of emerging shipping trends than the previous decade had done, and HIPL's DPR elucidated a crucial focus shift in its traffic forecast for the new port. It predicted that the new port would handle the majority of the container traffic to this region, with the existing Bombay Port functioning at saturation level since the mid-sixties.

By this time, even though Mumbai Port was doing just about 30 per cent of the national traffic at the time, the average berth occupancy at its different docks was over 90 per cent, resulting in extraordinarily high ship wait times, that were also very sensitive to small changes or disruptions. Worse, saturation was leading to over-burdening of rail and road links and massive losses in revenue for all concerned, mainly of course, shipping lines.





1 A CO-ORDINATION MEETING OF CONSULTANTS FROM HOWE (INDIA) PVT LTD WHO WERE APPOINTED AS CONSULTING ENGINEERS FOR THE CONSTRUCTION OF JN PORT



1 PILING MACHINERY INSTALLED FOR JETTY CONSTRUCTION

“The number of ship days lost in the past two years alone can be considered to be equivalent to demurrage cost of about 83 crore rupees. This loss will only mount several fold when the traffic in 1987-88 is expected to be about 13 million tonnes compared to the present 8 million tonnes.”

(Nhava-Sheva Port, Detailed Project Report, Howe (India) Pvt. Ltd., Volume I, Main Report, November 1981)

The report stressed the immediate need for new berthing facilities to be developed at Sheva to handle much larger ships of bulk cargo (carrying material like fertilisers, raw materials, sugar, food-grains and oil-cakes) and the major quantum of containerized cargo. Once the new Port was commissioned, Bombay Port would handle largely breakbulk cargo and a limited quantum of containerized cargo.

Early Models Considered

Two models for the new port were considered: the main model called the Offshore Scheme, and an alternative model of a Tidal or Wet Dock.

OFFSHORE SCHEME: MAIN MODEL

The Offshore Scheme was where all the facilities were restricted to the Sheva side of the creek (that runs in between Nhava and Sheva), at least in the initial stages. According to this plan, there were to be four bulk cargo berths (25M wide and 1050M in length). Berths were linked to terminal area by two approaches.



1. A VIEW OF THE BULK TERMINAL FROM THE ELEPHANTA CAVES. TRENDS IN SHIP SIZES FOR COMMODITIES LIKE FOOD-GRAINS, FERTILIZERS, SUGAR, OIL-CAKES, AND CONTAINERS WERE ALSO CONSIDERED WHILE PLANNING THE NEW PORT.

For container handling, there were also four berths 40M wide and 1,050M in total length. They were connected to the terminal area by five approaches. Another option was that the container berths were alongside type with backup area adjacent to the berths on reclaimed ground in front of the Nhava Island. The four container berths would have four container cranes to handle traffic up to 1987-88. There were allocations made for additional cranes and berthage to be provided inside the creek to cater to the traffic after 1997-98.

Trends in ship sizes for commodities like food-grains, fertilizers, sugar, oil-cakes, and containers were also considered while planning the new port. The bulk terminal, according to the Offshore Model, could simultaneously accommodate one 70,000DWT ship and one 40,000DWT ship for fertilizers, one 60,000DWT vessel for grain and one 30,000DWT ship for other cargo. Containerized cargo at the time noted strong preference for ships of 1,000-2,000TEU capacity "with a likely consolidation at around 13,000TEU capacity ships," so capacity was planned accordingly.

TIDAL OR WET DOCK: ALTERNATIVE MODELS

Several alternative models for the port were considered, chief among them being a Tidal Dock or a Wet Dock that took advantage of the Nhava-Sheva creek. In the Tidal Dock Scheme (so called because ships can enter here only during a high tide window, to get greater depth), all facilities for bulk cargo, except fertilizers and containers, were provided inside the tidal dock with a restricted entrance of 82M width formed within Nhava-Sheva creek.



1. CONTINUOUS UNLOADERS INSTALLED AT THE BULK TERMINAL FOR BULK CARGO HANDLING. THE BULK TERMINAL WAS LATER DEMOLISHED TO MAKE WAY FOR A NEW CONTAINER TERMINAL.

The fertilizer berths of 55M were located outside to take advantage of the deep draught. The bulk cargo berth inside the dock was 600M long and the container berths were in two stretches of 920M and 300M lengths.

The Wet Dock was similar to the Tidal Dock except that this had a 345m x 50m lock entrance. This plan was the least appealing because the expensive lock gates would restrict the size of ships that could enter the enclosed basin. In addition, once operations become too many, the port would be forced to leave the gate open for two to three hours during high tide, defeating the purpose of the lock gate (which is to restrict siltation inside the basin).

Additionally, due to Nhava Island's unsuitability due to its habitation and depth, project planners did not foresee large-scale

port activities on Nhava Island and the idea of constructing more berths in the creek between Nhava-Sheva was considered a dim possibility.

DECISION

The Offshore Scheme – as JN Port stands now, with all facilities constructed on the Sheva side – was finally decided upon with some modifications (such as three instead of four container berths, etc.) over the Tidal Dock scheme because it required the shortest construction time, the lowest capital outlay, the least maintenance dredging, had a higher economic rate of return, could accommodate larger container vessels without any additional dredging, and had the least environmental impact.



CONSTRUCTION: THE EIGHTIES

Approval from the Central Government for construction of the new Port came through in 1982. The Nhava-Sheva Port Trust was constituted on May 28 of the same year. The complex process of acquiring land began, with the Government allocating the Port a total of 2,584 hectares, most of it private land (1,185 hectares), and the rest of it constituting salt-pans (1,021 hectares) and government land (378 hectares).

The first contract was awarded in July 1985 to a consortium of Japanese firms, led by Mitsui & Co., for main civil works. Actual construction finally began in April 1986, and was divided into 20 major contracts, most of them, like the Japanese consortium, executed by foreign contractors in response to global tendering, as it was a World Bank-aided project. However, because much of the work was sub-contracted to Indian contractors, the work force was almost entirely Indian.

Work was completed within a record 3.5 years, ahead of schedule. Responsible for the lightning pace was the dynamic Anna R. Malhotra, Chairperson of the Port, India's first women IAS officer.





↑ FORMER CHAIRPERSON OF JN PORT ANNA R. MALHOTRA STEPS IN THE SHADE FOR SOME RESPIRE WHILE OVERSEEING CONSTRUCTION WORK WITH PORT OFFICERS. DEPUTY CHAIRMAN P.B. RAJAGOPALAN IS SEEN SECOND FROM LEFT.



↑ (ABOVE AND BELOW LEFT) CIVIL ENGINEERS FROM JAPANESE CONSORTIUM MATSUI & CO. WITH JN PORT'S ANNA R. MALHOTRA AND BRIGADIER P.S. SETHI, PROJECT MANAGER (CIVIL)



By then a battle-hardened bureaucrat, Malhotra had served in difficult conditions both in rural postings and at the Centre, and was perceived as often having enjoyed the confidence of former Prime Minister Indira Gandhi in administrative affairs.

Malhotra oversaw, and often micro-managed, the construction, ensuring obstacles (of which there were a great many) did not hinder its steady trot. Access to the Sheva site was half the battle. Navi Mumbai then was in the early stages of development by planning authority CIDCO, the nearest phone booth was many towns over in Vashi, and it took about 3 hours by road to get to the site. In fact, just two days before the inauguration and commissioning of the Port, Malhotra herself commissioned the new MTNL Nhava-Sheva Telephone Exchange of 500 new lines at the Port itself – a process expedited to coincide with the commissioning.



PORT NOTE

BUILDING A PORT: WHAT'S INVOLVED

- ▶ **LAND AND LAND DEVELOPMENT** (ACQUISITION, FILLING AND LEVELING)
- ▶ **DREDGING** (SOFT CLAY, UNDERWATER ROCK BLASTING)
- ▶ **BERTHS AND APPROACHES** (BULK BERTHS AND APPROACHES, CONTAINER BERTHS AND APPROACHES)
- ▶ **STORAGE BUILDINGS** (BULK STORAGE, CFS STORAGE, DRIVE HOUSES AND GALLERIES, PAVED AREA IN STORAGE AREAS)
- ▶ **CONVEYOR GALLERIES** (WITH PAVED AREA AND FENCING)
- ▶ **FUNCTIONAL BUILDINGS AND FACILITIES** (ADMINISTRATION/OPERATIONAL/ MAINTENANCE/ELECTRICAL/CFS OFFICE BUILDINGS)
- ▶ **FLOATING CRAFT AND NAVIGATIONAL AIDS** (TUGS, PILOT LAUNCHES, MOORING LAUNCHES, SURVEY LAUNCH, NAVIGATIONAL AIDS)
- ▶ **PLANT AND EQUIPMENT** (PORT FACILITIES FOR CONTAINERS, PLANT AND EQUIPMENTS AT CFS, BULK EQUIPMENT LIKE UNLOADERS, CONVEYOR GALLERIES ETC, FIRE FIGHTING, WATER SUPPLY, RAILWAY LINKS AT YARDS, HOSPITAL, VEHICLES, COMMUNICATION, LIGHTING)
- ▶ **RESIDENTIAL COLONY** (INFRASTRUCTURE DEVELOPMENT, BUILDINGS)
- ▶ **ENVIRONMENTAL CONTROL AND PROTECTION** (BILGE BARGE, WASTE DISPOSAL)



SOON AFTER THE NHAVA-SHEVA PORT TRUST WAS CONSTITUTED IN 1982, THE COMPLEX WORK OF ACQUIRING LAND BEGAN, WITH THE GOVERNMENT ALLOCATING THE PORT A TOTAL OF 2,584 HECTARES

The speedy development of Sheva never lost its green focus. Recalls an official of JM Baxi, one of Mumbai's oldest and largest shipping agencies involved in the supply of the first construction equipment for the Port, "There was amazing forestation at this Port, and that was due to Mrs. Malhotra's vision. She designed the administration building in a style not seen at other ports in the country, which were usually typical government buildings. This one followed the concept of domes and arches, so that it remains cool during summer." Contractors had to plant a minimum number of trees as part of their contractual obligation. In all, 2 lakh saplings were planted and the survival ratio was almost 90 per cent.

The Port's equally devoted Deputy Chairman S. Prabhakaran's press statement ahead of the inauguration reveals the degree of involvement that those working closely with construction had invested into it: "The journey towards completion of Nhava-Sheva Port has been mostly an ecstasy, sometimes an agony, particularly when one structures a new organization bringing in its wake employment of people."

The original projected cost as estimated by HIPL in their 1981 project report was ₹ 580 crore, but a revised project cost by the time the Port was commissioned amounted to over ₹ 980 crores. Nearly 80 per cent of the increase was due to foreign exchange variations and statutory levies.

'It is wrong to think you only have to be an engineer to build a port'

➔ I belonged to the Tamil Nadu cadre of IAS, but had asked for a post in Mumbai as my husband was transferred to Mumbai as RBI Governor (from Washington DC where he was on deputation at the International Monetary Fund on the express wish of then Prime Minister Rajiv Gandhi after Indira Gandhi's death.

My first step when I took charge of the new Port was to meet the then Chief Minister of Maharashtra Sharad Pawar to solicit his support. A meeting with the Chief Minister was crucial as the Port was a Central Government project. I told Mr. Pawar, "This may be a Central project, but 90 per cent of the benefit of this Port would go to Maharashtra state. So I want your help to complete this project on time, to get the roads built, have electricity up and running, etc." That appealed to him immediately. He sent for the Chief Secretary and instructed him to hold a co-ordination meeting every fortnight with me and other departments of the State. He would also attend these meetings sometimes - he was a total supporter of the project, and used to visit the site often, though he often complained about the poor quality of the food I served him, and accused me of being stingy with my guests!

As a bureaucrat, I had no connection with ports, but it is wrong to think you only have to be an engineer to build a port. My contribution was management and co-ordination. Every morning, I would have a co-ordination meeting irrespective of whether there was work or not, to check the progress of the multiple foreign contractors who were on the job, and remove obstacles that cropped up from time to time, with the help of the



ANNA MALHOTRA
FORMER CHAIRPERSON OF JN PORT (1985-1990)

**Led construction of JN Port,
inauguration and commissioning**

finance manager.

Most of the problems required creative solutions. For example, huge amounts of sand were required for building miles of roads within the Port. When the Government stopped quarrying of the surrounding hillsides, the Japanese contractors told me work had come to a standstill. I was mulling over this for a couple of days, when the Dutch contractors tasked with the dredging work invited me for lunch to their mother ship that was anchored a few miles into the sea. Just as I was getting onto a small launch to get to the ship, I noticed a few vessels piled high with sand. I was informed this was from dredging the channel and was being taken far into sea to be dumped. It immediately clicked - I called the Japanese and told them this is the best sand they could ever get and to sit with the Dutch

and come to an arrangement about buying it from them.

It just needed common sense. And that's what an administrator can contribute. This was to be a completely computerized port. I insisted on having it a green one as well, which was laughed at. I was asked by the World Bank, that was funding the project, "Why do you want trees at the Port?" I said, "Where is it said that a Port should not be green?" So I appointed a retired divisional forest officer, and I told him to identify areas not required for Port operations, like the miles of roads, and plant trees on either side that would grow in what was a highly saline atmosphere. I received a lot of help from the Surface Transport Minister, the late Mr. Rajesh Pilot (ports at that time came under the Surface Transport Ministry) who saw to it no obstacle stood in my way to complete the project on schedule.

I was controlling such huge contracts that people warned me I would get into trouble by vested interests. My biggest achievement was that I was able to complete this project on time, and there was not even one anonymous petition alleging corruption at any level. I used to be offered all kinds of things from the contractors, like black pearls from the Japanese! But I was very firm with the officers as well about being clean.

I was given a lot of independence of decision making as well, so that helped put matters on the fast track. Part of my confidence came from the support I received from my husband, who told me if I ever came across a difficult minister, to not think twice about putting in my resignation. We had no family or children to take care of. Today, it is not so easy for a bureaucrat to stand up to a minister in pushing a project or making a decision. You just have to do your job and it cannot be standardized. For me, it was to do it honestly and efficiently.





ONCE THE PROCESS OF LAND ACQUISITION WAS COMPLETED, ACTUAL CONSTRUCTION OF THE PORT BEGAN IN APRIL 1966, AND WAS DIVIDED INTO 20 MAJOR CONTRACTS

Most of the contracts had been awarded on an ICB (International Competitive Bidding) basis. Therefore, there were considerable payments in foreign exchange and almost day-to-day variations in exchange rates pushed up the cost of the project considerably. The funding of the project was met by way of loans taken through Government of India from World Bank, Saudi Fund for Development, Dutch Bilateral Assistance and also loans from Mumbai Port Trust and Kandla Port Trust. The balance funding was met from the budgetary support from the Government of India.

With project costs escalating and doubling, and the final cost of constructing the Port stood at ₹ 1,109 crore (equivalent to almost ₹ 5,000 crore at today's prices).

THE BULK TERMINAL

The facilities at the bulk terminal were extensive. Two berths for handling fertiliser and raw materials were to accommodate ships upto 80,000 tonnes with mechanical handling systems that were fully automated and operable from the bulk terminal control centre.

The terminal was equipped with two continuous and two grab unloaders that could handle a volume of 650 cubic metres of food-grain or fertilizer an hour, advertised as the fastest rate seen in India. Two dock conveyor belts (16 km in length) running on elevated galleries parallel to each other could convey material at the rate of 1,300 cu.m. per hour. The material would be conveyed by belt conveyors, weighed and stored in covered storages. Four covered sheds with a total storage capacity of about 337,000 tonnes for fertilisers and raw materials were also built.



PORT NOTE

GRAB UNLOADERS AND CONTINUOUS UNLOADERS

CONTINUOUS UNLOADERS ARE USED FOR HOMOGENOUS, DUST-FREE UNLOADING OF FREE-FLOWING MATERIALS LIKE FOOD-GRAINS, FERTILIZERS, ETC. SWISS COMPANY BUHLER BROTHERS PROVIDED THE TWO CONTINUOUS UNLOADERS AT JN PORT. GRAB UNLOADERS ARE MORE VERSATILE, USED FOR UNLOADING OF MATERIALS WITH DIFFERENT ATTRIBUTES, LIKE COAL OR OTHER BULK CARGO.

(TO BE PUBLISHED IN THE GAZETTE OF INDIA EXTRAORDINARY
PART II, SECTION 3(1) DATES FROM 31 MAY, 1982.)

GOVERNMENT OF INDIA
MINISTRY OF SHIPPING AND TRANSPORT
(PORTS WING)

NEW DELHI, the 31 May, 1982.

NOTIFICATION

G.O. No. 437(F) In exercise of the powers conferred by Sub-section (1) of Section 4 of the Major Port Trusts Act, 1963 (39 of 1963), the Central Government hereby constitutes, in respect of the major port of Nhava Sheva, the first Board of Trustees with effect from the 31st May, 1982, and appoints the following persons as the Chairman, Deputy Chairman and Trustees respectively of the said Board of Trustees, namely :-

- | | | | |
|-----------------|--|----|-----------------|
| | 1. Shri S.P. Inbrose,
Additional Secretary (Ports),
Ministry of Shipping and Transport | .. | Chairman |
| | 2. Shri P.B. R-jagopalan,
Project Director,
Nhava Sheva Port. | .. | Deputy Chairman |
| Mr. Gopinath | 3. Development Advisor,
Ministry of Shipping and Transport | .. | Trustee |
| S.S. Shankar | 4. Ministerial Advisor,
Ministry of Shipping and Transport | .. | Trustee |
| K.K. Gupta | 5. Chairman,
Bombay Port Trust. | .. | Trustee |
| S.R. Maheshwari | 6. Chief Freight Traffic
Superintendent,
Central Railway, Bombay
(representing the Indian Railways). | .. | Trustee |
| K. Shivaraman | 7. Collector of Customs, Bombay
(representing the Customs
Department). | .. | Trustee |
| L.C. Gupta | 8. Secretary, Urban Development
Department,
Government of Maharashtra.
(representing the Government
of Maharashtra). | .. | Trustee |

(² P.No. F/PTB-13/82,7

61/-

(Yashwant Sinha)
Joint Secretary to the Government of
India.

General Manager,
Government of India Press,
Mayapuri, NEW DELHI.

Material from any three sheds could be reclaimed and fed into reclaim conveyors that would then convey the material to the bagging plant (of 30,000 tonnes of storage capacity) for high-speed automatic bagging and stitching of the bags. Onward dispatch was organized by rail or road in bags, or to the truck-loading bins for dispatch in bulk by roads.

THE CONTAINER TERMINAL

Similarly, the container terminal too was entirely mechanized, and was made up of three berths of 680 metres quay length, equipped with 3 rail-mounted quay cranes, 8 rubber-tyred gantry cranes, and one rail-mounted gantry crane. It was India's first entirely automated port, and the Port's first administration report lists salient features that may be commonplace now, but were a matter of great pride then:

"The journey towards completion of Nhava-Sheva Port has been mostly an ecstasy, sometimes an agony."

S. Prabhakaran,
DEPUTY CHAIRMAN

1. A NOTIFICATION ISSUED BY THE MINISTRY OF SHIPPING, GOVERNMENT OF INDIA, TO CONSTITUTE THE FIRST BOARD OF TRUSTEES OF THE MAJOR PORT OF NHAVA SHEVA, WITH EFFECT FROM MAY 31, 1982

"All cranes are provided with on-board computers. A central computer system is functional to control and supervise the container terminal operation. Induction loop system for data and voice communication between control room and equipment has been provided. Container Yard has 3,816 ground slots for stacking containers and 156 ground slots for reefer containers. Yard gantry cranes can stack containers four high. Containers from inland container depots (ICD) are handled with one rail mounted gantry crane at rail yard."

In 3.5 years, well within the estimated time envisaged to build it, construction of the Nhava-Sheva Port was complete. Dubbed as India's Super Port, it could handle up to third generation container vessels of 3,000TEUs and PANAMAX size bulk vessels. Like everything else, this was an underestimation of the times to come. In the next 20 years, the Port would come under immense pressure to expand its capabilities to handle container vessels twice that size.

Infrastructural and administrative support for the Port were solicited from all quarters of the State and Central machinery. The entire railway system connected to the port and within it, was contracted out to the Indian Railways. The Customs were prevailed upon to establish an independent Custom House in the port area called the Nhava-Sheva Custom House (later named as Jawaharlal Nehru Custom House), for the requirements of users. Minimum space for essential users of the Port was provided with one building, Port Users' Building, that was still under construction at the time of commissioning. The Navi Mumbai Planning Authority CIDCO, was constructing a separate node for office and residential accommodation called 'Dronagiri Node'. Contingency arrangements till construction of these buildings was complete were provided by reserving one of CIDCO's buildings at Belapur to meet the office needs of the users. Similarly, 1250 flats in the upcoming Panvel area were reserved for residential needs of the port users.



L. STONE-CRUSHING PLANT ATOP SHEVA HILL, DURING CONSTRUCTION IN 1995. DEFENCE BUILDINGS ARE SEEN IN THE BACKDROP



PHOTO COURTESY: TIMES ANDREWS

INAUGURATION

MAY 26, 1989

The papers were packed with advertisements, feature stories and special supplements heralding the inauguration of the new Nhava-Sheva Port by the former Prime Minister, Rajiv Gandhi. A write-up in the daily Indian Shipping and Transport News was effusive:

"Unbelievable. That was the verdict of a group of pressmen from Delhi and Bombay on the Nhava-Sheva Port across the Bombay Harbour after they had a look around what has been described by even technologists of the highest grade as "the port of the future." "It's like giving tomorrow's news today" was the terse comment of a newspaperman.."



Bharat Petroleum welcomes

The Hon'ble Prime Minister
SHRI RAJIV GANDHI

and congratulates
NHAVA-SHEVA PORT TRUST
on the occasion of the inauguration
of **NHAVA-SHEVA PORT**
...amongst the best in the world!

Bharat Petroleum's participation
in this prestigious Port Project

One of the Most Modern Bunkering
Installations in India conforming
to International Standards



Bharat Petroleum
Marine Services

Bharat Petroleum - IN INDIA'S LIFE AND PART OF IT

1. AN ADVERTISEMENT CARRIED IN THE ECONOMIC TIMES ON 26TH MAY 1989 BY BHARAT PETROLEUM CORPORATION LTD. CONGRATULATING NHAVA-SHEVA PORT TRUST

2. THE CHIEF MINISTER OF MAHARASHTRA, MR. SHARAD PUNAR, PRIME MINISTER MR. RAJIV GANDHI, FIRST CHAIRPERSON OF JN PORT, MS ANNA MALHOTRA, NETHERLAND MINISTER FOR TRANSPORT AND PUBLIC WORKS, MS. NELLE SMITH CRUZE AND MINISTER FOR SURFACE TRANSPORT MR. RAJESH PILOT INSPECTING THE NHAVA - SHEVA FACILITIES ON 26TH MAY 1989, WHEN THE PORT WAS FORMALLY INAUGURATED BY PRIME MINISTER.



1. FORMER CHAIRPERSON OF JN PORT ANNA R. MALHOTRA WALKING DOWN THE FIRST SHIP TO CALL AT JN PORT THE M.V. KALIDASA, A SHIPPING CORPORATION OF INDIA VESSEL.

A bulk cargo vessel was arranged to be discharging di-ammonia phosphate (DAP) imported by Rashtriya Chemicals and Fertilizers Ltd. (RCF) via two grab unloaders at the Bulk Terminal berth in preparation of Mr. Gandhi's inauguration. Though the operational systems were entirely computerized, initially they were manually handled to gain experience as per the advice given by the management consultants, ECT. Malhotra at the time issued a press statement, noting: *"The uniqueness of this port lies in the fact that a port of this magnitude and complexity has been constructed anew entirely from nothing – starting from land acquisition, reclamation, installation of systems and equipment and an entirely new organization with modern work practices."*

A wave of high technology sweeps across Nhava Sheva Port



L&T moves in with the tide to make a major contribution

L&T supplied two computer controlled continuous unloaders in association with Bunker World India in the field. Capacity: 400 cubic metres an hour each an unloading rate that has never been achieved in India before.

ECC - Construction Group of L&T was responsible for civil work (bulk fabrication and erection of the conveying system. ECC also erected and commissioned all the bulk handling equipment.



LARSEN & TOUBRO LIMITED
 17th Floor, Naraina Complex, Naraina
 P.O. Box 1773, New Delhi, 110 028



Nhava port named after Nehru

By L. Srinivasan
 Mumbai, Oct 19

The Union Minister for Shipping, Mr. V. V. G. Reddy, today announced that the new port at Nhava Sheva in Maharashtra would be named after Jawahar Lal Nehru.

Mr. Reddy said that the port would be named after the first Prime Minister of India, Mr. Jawahar Lal Nehru, in recognition of his contribution to the development of the country.

The port, which is being developed by the Shipping Corporation of India (SCI), is expected to be completed by the end of the year.



Nhava port opened

By L. Srinivasan
 Mumbai, Oct 19

The Union Minister for Shipping, Mr. V. V. G. Reddy, today announced that the new port at Nhava Sheva in Maharashtra would be opened for traffic.

Mr. Reddy said that the port, which is being developed by the Shipping Corporation of India (SCI), had been inaugurated by the Prime Minister, Mr. Rajiv Gandhi, on October 17.

The port, which is expected to be completed by the end of the year, will have a capacity of 1.5 million tonnes per annum.

Mr. Reddy said that the port would be named after Jawahar Lal Nehru, in recognition of his contribution to the development of the country.

PH COURTESY: TIMES ARCHIVES



PM names Nhava Sheva port after Panditji

By L. Srinivasan
 Mumbai, Oct 19

The Prime Minister today named the new port at Nhava Sheva in Maharashtra after Panditji, the late Prime Minister Jawahar Lal Nehru.

Mr. Rajiv Gandhi said that the port, which is being developed by the Shipping Corporation of India (SCI), would be named after Panditji in recognition of his contribution to the development of the country.

The port, which is expected to be completed by the end of the year, will have a capacity of 1.5 million tonnes per annum.

Mr. Gandhi said that the port would be named after Panditji, in recognition of his contribution to the development of the country.

PH COURTESY: TIMES ARCHIVES

INDIAN Shipping & Transport News

A COMPLETE DAILY ON SHIPPING, PORTS, RAILWAYS, ROADWAYS AND AVIATION

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NHAVA SHEVA: A PORT 'PAR EXCELLENCE' P.M. to commission today

The Prime Minister today inaugurated the new port at Nhava Sheva, a project of 'par excellence' in the history of Indian shipping. The port, which is the largest and most modern in the country, is a landmark in the development of Indian shipping. It is a port of 'par excellence' in every sense of the word. It is a port that is built to last, a port that is built to serve, a port that is built to be a part of the future of Indian shipping. The port is a testament to the vision and leadership of the Prime Minister, who has always been a strong supporter of Indian shipping. The port is a symbol of the progress and growth of the country, and it is a source of pride for all Indians.



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Rates for Panamax tonnage continue to slip

The market for Panamax tonnage continues to show a downward trend, with rates slipping further. This is due to a combination of factors, including a steady flow of new tonnage entering the market and a relatively weak demand for shipping services. The situation is expected to continue for some time, with rates likely to remain low and volatile.

London Freight Market

The London Freight Market is showing signs of recovery, with rates for various commodities beginning to rise. This is a positive development for the shipping industry, as it indicates a growing demand for shipping services. However, the market remains somewhat uncertain, with rates still subject to fluctuations.

DAILY TIDE TABLE

	TIDE	HEIGHT
MAY 26th	07.04	0.98
08.37	1.04	
10.00	0.98	
11.30	1.04	

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BOMBAY STEAMER AGENTS' ASSOCIATION

INDIAN SHIPPING PORT COMMUNITATIVE SUPPLEMENT

ON THE INAUGURATION OF THE NEW PORT BY PRIME MINISTER SHRI RAJIV GANDHI ON 26.5.89

This special supplement commemorates the inauguration of the new port at Nhava Sheva by Prime Minister Shri Rajiv Gandhi on May 26, 1989. It features a grid of portraits and messages from various dignitaries and officials involved in the project.

SPECIAL SUPPLEMENTS BROUGHT OUT IN THE PRINT MEDIA ON THE OCCASION OF JN PORT'S INAUGURATION





PORT NOTE

JN PORT COST OF CONSTRUCTION

ORIGINAL ESTIMATED COST: ₹ 580 CRORE

COST ON COMPLETION: ₹ 1,109 CRORE

Former Surface Transport Minister, and a tenacious supporter of the project Rajesh Pilot, observed, "The high-tech port at Nhava-Sheva symbolizes the application of the state-of-the-art technology in the ports and harbours sector in India. As the eleventh Major Port it will add not only to the capacity of our ports to handle containers and bulk cargo in a speedy and efficacious manner, but it will show to the world outside that the Indian ports are capable of absorbing modern technology and operating cargo handling equipment ... I am sure their performance will be second to none vis-à-vis any comparable port of the world."

"The high-tech port at Nhava-Sheva symbolizes the application of the state-of-the-art technology in the ports and harbours sector in India."

Rajesh Pilot,
FORMER SURFACE TRANSPORT MINISTER



1. FORMER SURFACE TRANSPORT MINISTER RAJESH PILOT WITH FORMER PORT CHAIRPERSON ANNA R. MALHOTRA AT THE INAUGURATION OF THE PORT ADMINISTRATION BUILDING IN 1997. (BELOW) BREAKING A COCONUT TO INAUGURATE THE NEW CRANES





THE FIRST YEARS: THE NINETIES

It was a challenging first few years with existing infrastructure at the Port facing teething troubles and several infrastructure works as yet on their way to completion. Malhotra solicited the support of port users, in unambiguous terms, in a press statement, "We are new. We have set high targets for ourselves. We expect the users to interact with us in a positive way. We would do the same because we realize that these facilities have been put up for them."

But, as the initial euphoria over the modernized port began to wear away, the reality of the inadequacy of the back-end support systems began to descend upon port staff, users and customers. Low clientele, partly because of a reluctance of the trade to move operations away from Mumbai Port, poor road connectivity and lack of office space or residential housing were challenges some early customers took in their stride.



Breakdown of equipment was also a problem, with the fire staff attending 92 fire calls in the first year. A major fire broke out in the sulphur shed in January 1991, whilst sulphur was being discharged from vessel "MV Dorainne" berthed at the Bulk Terminal.

First CFS owned by JNPT was given to Central Warehousing Corporation (CWC), a Government of India undertaking for operation and management on lease basis. Customs too had to operate out of makeshift service barracks till construction of the port users buildings (PUB) was complete. "As with any new port, our office was there on the JN Port premises six months before commissioning," recalls an official of JM Baxi, one of India's oldest shipping line agents. "We had taken on rent two huts in the nearby Jasai village, and used to work out of there."

Like JM Baxi, shipping companies too rented or shared rudimentary office space at the Jasai or Sonari villages and ran their business out of there. Belgium Shipping Company CMB was one of the first shipping lines to call at the Port, starting services soon after its inauguration in 1989.

"We too had a one-room office in the barracks," recalls Dinesh Lal, former Managing Director of CMB. The CMB Plantin was one of the first container vessels to arrive at the port, Lal recalls, bringing in a meager seven containers. "Anna Malhotra worked hard in getting it going. Whatever was made, was made very well – like the administration building. The front-end facilities were all created, but there were no back-end facilities. There was not even a tea or coffee stall. And it was very difficult for people to get there."



SEVERAL INFRASTRUCTURE WORKS WERE STILL BEING COMPLETED IN THE FIRST FEW YEARS.



JN PORT WAS INDIA'S FIRST ENTIRELY AUTOMATED PORT, AND CRANES WERE FITTED WITH ON-BOARD COMPUTERS FOR THE FIRST TIME.



PORT NOTE

FROM HANDLING A FEW THOUSAND TONNES OF TOTAL CARGO IN ITS FIRST YEAR OF FUNCTIONING, THE PORT HAS GROWN TO HANDLING ALMOST 64.5 MILLION TONNES OF TOTAL CARGO BY 2012-13, ESTABLISHING ITSELF AS THE PREMIER CONTAINER PORT IN THE COUNTRY IN THE FACE OF IMMENSE COMPETITION FROM THE CREATION OF PRIVATE PORTS LIKE MUNDRA PORT AND HAZIRA PORT IN GUJARAT.

Yet those, like Lal, who realized the Port's potential ploughed on, actively campaigning for the rest of the trade to move there. The conceptualization of the Port as being mostly mechanized and therefore, with minimum labour, led to curious problems. With no labour hired for the purpose, ship agents themselves sometimes would have to go into the vessel hold and sweep out the remnants of the import material, like food-grain, from the hatches after unloading was complete.

Despite its troubles, trade handled from the Port showed promise of its potential from the second year of functioning itself, alongside increasing development in Port infrastructure. Container traffic at JN Port showed some growth from the first year itself. If the Port handled a sparse 33,880TEUs of container traffic in the first year (1989-90), volumes jumped 60 per cent to 54,643TEUs in the following fiscal, albeit with a marginal increase in berth occupancy. Bulk traffic was far more successful, growing at 360 per cent from the first year to the next.



1. BRAND-NEW MARUTI CARS LINED UP AWAITING EXPORT. IN ADDITION TO THESE, DATSUN TELCO BUSES AND BAJAJ AUTO'S RICKSHAWS WERE ALSO AMONG THE VEHICLES EXPORTED



1. CARS BEING ROLLED INTO THE PCC (PURE CAR CARRIER) FOR EXPORT. IN THE SECOND YEAR OF FUNCTIONING, 5,368 VEHICLES WERE EXPORTED



1. FORMER MINISTER OF SURFACE TRANSPORT NITISH KUMAR WITH FORMER JN PORT CHAIRMAN M.P. PINTO (SECOND FROM RIGHT) AND DEPUTY CHAIRMAN KISHOR G. APTE (EXTREME LEFT)



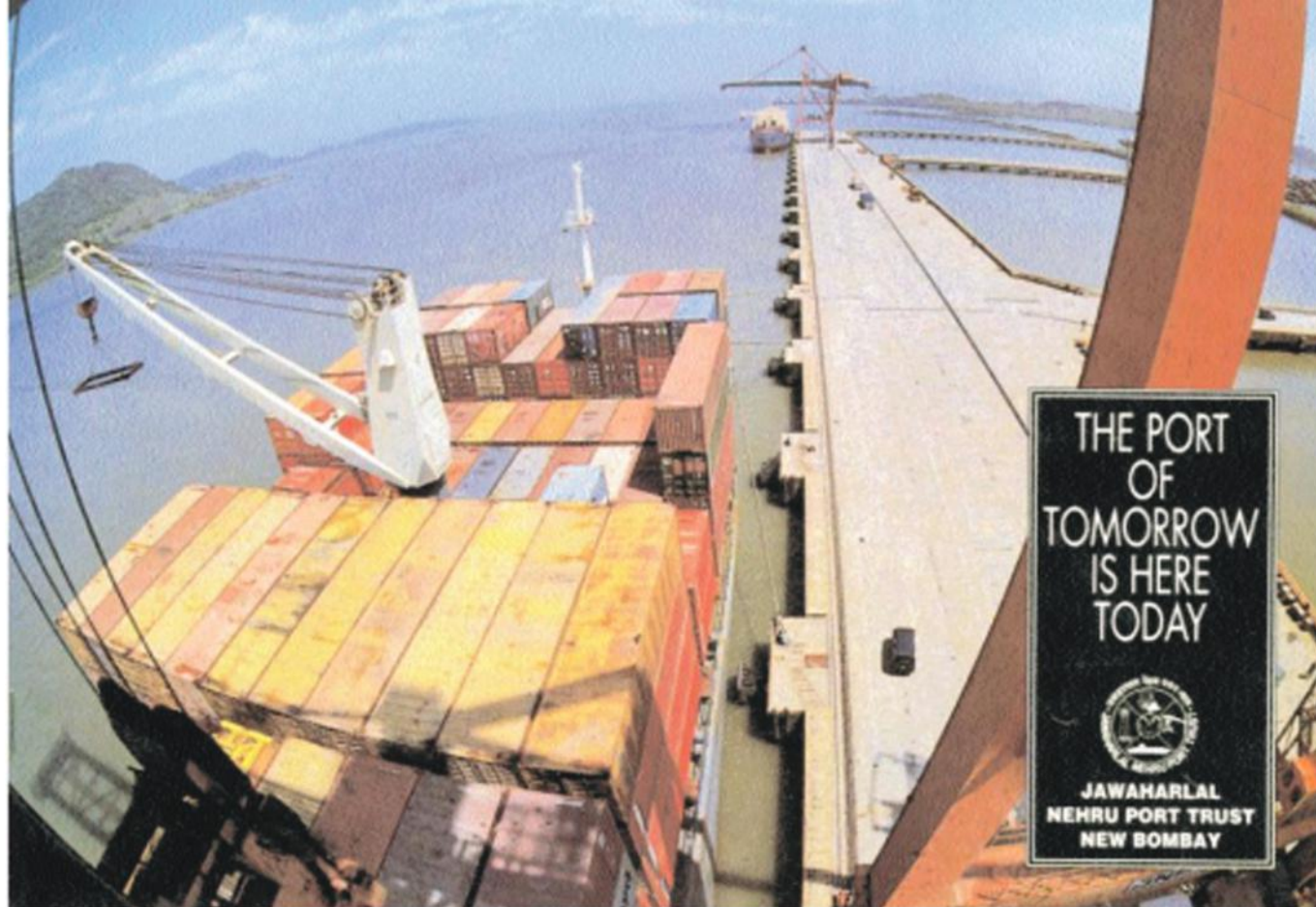
1. SHIPPING CORPORATION OF INDIA VESSEL LAL BAHADUR SHASTRI LOADING CONTAINERS. THE FIRST YEAR SAW ONLY 2 SHIPPING LINES CALLING AT THE PORT. THE NEXT YEAR, THE PORT RECEIVED 12 SHIPPING LINES

Shipping lines were slower to line up, but beckoned by the facilities, line up they did, slowly and surely. The first year saw only 2 shipping lines calling at the Port; the next year, the Port received 12 shipping lines. If 99 ships called at the Port in the first year, the next year, it received 170 ships. Diversification of activities also provided a fillip, with the Port handling exports of vehicles. Maruti cars, Tata's TELCO buses and Bajaj Auto's rickshaws were among the vehicles exported. In total, in the second year of functioning, 5,348 vehicles were exported.



K NALINAKSHAN, IAS
(DY. CHAIRMAN AND CHAIRMAN, JNPT,
1990-1995)

||| We had multiple teething problems in the first years – machines needed repairs or had to be replaced, ships were not coming in. We needed to put infrastructure acquisition on the fast track and for this, the support of the Ministry was crucial. We brought in new cranes, maintenance of machinery was given top priority, as was the proper selection of staff. The result was efficiency increased, infrastructure improved and more vessels called at the Port. The Port reversed its losses and turned into a profit-making port. You have to plan for the future, so you are able to absorb future traffic. And most importantly, make employees feel like they belong.



TO BATTLE THE RELUCTANCE OF SHIPPING LINES TO MOVE OPERATIONS FROM MUMBAI PORT TO JN PORT, A MARKETING CELL THAT PUBLISHED BROCHURES LIKE THE ONE ABOVE, WAS SET UP TO UNDERTAKE AN AGGRESSIVE DRIVE TO ATTRACT CUSTOMERS TO THE PORT

Importantly, to counter the negative publicity the Port battled in its first year, a marketing cell was set up to undertake an aggressive marketing drive to address the misconceptions about the Port in the minds of Port users and the media and to convey to them the distinct advantages offered by the Port. A regular dialogue was started with Port users themselves through daily and monthly meetings and their problems were attended to on priority.

“Shipping lines were reluctant to come here. We had machinery problems, long ship waiting times and just about 5-6 crane moves per hour,” says K. Nalinakshan, former Chairman, who faced the arduous task of pushing the Port from a loss-

making enterprise into a profitable unit. “The way we did it was to flood the Port with equipment and spend our resources on maintaining the equipment we had. Ships shouldn’t have to be waiting for the Port – the Port should be waiting for the ships.”

Spurred on by the dire prospect of the new Port being written off as a failed investment, Nalinakshan pushed full steam ahead. He ordered new cranes, conducted structural audit of old cranes and started repair and maintenance on the old cranes, had weekly meetings with Port users and shipping lines to promote transparency, speedy decisions and on-the-spot problem-solving, incentivized staff with schemes, improved living conditions at the township, and organized cultural programmes.



||| During my time, the level of Port performance was not as high as our capacity. I introduced the concept of container shipping lines getting dedicated container yards for operations so they were able to bring their containers to the Port ahead of the arrival of the ship and improve ship turnaround time. About 10 acres of Port land was hard-surfaced by the Border Roads Organization for container yards. But it was the decision to privatize terminals that I supported, turned the performance of the Port around.

These initiatives coupled with improved performance helped the Port drive up traffic, with the number of containers being moved per hour jumping from 5 moves per hour to almost 12 moves per hour. By then, the township and port users building came up, private operators opened up other CFSS, truckers were provided more facilities and CIDCO's development around the region started to take shape.



Between 1994-1998, the tide had turned. After the early years of struggle, once the pending construction for the basic back-end infrastructure was complete, traffic began to pour in, especially container traffic. "Just like Brabourne Stadium (CCI) was the first stadium in the country built specifically for cricket, JN Port was the first port in the country primarily dedicated to container handling. At some point, the trade recognized the value this Port had and began to move," says Mark Fernandes, Former Trustee of the Port. Indeed, container traffic grew, though not at the expected pace, from less than a million tonnes in the first two years, to 4-5 mn tonnes a year by 1997.

Still, with the Port unable to pay back the loans it had taken from the World Bank, its financial condition was precarious. Internationally, containerization reached current scales as early as the mid-80s. But in India, throughout the nineties, the largest ships were still 3,000TEU vessels. It would take another 10 years, after the turn of the century, for containerization to gain momentum around the subcontinent. The growth in traffic was slow and steady, but it was still the Mumbai Port that was handling the bulk of it.

→ AFTER THE EARLY YEARS OF STRUGGLE, ONCE THE BASIC BACK-END INFRASTRUCTURE WAS COMPLETED, TRAFFIC BEGAN TO POUR IN, ESPECIALLY CONTAINER TRAFFIC





1. A VIEW OF THE BULK TERMINAL FROM THE ELEPHANTA CAVES



||| In my tenure, we started having to compete with the private terminals and adopted various measures to incentivize staff, with the ultimate goal of improving efficiency. We managed to cross the crucial one million TEU mark in container handling in 2000.

Today, speed and efficiency here is not the problem, nor is the land-sea interface. The Port needs to introduce better connectivity and parking, to reduce congestion in the transport of goods.

In a push to move the reluctant trade towards JN Port, the Government put a cap on the amount of container handling at the burgeoning Mumbai Port, issuing a directive that it should not handle more than 1.5 lakh containers, about one-fifth less than its usual traffic. "Till as late as 1997, we were operating out of Bombay Port Trust," says C.R. Nambiar, CEO, Seahorse Shipping Agencies. "But Bombay Port Trust was not a container port and its throughput of 6.7 lakh TEUs at the time was too huge a volume for a non-container port to handle." The Mumbai Port also faced new restrictions on bringing in any new equipment or improving on the existing machinery.

With fresh investment curtailed by the Ministry, customers began to move to JN Port gradually. The results was immediately visible, and container volumes went up. Conversely, the Bulk Terminal, the Port's veritable *raison d'être*, saw little of this galloping growth. If it reached handling one million tonnes of bulk cargo in its second year of functioning, it would see bulk cargo traffic dwindling almost as rapidly as container traffic was growing over the next few years, handling just 2.8 million tonnes by 1997.





WITH ITS TROUBLES BEHIND IT, BY 1999, THE PORT LOOKED POISED TO RACE TOWARDS THE LANDMARK ONE MILLION TEU MARK



At the Port, ships, pilots, cranes and different departments all are interdependent on each other. We had to ensure they were all functioning at optimum synergy and efficiency to attract more shipping lines. Bigger vessels add to productivity and performance, because then more cranes can be used at the same time on one vessel. That was what we were trying to do – through aggressive training, incentives, and capacity, we were ensuring the staff and systems were always ready for bigger vessels.

The whopping 37 per cent growth between 1996 and 1997 was cause for celebration. By 1999, the Port had handled 8.89 lakh TEUs and looked poised to race towards the landmark one million TEU mark by the year 2000. Plans for capacity expansion and privatization were on the anvil by this time, all necessary steps if the Port was to pay back its heavy debts.

The germ of the idea of privatizing a container terminal had taken root soon after the economic liberalization. Former Dy. Chairman Dr. Jose Paul was unequivocal on the subject when asked for his opinion by then the Surface Transport Minister M. Rajasekara Murthy. "I told the Minister without any hesitation I would recommend the second terminal to come up in the private sector," recalls Paul.



1 THE GERM OF THE IDEA OF PRIVATISING A CONTAINER TERMINAL HAD TAKEN ROOT SOON AFTER THE ECONOMIC REFORMS OF 1991-92

Paul continues, "I had visited terminals in several countries and most of the well-developed container terminals of the world had come up with private investment. Moreover, in the Indian context, when education and healthcare were competing for claims made on government support, in order to ensure faster development of port infrastructure, the private sector would have to be invited."

Strategically, Paul added, an element of competition would be introduced between the public and private sector, just as

seen in the airline industry, resulting in a win-win situation for both.

NSICT: INDIA'S FIRST PRIVATIZED TERMINAL

In 1991-92, India embarked on an ambitious economic reform programme, that started to dismantle the licensing system, leading to a booming external trade sector with both exports and imports growing at an average annual rate exceeding 20 per cent.





1. AFTER PRIVATISATION OF ITS CONTAINER TERMINAL, JN PORT WAS TRANSFORMED FROM A 'SERVICE PORT' INTO A 'LANDLORD PORT', WHEREBY THE PORT AUTHORITY WAS ONLY RESPONSIBLE FOR REGULATORY FUNCTIONS



|| Having worked in various bureaucratic capacities in Maharashtra, I have observed several rehabilitation schemes in the State. JN Port's rehabilitation process is one of the smoothest I have seen, unlike what is happening at places like Tarapur and Jaitapur. Part of this process was to generate massive local employment – that is the biggest benefit any project can have. That makes this one of the best examples of local recruitment in Maharashtra.

The new reforms exposed the country's inward-looking, centrally-planned economy into a market-driven system based on export-led growth. With Indian ports largely characterized by hierarchical management structures, excessive labour and capacity utilization, the Government of India embarked on an elaborate port privatization programme aimed at greater cost-effectiveness and higher productivity that could best be met by the participation of the private sector. Indian ports, that had hitherto followed the 'service port' model whereby all operations, services and facilities are provided by the port authority, were to be transformed into 'landlord ports', whereby the port authority will only be responsible for regulatory functions and infrastructure, the latter to be leased out to private companies for a certain period of time. The goals of privatization were to introduce new management styles, new technologies, increased efficiency and productivity, the elimination of bureaucratic barriers and greater customer satisfaction.

The new role envisaged for port authorities would enable them to assume more responsibility in investment decisions and accountability for port performance.

In its 1996 Infrastructure Report, the Ministry of Surface Transport, that then governed the port sector, recommended the adoption of privatization schemes based on the build-operate-transfer (BOT) approach. The project proposals were based on open competitive tendering for the development of new berths/terminals and envisaged a maximum contract duration of 30 years including the construction period. Upon expiry of the lease/ license period, the assets have to be transferred back to the port free of cost.

DID YOU KNOW?

A large containership engine weighs up to 2,300 tons has about 1,000 times more power than a family car.



CAPT JIMMY SARBH

REGIONAL DIRECTOR P&O PORTS - SOUTH ASIA & MIDDLE EAST
REGION (1995 - 2005)

★★★

**Pioneered operations at India's first privatized
container terminal**

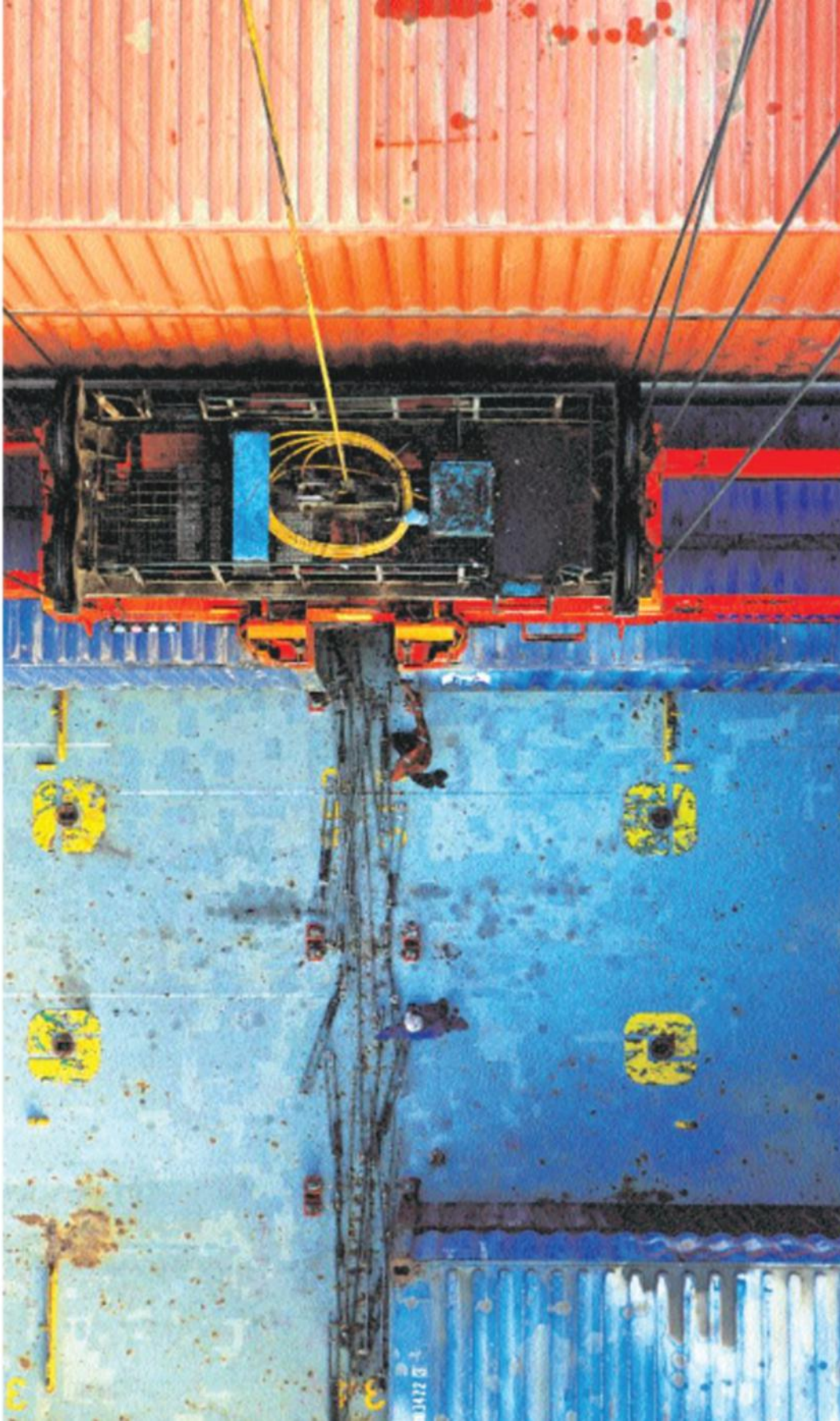
"We changed the paradigm of container-handling in India"

➔ I joined P&O Ports in Sydney in 1994, and after taking position in India the next year, signed the Concession Agreement in 1997, to build and operate NSICT. It was the first time privatization was being attempted in the country and doing anything that's a first is always difficult. We had to get the local community – 18 Sarpanches of 18 surrounding villages – on our side, and faced multiple land reclamation and construction challenges.

Some perceived privatization as a threat to local interests and we were offered police protection. I still remember then Navi Mumbai Police Commissioner A.N. Roy at his Vashi HQ, telling me, "You are an Australian citizen, so it is the Government of India's responsibility to protect you." I refused protection. He asked who would protect me. I pointed upwards. I lived and breathed the project, and was determined to see it through with local support, which we eventually obtained.

Success when it comes is always sweet.. We delivered the project fifteen and a half months ahead of schedule and \$25M below budget. That gave us a good jump-start on revenue.

We changed the paradigm of the way containers were handled in India. We turned ships around in 24 hours or less and went to great lengths to achieve maximum efficiency (like ordering a crane simulator to be specially built in India to train our PAP staff). We paid a royalty per container to the Port. The NSICT consortium partners recovered their entire equity injected in the project within the first full calendar year of operations. NSICT was the Kohinoor in P&O's crown in India, and proved that Indians can be world-class.



RAVI B. BUDHIRAJA, IAS
(CHAIRMAN, JN PORT, 2003-2006)

||| My vision for the Port was to get it into the top 30 ports in the world and we managed to get it up about 5 ranks during my tenure, to No. 28. Other significant events were in container traffic – we crossed 2 mn TEUs in 2003, and 3 mn TEUs in 2006. Total tonnage also almost doubled between 2003 and 2006. Once the depth is increased to accommodate bigger vessels, and connectivity improved, the Port will grow by leaps and bounds.

The BOT contract awarded to P&O Australia for the development of a new container terminal at JN PORT, to be called the Nhava-Sheva International Container Terminal (NSICT), was the first such contract in the country to be given the approval for commencement. According to the contract terms, P&O Australia would have to pay royalties on each container handled, offer guarantees on minimum cargo volume, the lease/rent per unit area, and other financial parameters depending on the scope of the project.



▲ A CART FOR 'TWIST-LOCKS', THAT ARE USED TO KEEP CONTAINERS IN PLACE ON A VESSEL OR ON A TRUCK

Government-owned ports now follow a revenue-sharing model, but the then contracts followed the royalty model that was in vogue at the time, according to which the terminal operator had to pay a royalty on each container handled at the terminal to the Government-owned port. The peculiar nature of the royalty rates made them low in the first 10 years of the contract, then to rise rapidly over the remaining period of 20 years. According to the contract terms, NSICT's royalty would increase progressively from ₹ 47 for one loaded standard container in the first year of operations in 1998 to ₹ 5,610 per container by the 30th year, in 2027.

In an effort to safeguard fair competition and check the abuse of monopoly of power, the 1997 amendment to the Major Port Trusts Act stipulated that port tariffs were to continue being set centrally by a statutory regulatory agency, the Tariff Authority for Major Ports (TAMP).

Like JN Port itself, construction of India's first privatized container terminal NSICT was completed ahead of schedule, within 2 years. To say the new terminal brought colossal change to Indian shipping, becoming a strong propeller for container traffic growth would not be an overstatement, says Anil Singh, Sr. Vice President and Managing Director Subcontinent at DP World.





L A 'SPREADER' GRIPS AND LOWERS A CONTAINER ONTO A TRACTOR-TRAILER AT THE PORT-OWNED AND OPERATED CONTAINER TERMINAL.



||| The vision during my tenure at JN Port was to expand infrastructure to meet the never-ending demand from the export-import trade. All efforts were directed towards this. Today, JN Port has augmented its capacities immensely. With higher expectations from the Indian economy in the next few years, a lot more will be demanded from the premier port. Its ability to implement its initiatives to meet the needs of the expanding EXIM trade for the next 10 years expeditiously would be the mark of its strength and competitiveness.

Singh continues, "Instrumental to our successes at NSICT was the excellent relationship we shared with our landlord Port authority. NSICT was created with a future outlook and hence was built to handle far more volumes than were prevalent at the time. During this period, the support infrastructure outside the Port struggled to keep up with demand and there were long trailer queues and congestion. It was the unrelenting support and assistance JN Port offered that helped NSICT tide over such times."

DID YOU KNOW?

The world's strongest gantry crane is the Taisun. It can lift 20,000 metric tons and is currently installed at the Yantai Raffles Shipyard in China.

JN Port, already pushing towards the one million TEU mark, found itself having to do more. "NSICT was new and revolutionary. They pushed up the bar," says M.P. Pinto, former Chairman of JN Port, and former Secretary, Ministry of Shipping. "And we had to pull up our socks. They had the most modern equipment, the most dedicated staff. A number of shipping lines left us. Instead of

new business coming in, the existing lines were just moving to the other terminal."

Pinto, decisive and practical, swung into action. "I called the labour unions and told them we had to do something, otherwise we would see our business (at the port-owned container terminal) suffering. Together, we worked out a new incentive scheme for initiatives like the 'Hot Seat Exchange'.





|| I strongly feel this is the strength it must harness and showcase to the other ports in the long-term interests of the export-import trade and the country. During my tenure, capacity augmentation projects were underway, like the 330-metre extension of berth, the fourth terminal and capital dredging projects. I take pride in having been the one to conceptualize the integrated parking terminal as the answer to congestion on the Port roads, and being a part of the conceptualization of the Port-based SEZ.



A PRESS CLIPPING ON JN PORT'S ACHIEVEMENT OF HANDLING A LANDMARK 1 MILLION TEUs A YEAR

The 'Hot Seat Exchange' is where the movement of the crane doesn't stop when a shift changes. Instead of 1.5 hours being wasted in the crane operator changing, the operator would wait his turn at the crane and replace his colleague on the spot. That was a great thing."

Pinto's deputy and former Chairman in-charge Kishor Apte too initiated several schemes, like sending the Port's 8 ship pilots to Rotterdam for training at a cost of ₹ 35 lakh, a move that sharpened their maneuvering skills and thereby efficiency. Aside of incentive schemes for the staff, Apte also held 20-day-long sessions to motivate staff out of their inertia into a more competitive, customer-oriented spirit. "I told the junior officers to think where they would be 5-6 years from now if we kept going the way we were going," Apte recalls.



THE BULK TERMINAL BEING DEMOLISHED TO MAKE WAY FOR A NEW CONTAINER TERMINAL.

Apte adds, "I told them, 'We seniors can get transferred somewhere, you are locals. Talk to your wives and think about working hard. If you're doing 80 per cent now, you have to do 100 per cent.' There was no Berlin Wall between us and NSICT. We could see what they were doing. But, if we were doing 6.7 lakh TEUs in 1997, we dropped to 4 lakh TEUs the following year. All this when we should have been touching one million TEUs." The combination of incentives, initiatives and private sector performance had the desired effect: it pushed JNPCT out of its lull and the Port-owned terminal began to compete.

THE TURN OF THE CENTURY, AND THE TURN IN FORTUNES

Competition and subsequent improvements in machinery and training at JN Port allowed it to make discernible and significant strides in its self-owned container terminal. From incremental changes year-on-year, JNPCT saw a jump in container traffic from 9 million tonnes to 15 million tonnes between 1999 and 2003. Growth percentages remained consistently over 30 per cent each year through the same period. The Port's terminals together touched the significant one million TEU milestone by 2001, positioning it as the country's premier container terminal, and most importantly, debt-free after having successfully paid off its loans. It crossed 2 million TEUs by 2003, a development which signified major changes within a short span of time.





DEMOLITION OF THE BULK TERMINAL WAS CONSIDERED A NATURAL OUTCOME OF THE SUCCESSFUL PUBLIC-PRIVATE PARTNERSHIP MODEL.



||| We almost doubled liquid cargo traffic and invited car carriers to JN Port for the export of cars. In one year, we exported over 8000 cars. By the time I left, total cargo handled rose to over 60 million tonnes, despite the slowdown in the economy. JN Port is an excellent example of excellence in execution – if you plan well and execute, you don't have to look back.

Key performance indicators like moves per hour and ship waiting times changed dramatically for the better. Former Port Chairman AL Bongirwar says, "While we did get the indirect advantage of NSICT marketing JN Port, the chief difference was the quality of machines they brought in, and the emphasis on training. Those were things they could do being a major international port organization. Once we brought in the technology and the training, we came up to par with them."

BULK TERMINAL CONVERSION INTO CONTAINER TERMINAL

The decision to convert the Bulk Terminal into a container terminal was considered the natural outcome of the successful public-private partnership model. "At the time JN Port was built, the Bulk Terminal was intended as a place where food-grain was unloaded from giant vessels. In the after-effects of famine and drought of those years, no one thought we would be exporting food-grain. So the conveyor belts were only built to move in one direction, to import, not to export. That's a measure of how much the country had gone up that 10 years down the road, India was in a position to export food grain," says MP Pinto, who was the Chairman from 1998-2000, the crucial years when the tide at JN Port had turned and the Port hit its first landmark of one million TEUs a year.



A TOP VIEW OF A CONTAINER YARD AT JN PORT



L. RADHAKRISHNAN, IAS
(CHAIRMAN, JN PORT, 2010-2013)

||| My vision was to turn JN Port from a major port servicing a hinterland to a hub port or a mother port, one among the top 15 in the world. I was able to kick-start the channel deepening and other important initiatives aimed at turning JN Port into a multi-purpose port. I am a die-hard optimist, and I am hopeful that the Port can achieve its goals by 2020.

Getting the Bulk Terminal converted into a private container terminal was no cakewalk. Labour unions expectedly again stood up in arms to oppose the move. Bongirwar, who served as Chief Secretary in the Maharashtra Government before he took over chairmanship of the Port, brought in wide experience with labour issues in the state and a strong political network. He needed all the help he could get to walk the tightrope between labour unions and the State Government to approve and implement rehabilitation schemes.

He adds, "JN Port's rehabilitation process is one of the best that I have seen. It was smooth, compared to what was happening at places like Tarapur and Jaitapur. Second, it has generated massive local employment - that is the biggest benefit any project can have. If the labour is not good enough, you train them. That makes this one of the best examples of local recruitment in Maharashtra."

On August 10, 2004, Gateway Terminals India, a consortium of Maersk, a wholly owned subsidiary of the AP Moller-Maersk group, and CONCOR, then the only container rail operator in the country, entered into a license agreement with JN Port to redevelop its existing Bulk Terminal with a quay length of 712 metres and operate it as a container terminal on a

PORT NOTE

CONSIDER THIS: THE HIGHEST NUMBER OF CONTAINERS HANDLED IN A MONTH IN 1990-91 WAS 6,241 TEUs. COMPARE THAT FIGURE TO 2012-13 WHEN THE HIGHEST NUMBER OF CONTAINERS HANDLED IN A MONTH WAS 180,848 TEUs... AT THE GTI TERMINAL ALONE!

BOT basis, with 35.5 per cent of the revenue share going to JN Port.

Operations started before the project completion date, in March 2006. "We gave the Port a minimum guarantee of achieving 1.3mn TEUs in 5 years," says Pradip Agrawal, CEO, APM Terminals, Mumbai. "GTI reached 1.9mn TEUs by the third year of operations, which is the maximum that can be done with the available infrastructure."

Within three years, GTI achieved 30 moves per hour per crane, and berth productivity of over 100 moves per hour - performance indicators that were a first at the Port and in the country.

Within the next few years, if JN Port was doing 55 percent of the country's container trade, GTICT was handling almost 20 percent of the share. Pinto sums it up. "Conversion of the Bulk Terminal was a wonderful move that allowed JN Port to maintain its primacy as a container port."





IN PORT TODAY.
AN EXERCISE IN EXCELLENCE



Latitude 18 56' 43" North

Longitude 72 56' 24" East



India has a natural geographical and climatic advantage that makes it possible for the subcontinent to compete in global manufacturing and service markets. Situated on the country's Western coastline, JN Port is in a strategic position to service the landlocked northern and north-western regions of India and is located along one of the busiest shipping lanes to East Asia and Europe. It caters to the international export and import trade on key maritime routes, including to and from the Middle East, United States and other international destinations. JN Port's proximity to the Mumbai Port also gives it a natural competitive advantage to cater to the needs of cargo transporters effectively and promptly.

The Port is situated on the Eastern end of the Mumbai Harbour, in Sheva, Maharashtra, south-eastward of Elephanta Island, covering a water area of about 52sq kms. The Port shares a common harbour channel with Mumbai Port up to the Jawahar Dweep island. It is an all-weather tidal port sheltered from wind and waves, with the Elephanta Island protecting the Port by serving as a natural breakwater.

JN Port's geographical co-ordinates also ensure optimum sea, road and rail connectivity to and from India's commercial capital.

The Port is connected to the national railways network, both western and central, by double tracks through Panvel. Good connectivity is also defined by accessibility to Container Freight Stations and Inland Container Depots. There are 33 CFSs in the immediate vicinity around JN Port, and through its rail network, the Port has access to a web of Inland Container Depots throughout India. The Port is committed to the Raigad-Uran belt where it is situated – in the extent to which, infrastructure has improved around the Port, or in its community and commercial development initiatives.





TRACTOR-TRAILERS WAIT IN LINE TO LOAD CONTAINERS AT THE CONTAINER YARD. RAIL-MOUNTED GANTRY CRANES (PICTURED BEHIND) AID IN YARD OPERATIONS

By road, the Port is well connected through the four-lane NH-4B to the Mumbai-Pune Highway (NH-4) and the Mumbai-Goa Highway (NH-17). The fast-paced development of Navi Mumbai, the satellite city situated on Mumbai's outskirts, and adjacent to Nhava-Sheva, has also aided the Port to be connected via the local and State Highway network to commercial centres like Thane, Nasik and Ahmedabad. Road infrastructure augmentation to provide linkages to the national trunk routes is done through Mumbai-JNPT Port Road Co. Ltd., an SPV between National Highways Authority of India, JN Port, and CIDCO (Navi Mumbai's planning authority).

CARGO

Before the advent of containerization, break bulk or general cargo was the most common form of cargo for most of the history of shipping. However, since the late 1960s, the volumes of break bulk cargo, which was at a greater risk of theft and damage, declined dramatically, as moving cargo onto and off ships in containers began to be considered as much more efficient, allowing ships to stay at ports for less time.

THE PORT OWNS 2,584 HECTARES OF LAND ACQUIRED THROUGH THE GOVERNMENT OF MAHARASHTRA. IT HAS AN OPERATING AREA OF AROUND 200 HECTARES WHILE ALMOST ONE-THIRD OF THE PORT (OVER 800 HECTARES) IS DESIGNATED AS A GREEN AREA.

PORT NOTE

JN Port's move to focus on containerized cargo, from being primarily a bulk terminal when it was first commissioned, has reaped the Port rich rewards. It is the undisputed leader of container traffic in the country, handling over 55 per cent of India's container traffic at major ports. It is ranked among the top 35 global container ports.

In the financial year 2013-14, the Port handled a total cargo of 62.35 million tonnes. Of this, containerized cargo handled was 55.24 million tonnes (accounting for 89 per cent of all cargo handled at this port), ensuring JN Port has retained its No. 1 position in container handling among major ports.

PORT NOTE

WHAT IS BREAK BULK CARGO?

THE TERM 'BREAK BULK' DERIVES FROM THE PHRASE 'BREAKING BULK'—THE EXTRACTION OF A PORTION OF THE CARGO FROM A SHIP.

OR THE BEGINNING OF THE UNLOADING PROCESS FROM THE SHIP'S HOLDS IT IS A TERM TO DESCRIBE GOODS THAT MUST BE LOADED INDIVIDUALLY OR IN BULK, AND NOT IN CONTAINERS. AS WITH OIL OR GRAIN, BREAK BULK CARGO IS TRANSPORTED IN BAGS, BOXES, CRATES, DRUMS OR BARRELS.

THE PORT IS WELL-CONNECTED VIA THE LOCAL AND STATE HIGHWAY NETWORK TO THE REGION'S COMMERCIAL CENTRES, LIKE THANE, NASIK, AND AHMEDABAD.





PORT NOTE

IN 2011-12, THE PORT HANDLED A RECORD-BREAKING 65.75 MILLION TONNES OF CARGO, MAKING IT INDIA'S BIGGEST PORT, BOTH IN TERMS OF SOLID CARGO HANDLED AND THE LARGEST CONTAINER THROUGHPUT. THAT WAS THE YEAR JN PORT'S THREE TERMINALS HANDLED 4.32 MILLION TEUs OF CONTAINERS, THE HIGHEST SINCE THE INCEPTION OF THE PORT, AND ALMOST HALF OF INDIA'S CONTAINER TRAFFIC.



CARGO HANDLING CONNECTIVITY

JN Port mainly handles original destination or 'OD' cargo, i.e. cargo at this Port usually originates from or is destined for Maharashtra, Madhya Pradesh, Gujarat, Karnataka and most of North India (as opposed to a trans-shipment port like Cochin, which acts more as an intermediate destination, from where goods are directly shipped to yet another, possibly final, destination). The distinction is important as OD cargo has widely different costs and infrastructure requirements (such as container freight stations, rail and road connectivity, customs, etc.), all of which have a direct effect on productivity, profitability and efficiency. Selected cargo movements towards Customs are made from the CFS, rather than from the Port, to ensure decongestion and smooth flow.

TERMINALS

JAWAHARLAL NEHRU PORT CONTAINER TERMINAL

The Jawaharlal Nehru Port Container Terminal has been in existence since the Port's commissioning in 1989, and is owned and operated by the JN Port. After seeing slow growth for the first decade, not least due to the slow pace of containerization in India, a combination of government initiatives, new technologies and specialised training has given a fillip to this terminal, allowing it to register impressive performances over the last 15 years or so. Ever since it introduced the twin lift crane in 2002, average crane performance has improved exponentially. Three new Super Post Panamax cranes that have just been procured and will replace the old ones, raising the average container 'moves per hour', a key indicator of productivity, significantly. Over the past few years, JNPCT has been the fastest growing terminal among the three at JN Port, because of the focus on upgradation and modernization of equipment and facilities. JNPCT handled 1.3 million TEUs in the year 2013-14. This was an increase of 8.66 per cent over the previous year.



PORT NOTE

WHAT IS A CONTAINER FREIGHT STATION (CFS)?

A CFS IS A PORT FACILITY LOCATED OUTSIDE THE SERVICING PORT WITH A VIEW TO DECONGESTING IT BY OFFERING SERVICES FOR HANDLING AND TEMPORARILY STORING CONTAINERS USED FOR IMPORT/EXPORT WHILE THEY ARE BEING CLEARED BY CUSTOMS OR USED BY OTHER AGENCIES FOR DISPATCH/DELIVERY, WAREHOUSING, STUFFING/STRIPPING/REWORKING/REPAIR OF CONTAINERS, TRANSIT OPERATIONS BY RAIL/ROAD TO AND FROM SERVING PORTS, RE-EXPORT OR TRANS-SHIPMENT. JN PORT HAS 33 CFSs IN ITS IMMEDIATE VICINITY.

FUNCTIONALLY, WHILE THERE IS NO DISTINCTION BETWEEN AN INLAND CONTAINER DEPOT (ICD) AND A CFS AS BOTH ARE TRANSIT FACILITIES FOR CARGO, AN ICD IS GENERALLY LOCATED IN THE INTERIORS OF THE COUNTRY AWAY FROM THE SERVICING PORTS.



DID YOU KNOW?

Compared to the energy expended moving goods by plane or truck, shipping is far less damaging in terms of greenhouse gases released.

NHAVA-SHEVA INTERNATIONAL CONTAINER TERMINAL

The Nhava-Sheva International Container Terminal (NSICT) was commissioned in 1999. As India's first public-private partnership experiment in the ports sector after liberalization and consequently, under keen scrutiny from India's government and corporate establishment, it emerged so successful that it blazed a new path for not only other ports, but also other sectors.





PORT NOTE

JNPCT IS SPREAD OVER MORE THAN 61 HECTARES, MAKING IT THE LARGEST TERMINAL IN TERMS OF AREA. IT HAS A LINEAR QUAY LENGTH OF 680 M AND A TOTAL CAPACITY OF 1.1 MILLION TEUS PER ANNUM. IT HAS THREE BERTHS AND 9 RAIL MOUNTED QUAY CRANES (RMQCs), 18 RUBBER TYRED GANTRY CRANES (RTGCs), AND 5 RAIL MOUNTED GANTRY CRANES (RMGCs).

Operated on a 30-year build-operate-transfer agreement between Sydney-based P&O Ports (that has since become a subsidiary of the Dubai-based DP World) and JNPT, NSICT brought international container handling parameters to India, which has led to the country's premier Port augmenting infrastructure, becoming more service-oriented with vastly improved efficiencies.

"Within one year of NSICT commencing operations, JN Port entered the club of the world's '1 Million TEU' ports," says Anil Singh, Senior Vice President and Managing Director, DP World. "Infrastructure outside the Port was still being developed, approach roads were single lane, but the ships kept coming. As a terminal operator we had to think fast. "Our operational processes had to be simple yet efficient, our equipment had to work the ships faster and container movement in and out of the terminal had to happen quickly. All this went a long way in helping NSICT develop a robust operations model, something that even today stands us in good stead," says Singh, "No other port in India enjoys the scale of connectivity to the hinterland that JN Port has. Yes, the port landscape is far more competitive today than it was 10 years ago and port capacity is being created across the coastline. With our own 330 meter container terminal extension, and other projects like the dedicated freight corridor project and the fourth container terminal on the way, JN Port is well-poised to capture India's trade in the years to come."



"Within one year of NSICT commencing operations JN Port entered the club of the world's '1 Million TEU' ports"

Anil Singh,

SENIOR VICEPRESIDENT AND MANAGING DIRECTOR
SUBCONTINENT, DP WORLD.

THE FIRST PRIVATIZED TERMINAL IN INDIA, NSICT BROUGHT INTERNATIONAL CONTAINER HANDLING PARAMETERS TO THE SUBCONTINENT





DP World has been awarded the contract for a 330-meter quay extension at JN Port that is expected to increase capacity by 0.8 million TEUs.

Besides being India's first privatized terminal, NSICT has many other firsts to its credit. In December 2008, it became the first terminal in India to be certified with ISO 28000 and compliant to CTPAT, which is supply chain security management programme led by the US Customs and Border Security protection. Terminal is also certified with ISO 9001, ISO 14001, OHSAS 18001, ISO 27001, and PAS 99 for its management systems.



GATEWAY TERMINALS INDIA (GTI)

Gateway Terminals India (GTI) is managed by APM Terminals, Mumbai and is a joint venture between AP Moller-Maersk Terminals and the Container Corporation of India (CONCOR). APM Terminals is a global container terminal operator, operating 54 terminals in 35 countries. CONCOR was established by the Ministry of Railways in 1991, to provide container rail transport in India (and the only one till 2006, after which private operators entered the market) operating a network of more than 60 Inland Container Depots.

The terminal was commissioned as a container terminal in 2006 after the erstwhile bulk terminal was scrapped to handle the exponential growth of containerised cargo on the subcontinent. NSICT having paved the way for privatization, GTI's partnership with JN Port (with the latter being paid 35.5 per cent revenue share) beat its own targets even before it was commissioned. Recalls Pradip K. Agrawal, CEO, APM Terminals, Mumbai, "We started operations in March 2006, months before the projected project completion date. We had given the Port a minimum guarantee of 1.3 mn TEUs, to be reached in five years. But, by the third year of operations itself, we touched 1.9 mn TEUs."

With GTI achieving 30 moves per hour per crane and berth productivity of over 100 moves per hour within the first three years, operational efficiency reached an all-time high at the Port.

→ GTI WAS COMMISSIONED AS A CONTAINER TERMINAL IN 2006 TO HANDLE THE EXPONENTIAL GROWTH OF CONTAINERIZED CARGO ON THE SUBCONTINENT

IN 2010-11, THE TERMINAL SET A RECORD OF HANDLING 2562.07 TEUs PER QUAY METER OVER A LIMITED QUAY LENGTH OF 600 METRES. A RECORD SHIP CRANE RATE OF 276 MOVES PER HOUR WAS ALSO ACHIEVED ON THE VESSEL WAN HAI 505 ON JULY 1, 2013.



PORT NOTE



"We had given the Port a minimum guarantee of 1.3mn TEUs, to be reached in 5 years. But by the third year of operations itself, we touched 1.9mn TEUs"

Pradip K. Agrawal,
CEO, APM TERMINALS MUMBAI

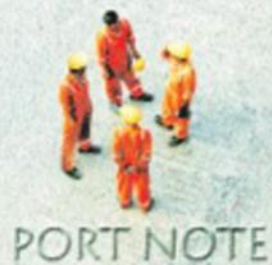
Today, GTI handles a staggering 2 million TEUs a year – that's 45 per cent of the total container throughput at JN Port and 20 per cent of India's container cargo. Out of the three container terminals in JN Port, GTI handles the largest volumes. Says Agrawal, "We have a cordial working environment with the Port Authority, seeing each other as partners, not as competitors. Their support is crucial and the fact that it is government-driven has positively impacted the infrastructure around the Port and consequently, our operations."

In the last few years, GTI, like JNPCT, is functioning beyond capacity. Year-on-year growth trends have plateaued as supply struggles to match up to the demand. GTI is optimistic about the future, viewing the new fourth terminal, to be run by Singapore-based PSA as a fillip for growth, rather than as a negative impact on profitability.

➡ OUT OF THE FOUR TERMINALS IN JN PORT, THE GTI CONTAINER TERMINAL HANDLES THE LARGEST VOLUMES.







THE GTI TERMINAL HAS A LINEAR QUAY LENGTH OF 712 METRES, THE LONGEST AMONG THE THREE CONTAINER TERMINALS AT JN PORT. IT IS SPREAD OVER 54 HECTARES, AND IS DESIGNED TO HANDLE 1.8 MILLION TEUS PER ANNUM, THOUGH IT OFTEN EXCEEDS ITS CAPACITY. IT HAS 10 QUAY CRANES, 40 RUBBER-TYRED GANTRY CRANES AND 3 RAIL MOUNTED GANTRY CRANES. GATEWAY TERMINAL SHARES 35.5 PERCENT OF ITS ANNUAL REVENUES WITH JN PORT.

As with any port, the optimism about the future is contingent as much on labour relations and safety standards, as it is on traffic, often leading to a curious, oft-heard demand from locals, "I get calls from parents of boys of marriageable age for a letter from GTI, as it immediately improves their matrimonial prospects! Though we have applied international experience in operations, and imported the latest technology, our local labour is capable of productivity up to the international standard – the level of competence we have given to the local community makes the terminal a sought-after destination for employment."



A visit to the GTI terminal will yield an odd sight – workers on foot are virtually invisible anywhere on the ground in the container yard or quay area, with strict rules in place against exiting vehicles to maximize safety in an environment where danger is inherent because of the scale of equipment and machinery. A strict time management plan dictates when and how vehicles can navigate this terminal in a stream-lined fashion to perform tasks like shifting/transporting containers and then exit it immediately upon completion of the task. The motto: "Safety is a license to operate," is closely adhered to, with even the thousands of visiting

tractor-trailer drivers having to undergo stringent safety training. "It's a Herculean task," says Agrawal. "But, it's one we never compromise on. We believe that like honesty and integrity, safety is to be a value that is to be imbibed."

LIQUID CARGO TERMINAL

The Liquid Cargo Terminal at JN Port has been operational since March 2002, being operated jointly by Bharat Petroleum Corporation Limited, and Indian Oil Corporation Limited for a 30 year concession on BOT basis.

THE LIQUID CARGO TERMINAL AT JN PORT





1. A SHIP IS ANCHORED AT THE LIQUID CARGO TERMINAL JOINTLY OPERATED BY BHARAT PETROLEUM AND INDIAN OIL CORPORATION

DID YOU KNOW?

If all the containers from an 11,000 TEU ship were loaded onto a train, it would need to be 77 kilometers long.

The terminal has a total capacity of 5.5 million tonnes per year and handles vessels that carry liquid cargo such as POL products (petroleum, oil and lubricants), molasses, edible oil and industrial chemicals. It is a twin-berth jetty that is 300 m long and 40.5 m wide. The seaside berth has a dredged draught (or depth) of 13.5 metres and can accommodate vessels of 85,000DWT (Dead Weight Tonnage). The jetty is equipped with the latest loading/unloading arms and fire-fighting systems as per the OISD 156 (Oil Industry Safety Directorate) norms.



SHALLOW DRAUGHT BERTH

The shallow draught berth is managed by the Port Trust. It is primarily used for handling smaller feeder vessels that carry containers to and from smaller ports for loading on to larger mother vessels, cement vessels and project cargo vessels. Vessels requiring a depth of up to 9 metres can be accommodated at this berth. The total quay length is 365 m.



← TOP: AN INSIDE VIEW OF THE CONTAINER YARD (BELOW) A CEMENT SHIP IS BERTHED AT THE SHALLOW WATER BERTH



1. SAFETY IS PARAMOUNT AT JN PORT WITH SEVERAL MEASURES IN PLACE TO ENSURE SAFETY OF PEOPLE AND CARGO

SAFETY AND DEALING WITH DISASTER

To deal with any unforeseeable accident – be it natural (earthquakes, severe weather, floods) or man-made (hazardous material spills, transportation accidents, bomb threats, explosions, fires) – the Port has taken enough precautions and implemented measures to ensure the safety of both people and cargo.

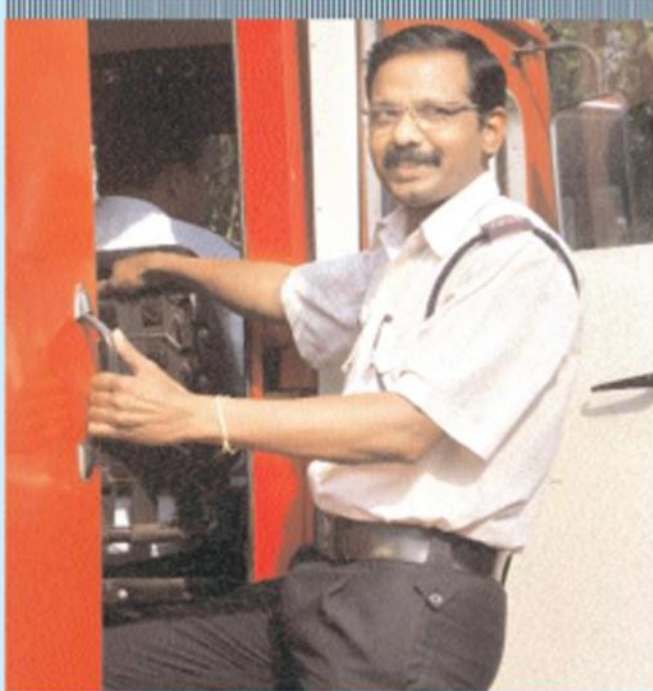
JN Port has a full-fledged fire station equipped with different types of tenders (water, foam and multipurpose) to tackle any

kind of fire that may occur at the Port or surrounding areas.

The Port Users Building is fitted with fire detection systems, alarms and sprinklers. In the Port operation area sea water fire ring system is operational. POC has a gas flooding system to tackle fire. In Administration building also, fire detection and protection system is being installed.

A major fire had broken out in this building in 2006, but everyone was safely evacuated and emergency services were pressed into action immediately.





KARNIK S. PATIL, 43
FIREMAN

"We don't hesitate. We just jump in."

➔ *I've been at JN Port for 17 years as a fireman and I wouldn't dream of leaving this place. To face a fire and control it while being calm takes a lot of guts. The reason our team excels in these situations is because we are almost all between the ages of 30-44 years. We have the right mix of youthful enthusiasm and experience that is required in an emergency.*

Recently, we attended a call to fight a massive fire at a container freight station in Dronagiri. Teams from other fire stations had also reached, but no one had made a move because the sheer scale of the fire was intimidating. There were chemicals, garments and tyres ablaze and the fumes from them were suffocating. Our team's josh (energy) was such that we immediately set our processes in motion and dived right in to begin the operation. Even then, it took a whole day to control the fire.

I would say that only someone who is mentally agile and confident can do this job. A fire is a dynamic, fast-changing situation, where lives and property are at stake. We don't hesitate. We just jump in.



JN PORT HAS A FULL-FLEDGED FIRE STATION EQUIPPED WITH DIFFERENT TYPES OF TENDERS (WATER, FOAM, AND MULTIPURPOSE) TO TACKLE ANY KIND OF FIRE THAT MAY OCCUR AT THE PORT OR SURROUNDING AREAS

On the seaside, the collision between vessels "MSC Chitra" and "MV Khalijia" in the approach channel of the Mumbai Port in 2010 resulted in an oil spill in the Port area, which later spread to surrounding areas. To prevent or address a situation like this, the Port is equipped with materials like oil absorbent pads, socks, pillows, oil booms, sawdust and oil dispersant spray systems. In case of leaks or spills from the liquid cargo terminal, the Port also has a 'hazbund', where leaking cargo from containers can be collected within these bunds and disposed of.

Safety is strictly followed at the private terminals as well, with every member of the staff undergoing stringent training in maintaining a safe working environment. For example, the GTI terminal has set up an Emergency Response Team which comprises members from different departments who are qualified to practice CPR (Cardiopulmonary Resuscitation) and other imperative support techniques in case of emergencies. In addition to maintaining operational safety, staff members are regularly trained in First Aid and basic life support procedures. Due to these measures, the Port has been certified to be compliant with OHSAS 18001, which is a British standard for occupational health and safety.

The Port's financial stability is secured by insurance. JN Port maintains a fire and special perils policy, comprehensive port package policy and marine hull cover policy (with terrorism extension) to cover unforeseen losses and liabilities and unanticipated loss of profit on account of force majeure events.



SECURITY

The Central Industrial Security Force, a centrally governed armed force that was set up to protect industrial establishments in India from crime, is responsible for maintaining the security of JN Port. CISF works in tandem with the Navy, Coast Guard and other security agencies. Around 600 CISF personnel are ready

at all times, armed with the required defensive and offensive equipment. Dog squads with trained sniffer dogs regularly carry out anti-sabotage checks. Gadgets like metal detectors, night-vision devices and vehicle barriers are in use at various locations. Regular mock drills are carried out to test the efficacy and speed of the response systems.





EVERY MEMBER OF THE STAFF AT PRIVATE TERMINALS UNDERGOES STRINGENT TRAINING IN MAINTAINING A SAFE WORKING ENVIRONMENT



"After a gap of 17 years, revision in tariff by TAMP is the most positive and remarkable development for the Port. In the last 25 years, the Port has progressed phenomenally showing a healthy bottom line and emerged as one of the financially most successful ports in India".

Shri S.P. Shirwadkar,
CHIEF MANAGER (FINANCE)

After the 26/11 terror attacks in Mumbai put the spotlight on vulnerabilities in India's vast coastline, JN Port shored up its security system by procuring CCTVs, X-Ray machines and a host of other security systems. In fact, two container scanners – which were meant to ensure that no illegal goods enter the country – have even contributed to financial gains, by helping prevent mis-declaration of goods at Customs and thereby increasing revenue. The Port also has marine commandos who patrol the periphery of the Port in speedboats and a Quick Reaction Team that is deployed 24x7, making for a formidable security system.

All these factors have contributed to making the Port compliant with the International Ship and Port Facility Security (ISPS) Code. The ISPS code is a comprehensive set of measures to enhance the security of ships and port facilities, which were developed in response to the perceived threats to ships and port facility in the wake of the 9/11 attacks in the US. The Quality Management System of the CISF at JN Port is also ISO 9001:2008 certified.



■ CUSTOMS REVENUE COMING OUT OF JN PORT CONTRIBUTES NEARLY 23 PER CENT OF THE TOTAL CUSTOMS REVENUE OF INDIA

HOW CUSTOMS WORKS

TO ENSURE SPEEDY MOVEMENT OF CONTAINERS AND TO UTILIZE THE PORT AREA EXCLUSIVELY FOR LOADING AND UNLOADING OF THE CONTAINERS, THE EXAMINATION OF IMPORT CARGO BY CUSTOMS IS NOT DONE INSIDE THE PORT TERMINALS, BUT AFTER DISPATCH TO THE CFS. THERE ARE 27 CONTAINER FREIGHT STATIONS (CFSs) LICENSED BY CUSTOMS AND MANAGED BY VARIOUS PUBLIC SECTOR ORGANIZATIONS LIKE CENTRAL WAREHOUSING CORPORATION (CWC), MAHARASHTRA STATE WAREHOUSING CORPORATION (MSWC), CONTAINER CORPORATION OF INDIA (CONCOR) BALMER LAWRIE, AND OTHER PRIVATE ORGANIZATIONS.



PORT NOTE

CUSTOMS

The Jawaharlal Nehru Custom House is the biggest Custom House in the country in terms of containers handled, documents filed and revenue generated, the Custom House handles over 55 per cent of the containerized cargo of India (coming out of JN Port), and it contributes nearly 23 per cent of the total Customs revenue of India.

In the 2013-14 fiscal, the Custom House touched a new high, exceeding the revenue target of ₹ 40,000 crores for FY14 by collecting ₹ 40,225 crore, an increase of 8.31 per cent over the previous year.





1. EVEN TODAY CRANE TRANSFER OF CONTAINERS FROM SHIPS TO SHORE REMAINS THE MOST TIME-CONSUMING AND EXPENSIVE OPERATION

DID YOU KNOW?

A large container ship travels three-quarters of the distance to the moon in one year. That means in its lifetime it travels to the moon and back nearly ten times.

MEN AND MACHINES

THE PORT GIANTS: QUAY AND YARD CRANES

Cranes are the backbone of any container terminal. Even today, the transfer of containers from ship to shore and vice versa remains the most time-consuming and expensive operation.

The kind of cranes used at a port has a huge impact on its productivity and efficiency. JN Port has retained its position as a leader in container traffic by ensuring that only state-of-the-art technology is in use at the Port. There are three kinds of cranes at JN Port: Rail-mounted quay cranes, rubber-tyred gantry cranes and rail-mounted gantry cranes.



PORT NOTE

THE NATIONAL RECORD FOR BERTH PRODUCTIVITY OF 235.92 MOVES/HOUR ON 25 JANUARY 2010 ON VESSEL MV "EVER RACER" WAS SET BY THE GTI TERMINAL. THE ENTIRE OPERATION OF UNLOADING CONTAINERS TOOK JUST 13 HOURS AND 10 MINUTES, DURING WHICH 3295 CONTAINERS WERE MOVED.

QUAY CRANES

Rail-mounted quay cranes (RMQCs) are used to unload imported containers from ships or load the ship with containers for export. The RMQC is the backbone of a container-dedicated terminal.

Ship sizes vary according to international trade trends, and cranes must correspond to these changing sizes as they have to be built in such a way that they can span the entire width of the ships when they are at berth. To provide more stability and support, Post-Panamax cranes weigh more than Panamax ones, while Super Post Panamax ones weigh the most. The JN Port operated container terminal has 3 Post Panamax cranes and 6 Super Post Panamax cranes. There are 27 RMQCs across the terminals at JN Port.

▲ A CRANE OPERATOR PEERS DOWN THE GLASS FLOOR OF HIS CABIN AS HE UNLOADS CONTAINERS OFF A VESSEL.





PORT NOTE

PANAMAX, POST-PANAMAX AND SUPER POST-PANAMAX CRANES
PANAMAX SHIPS WERE CALLED SO BECAUSE THEY HAD THE REQUISITE PARAMETERS OF HEIGHT, WIDTH AND WEIGHT TO PASS THROUGH THE PANAMA CANAL. POST-PANAMAX SHIPS HAVE A WIDTH (USUALLY 18 CONTAINERS WIDE) THAT DOES NOT ALLOW THEM TO PASS THROUGH IT. SUPER POST PANAMAX SHIPS ARE CONSIDERED THE SHIPS OF THE FUTURE. THEY HAVE A WIDTH OF 22 CONTAINERS OR MORE. THE CRANES THAT CAN SPAN THESE SHIPS ARE CALLED PANAMAX, POST-PANAMAX, AND SUPER POST-PANAMAX CRANES RESPECTIVELY.

YARD CRANES

Yard gantry cranes were developed from industrial overhead cranes. There are two distinct types of yard cranes: rubber-tyred gantry cranes (RTGCs), frequently called as transtainers, which run on heavy-duty pneumatic-tyred wheels, and rail-mounted gantry cranes (RMGCs), which run on steel wheels over fixed rails. The yard cranes are used to transfer containers from the



1. TOP VIEW OF CONTAINERS BEING DEPOSITED ON A TRACTOR-TRAILER FROM THE VESSEL HOLD. THE SPREADER (PICTURED) THAT HANGS AT THE END OF A CRANE'S STEEL WIRES CLAMPS DOWN ON THE CONTAINER WHILE IT IS LIFTED AND LOWERED.

container yard through to TTs either to the vessels at berth or to the CFSs and vice versa safely. Both have the same function, but there are distinct differences between them.

Rubber-tyred gantry cranes occupy one truck lane and can span several rows of containers, and are able to stack them up containers six high. They are essentially container-yard stacking machines and are used in combination with other container handling equipment, like tractor-trailers. There are 87 RTGCs at JN Port, many of which are additionally equipped with eco-friendly technology.

Rail mounted gantry cranes are usually electrically powered, by cable or by their own generators. There are a total of 11 RMGCs at JN Port.



ANKUSH CHAVAN, 49
CRANE OPERATOR

'When you're hovering tens of feet above the sea everyday, there isn't much that can scare you.'

➔ My job is to load containers onto ships or unload them from ships. I sit in a trolley chamber, managing the crane's controls around 8 storeys above the ground. There is a lift to carry me there, but in a rare situation when the lift isn't working, I have to climb all the way up!

We have to follow a meticulous discharge plan for each ship. During the time I am in the trolley, I co-ordinate via radio with the technician on the ground. Because of the height, I have to constantly peer through the chamber's glass floor to see the containers. This puts pressure on my back and neck, and my colleagues and I do suffer from backaches and stiff muscles.

The most important thing a crane operator needs is physical and mental strength, because even four hours a day of this is extremely intensive. He should also have a calm disposition. There was a time when I was stuck in the trolley for six hours because of a major power failure. Although the JN Port staff were trying their best to get me down, the night time complicated matters.

I see that incident as a one-off hazard of my job. When you're hovering tens of feet above the sea every day, there isn't much that can scare you. I love my job, and I would like to continue doing it for as long as I can. I lift around 400 containers a day. And I always want to do more!



← DETAIL OF A RUBBER-TYRED GANTRY CRANES, USED FOR TRANSPORT OF CONTAINERS TO AND FROM A YARD

REACH STACKERS

Reach stackers are tractor-like vehicles that are used to transport containers over short distances, usually within the container yards, quickly. As compared to forklift trucks, reach stackers have higher stacking and storage capacity, while being far more flexible. This is why they have become very popular at container terminals these days. There are 17 reach stackers at JN Port.

→ REACH STACKERS ARE USED TO MOVE CONTAINERS WITHIN CONTAINER YARDS AND HAVE HIGH STACKING AND STORAGE CAPACITY



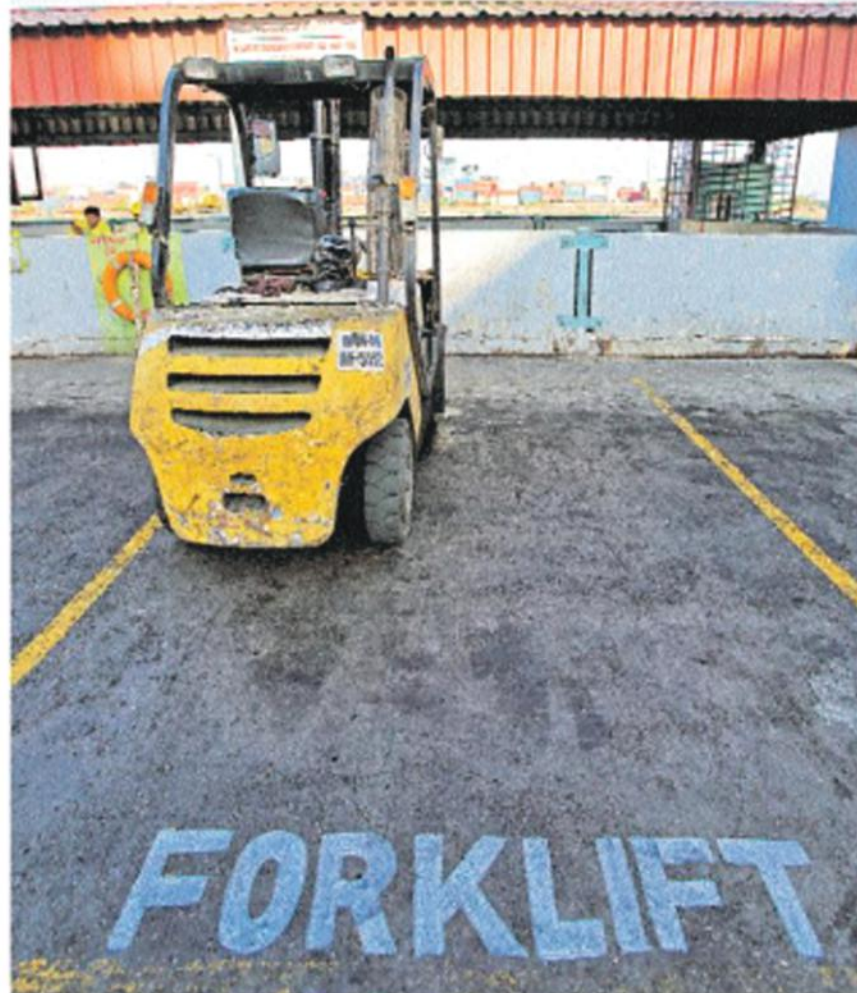


PORT NOTE

CONTAINERIZED CARGO MAKES UP THE MAJORITY OF TRAFFIC HANDLED BY JN PORT (AROUND 88.6 PER CENT) FOLLOWED BY LIQUID CARGO (10.10 PER CENT), WITH BREAK BULK, DRY BULK AND PROJECT CARGO MAKING UP THE REST OF THE CARGO.

DID YOU KNOW?

Size variations aside, many container ships can transport up to 13,000 containers of finished goods and products on a single voyage. It would require hundreds of freight aircraft, many miles of rail cars and fleets of trucks to carry the goods that can fit on one large liner ship.



REEFERS

Reefers are refrigerated containers. They require constant power to maintain the quality of their contents. There are 2,042 reefer slots in JN Port with full power back-up.

TRACTOR-TRAILERS

The Port is also equipped with a large number of tractor-trailers which are used to carry the containers from the quay to the yard and vice versa.



PRAVIN MOHITE, 48
YARD TECHNICIAN

'Amidst the onslaught of heavy machinery, a technician must be always alert'

➔ *I have been working at the container yards at JNPCT for the last 25 years as a technician, in charge of directing cranes in loading and unloading operations.*

The challenge in doing this job is to follow closely the planning list we are given each day and to always be aware and creative on how to negotiate chinks in the machinery, if any, so that efficiency is not affected even for a minute and kept at an optimum. The targets and rules may be set by the management, but it is up to us when it comes to the actual work and delivery. We don't allow the slightest delay in these operations because that will directly affect the entire port's efficiency and productivity, and we take great pride in ensuring standards and output is kept consistently high through rain or shine. I work three days at the yard and three days on the jetty directing operations, mainly using the radio walkie-talkies to communicate with crane operators, and other technicians working on the ground.

Working here is tough – it involves being on my feet for hours in the bristling heat or biting cold but the toughest times are during the monsoons, especially while working on the jetty or on the ship, by the quay cranes. You have to stand on the containers atop the ships while signalling the cranes, and the risk of slipping and losing your life when ships are stacked 9-containers-high is very real. Though we've not had any major accidents here in the last several years, we've all heard stories from the past of fatalities caused by slipping off containers or some such thing.

I believe your work depends on your attitude. I'm told I have a sunny disposition and perhaps, that's why I can give a 100 percent to my work.



GET, SET, GONE

CONTAINERS AND CARGO

Before the advent of containerization, break bulk cargo transportation was the more popular option. However, with this cargo at a greater risk of theft and damage, containerized cargo became the trend internationally, and is now preferred because it is more efficient, and allows ships to stay at a port for lesser time.

The advantage of containers is that they can be built in different ways to suit their contents. Their easy stackable design makes them, an efficient means of transporting all kinds of cargo. Refrigerated containers are also used for perishable items. The distribution of containers to and from the hinterland is controlled from the CFS, which is an interface between the port and link roads to the national highways and to the railways.



"The smooth navigation was possible with the help of sufficient flotilla, laser range finders for long vessels and a modern VTMS. Pre-berthing detention is an important performance parameter for any port and the same is almost negligible at JN Port".

Capt. B. S. Kumar,
HARBOUR MASTER, MARINE DEPARTMENT

SMOOTH SAILING: VESSEL OPERATIONS

VTMS: NAVIGATING SAFELY

The Vessel Traffic Management System (VTMS) is a radar-based system for regulating the movement of vessels at JN Port. It monitors and controls visiting vessels in real-time with video and status signals that are transmitted to the Port's control and observation tower. Vessel information is transmitted to the electronic Port Management System that maintains the database of vessel movements and acts as an aid to the scheduling of arrival of vessels at JN Port.

In addition to improving safety of vessel traffic in the Port waters, VTMS also provides information to vessels during bad weather conditions and establishes key communication to prevent accidental stranding, grounding or collision with obstacles in the water.

JN PORT AND MUMBAI PORT TRUST, MANAGING TRAFFIC IN A COMMON CHANNEL

IF TWO SHIPS ARE APPROACHING THE CHANNEL FOR BOTH PORTS AT THE SAME TIME, MUMBAI PORT TRUST WILL DECIDE WHICH SHIP TAKES PRECEDENCE, DEPENDING ON SHIP SIZE, SPEED, AND DRAUGHT.

PORT NOTE



CAPT. SUNIL NISHITH, 51
DOCK MASTER

"It's a 24-hour job"

➔ I am in charge of daily operations at Port Control and report to the Port Harbour Master. It's a 24-hour job, one in which you have to stay alert at all times. One other Dock Master and I alternately work 24-hour shifts at a stretch, and during that time, we have to be vigilant. I am responsible for the safety of the ships, the Port's property, interactions with the tugboats and in constant communication with pilots, in all kinds of weather. It's my 18th year on this job and I'm sure it's the pressure that has made my hair go grey!

We are also constantly making sure there is no miscommunication in this exercise, as we get ships and crew from different nationalities, speaking different languages, with different personalities. So one has to be patient and keep a cool head at all times.

After each 24-hour duty, I get an off for the next 24 hours. The day I am off, I am dead to the world. But I have a supportive family, so that helps. When my sons are on vacation, they come and stay in the Port guest-house sometimes when I am on duty, so we can spend some quality time together.



**CAPTAIN SUDHANSHU
SHEKHAR, 34**
SHIP PILOT

'It is my job to safeguard millions of dollars worth of cargo until it reaches the Port'

→ Four months of training at JN Port has given me special knowledge of the Port's topography and its channel's characteristics that a visiting ship captain can never have. It is my responsibility to ensure that a visiting ship safely docks without any damage to the vessel, cargo or the structural stability of the Port. There are often millions of dollars worth of cargo on a ship and I have to ensure its safety.

I usually wait at the pilot station, which is around 10 nautical miles away from the terminal. Once I get a call, I board the pilot launch, which takes me to the ship. After that is the tricky part – boarding a moving ship via a ladder from the pilot launch, which is itself trying to hold steady, requires skill and presence of mind in the best of times. The risk of injury is very real in this situation and there have been instances when pilots have hurt themselves in this process. Sometimes, the constant tossing of the ship during choppy weather makes even seasoned sailors seasick.

I find this job exciting and satisfying. The advantage is that I don't have to spend too much time away from my family, unlike if I was a ship captain. I think of it as a "service to the nation" too, because ultimately, JN Port is a government Port, and the ships I bring safely to shore contribute to the economy of the country.

HOW PORT CONTROL AT JN PORT WORKS

When a ship is approaching the Port's channel, first, Port control establishes communication by radio (VHF) when the ship is about 35 Nautical Miles (NM) away from the Port.

There are a few reporting points when a ship must communicate with Port Control, a key one being at 24 NM when a ship is instructed whether a berth is available (in which case it can approach the Port directly) or if it should wait at the outer anchorage or holding area which is situated at 20 NM away from the Port, till a berth becomes available. Usually, ship wait times at JN Port are under 2-3 hours.



"With overall management and cordial relations with our stakeholders, our traffic department looks forward to increase our efficiency and service level comparable to international standards".

Shri A.K. Bose,
CHIEF MANAGER (TRAFFIC)



PORT NOTE

IN 2011-2012, A TOTAL 2,929
VESSELS VISITED THE THREE
TERMINALS AT JN PORT.
OVER 2,200 OF THESE WERE
CONTAINER VESSELS, WHILE
THE REST CARRIED LIQUID,
CEMENT AND PROJECT
CARGO.

Ships are monitored at all times on radar and guided so that they do not deviate from the channel path and stay on course in the channel, so as to avoid shallow patches or obstructions. Accidents are rare as every ship is equipped with Automatic ID System (AIS) which tells Port Control the ship's position, course, speed, tonnage and other details, in real time.





LH MANDAL, 33
TUGMASTER

'Every minute of berthing or unberthing a ship is challenging'

➔ *As a tugmaster, I am the captain of a tugboat. I spend 3 months on the vessel at a stretch, after which I get a month off. In all the time that I'm on the vessel, I have to be alert always. A call for assisting in docking and undocking the ships can come anytime. A tugmaster has to be a good handler, and should have accurate judgment. The eight years I have spent at sea have helped me develop this.*

My job is to follow the commands of the pilot on the ship via radio as accurately as I can, as the tugboat has to tow a ship many times its weight and size to berth, manoeuvring carefully. Once the towrope is fastened securely to the ship, the front of the tug (called the forecastle deck) is cleared of men. It is my responsibility to ensure this happens, because the risk of men getting injured is very real. I do get homesick sometimes, but I have chosen this as my career and it's something that I accept. Working at JN Port has many perks – I have enough money to take care of my family, and my food and conveyance are all taken care of when I have to go back home

Challenging though it may be, I enjoy this job and would want to continue it for as long as possible.

PILOT LAUNCHES, TUGS, BUOYS: SETTING SAIL

PILOT LAUNCHES

A pilot launch transports pilots between land and the inbound or outbound ships they are piloting. Modern pilot launches can be from 20 feet to over 75 feet in length, built to withstand heavy seas and bumping against massive tanker ships. They are high-powered and hence both very quick and durable boats built for the specific purpose of transporting a pilot to or from a ship. They are normally painted in a highly visible colour such as orange, red or yellow. JN Port has four pilot launches and provides round-the-clock pilotage.

TUGBOATS

A tugboat is a vessel that assists a ship in maneuvering into and out of a port by towing or guiding it. Tugboats are equipped with powerful diesel engines. The tugs at JN Port have two

THE PORT HAS 16 PILOTS. A PILOT IS ASSIGNED TO A SHIP DEPENDING ON THE TONNAGE OF THE VESSEL. TYPICALLY, THE BIGGER THE SHIP, THE MORE SENIOR THE PILOT.



engines, one on the port side and one the starboard side. They have complete fire-fighting capabilities and are equipped with a fire engine. There are eight tugboats at JN Port.

BUOYS

Buoys are floating sea markers that indicate something, like safe water, or the beginning of a channel. These are critical for the navigation of ships. JN Port's navigational channel is marked by buoys and transit lights that demarcate the centre of the approach channel permitting night navigation.

Following an incident in 2010, when two ships MSC "Chitra" and MV "Khalijja" collided with each other resulting in damage to both the ships, the Shipping Ministry advised JN Port to install fairway buoys (used to indicate safe water) and navigational buoys with racons (radars that are attached with beacons). The Port has placed orders for the same.

SOCIAL INFRASTRUCTURE: COMMUNITY & ENVIRONMENT

ENVIRONMENT

JN Port's proactive Green Port policy has made it India's greenest port. Over 2,000 acres of the Port land has been reserved for greenery and mangroves. Close to 40,000 saplings were planted to increase the green cover, earning the Indira Priyadarshini Vrikshamitra Puraskar,

a national award conferred by the government.

The green measures don't end with greenery, though. JN Port observes the International Convention on Marine Pollution (MARPOL) and continuously monitors the air and water pollution levels in JN Port through an external agency.

One of the challenges to the Port's green status occurred during the collision between MSC "Chitra"-MV "Khalijia" in 2010, which led to some 300



1. BEFORE: PORT STAFF JOGGING PAST THE PORT ADMINISTRATION BUILDING ON A BARREN SHEVA HILL AROUND 25 YEARS AGO. SOON AFTER THE PORT STARTED OPERATIONS



2. AFTER: THE SAME ROAD TODAY LINED WITH TREES. LIKE THE REST OF THE PORT THAT HAS A THICK GREEN COVER MAKING IT INDIA'S GREENEST PORT

SUBRATA BASU, IRS (RETD.)
FORMER CHIEF COMMISSIONER OF CUSTOMS (MUMBAI)

★ ★ ★

Erected 'rockscapes' around JN Port

'When busy officials come to JN Port and see these rockscapes, it relieves their tension'

→ Creating 'rockscapes' is something I've been doing for a long time, even before I started working at JN Port. When I saw the Western Ghats, which are such an integral part of this area and of JN Port, I wanted to do something that would remind people of their natural heritage.

Our lifespans might be very short, but I believe the sum total of our existence goes much beyond our life spans. After all, we have all come from this very earth. That is what I wanted to tell people. Some would call it being environmentally

conscious. I just want to make people a little more sensitive towards their natural surroundings.

Each and every one of these boulders has been chosen for their aesthetic beauty by me. I found their shapes resembled something distinct, and that's how the names like 'Hen' and 'Mother and Child' came about. And whenever people ask me how I managed to do this, along with my official duties as the Customs Commissioner, I have only one thing to say. This is my baby, and there was never a question of me having to take time out for it. It just happened, because it is a part of who I am.

Considering that there is much so development happening on the ghats these days, these miniscule parts of those mountain ranges stand here at JN Port as a testimony of our past.



THE JN PORT GUEST HOUSE

containers falling into the sea and an oil spill that spread to nearby coasts. As a result, fishing in nearby areas was affected and the Port had to shut operations for a few days until the containers could be cleared from the channel. Services of SMIT Salvage, a Netherlands-based company involved in emergency response and wreck removal operations were availed to manage the situation. The Navy and the Coast Guard also carried out anti-pollution activities. A committee appointed by the Shipping Ministry to inquire into the accident made a number of recommendations, including reviewing the crisis management plan. JN Port made note of these recommendations and implemented them.



1. A PLAYGROUND FOR CHILDREN AT THE JN PORT TOWNSHIP

Following this, JN Port entered into a Memorandum of Understanding dated February 18, 2011, with the Mumbai Port Trust, BPCL and other participating oil companies on the implementation of the National Oil Spill Disaster Contingency Plan within Mumbai Harbour.

It is intended to serve as a joint participation platform for all liquid bulk cargo handling companies/ port users located within the Mumbai harbour to combat the risk of liquid bulk cargo spills within the region.

To lend credibility to its green actions, the Port is ISO 14001-2004 certified for Environmental Management System. The DP World Nhava-Sheva terminal follows practices like using CNG buses for the staff, recycling waste oil, harvesting rain water and using low energy equipment like LEDs and star-rated appliances, winning it the 2011 Golden Peacock Award for Environment Management. An in-house incinerator recycles the terminal's waste, which in turn, is used in the upkeep of the greenery on the premises.

COMMUNITY

JN Port has acquired an aggregate area of 2584 hectares of land in the early eighties. Over 3,000 families of the farming community of the Raigad-Uran belt, where JN Port is situated, were affected by the development of the Port. The cost of rehabilitation and compensation was shouldered by JN Port. Additionally, after years of

dialogue, the Port, with the approval of the Central Government, has agreed to allot 12.5 percent of the land acquired for the development of JN Port back to original owners as part of a settlement. On its part, JN Port has earmarked 111 hectares of its land to be allotted to the project-affected villagers, and has started the process of disbursement of land.



THE JN PORT TOWNSHIP HAS FULL-FLEDGED ENGLISH-MEDIUM AND MARATHI-MEDIUM SCHOOLS FOR STAFF AND LOCAL CHILDREN





JN PORT MAIN ADMINISTRATION BUILDING

Over 2,600 Project-Affected Persons (PAPs) have been provided direct or indirect employment by the Port, as jobs, or awarding of labour contracts, or creation of business opportunities (by way of running shops/STD booths/hawker zones). The Port has deepened its involvement with the community by inviting several surrounding schools to bring students for visits to the Port, without compromising their safety. Private terminals too have been

encouraged to hire JN Port PAPs, with the result that the majority of the work force in the private terminals is from the affected communities. Several other initiatives, like adopting schools, building public toilets for tractor-trailer drivers and the local community, donation of clothes and uniforms to village students, blood donation camps, etc., are organized by private terminals and are ongoing.



STAFF RECREATION CLUB AT THE JN PORT TOWNSHIP



MULTI-PURPOSE HALL AT THE JN PORT TOWNSHIP



HOSPITAL AT JN PORT TOWNSHIP



L TRAINING CENTRE AT JN PORT FOR PORT STAFF

Bhushan Patil, long-time Trustee and labour union leader at JN Port, who has spearheaded many a protest for adequate rehabilitation of original residents by the Port, concedes, "From a national and a local point of view, this Port is a success story. I have been at other ports, and by comparison, industrial relations here have been largely cordial. The future is bright, but that's partly because of the long tradition of struggle by original resident farmers on this land, and we cannot forget the sacrifice of the local people. Still, there is no doubt this Port has brought huge employment to all the villages surrounding it. We have to keep it going – there should be development with a social touch."



From a national and a local point of view, this Port is a success story. I have been at other ports, and by comparison, industrial relations here have been largely cordial.

Bhushan Patil,

LONG-TIME TRUSTEE AND LABOUR UNION LEADER AT
JN PORT



1. (FROM LEFT) SHRI S.P. SHIRWADKAR, CHIEF MANAGER (FINANCE), SHRI A.K. BOSE, CHIEF MANAGER (TRAFFIC), SHRI A.J. LOKHANDE, CHIEF MANAGER (PPM&I), SHRI N.N. KUMAR, CHAIRMAN, JN PORT, SHRI S.K. KAJI, CHIEF MANAGER (ADMINISTRATION) AND SECY, JN PORT, SHRI S. N. MAHARANA, CHIEF MANAGER (M&E ENGG.), AND CAPT. B. S. KUMAR, HARBOUR MASTER, MARINE DEPARTMENT



2. (FROM LEFT) SHRI A.J. LOKHANDE, CHIEF MANAGER (PPM&I), SHRI A.K. BOSE, CHIEF MANAGER (TRAFFIC), WITH SHRI N.N. KUMAR, CHAIRMAN, JN PORT, AND SHRI S. N. MAHARANA, CHIEF MANAGER (M&E ENGG.) AT THE JN PORT CONTAINER TERMINAL



3. SHRI N.N. KUMAR, CHAIRMAN, JN PORT, WITH CAPT. B. S. KUMAR, HARBOUR MASTER, MARINE DEPARTMENT, ABOARD A PILOT LAUNCH AT JN PORT



4. SHRI N.N. KUMAR, CHAIRMAN, JN PORT, IN DISCUSSION WITH SHRI S.P. SHIRWADKAR, CHIEF MANAGER (FINANCE), AND HIS TEAM