HTOA Hydraulic Trailer Owners Assocation

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HEAVY HAULERS

FIRST HEAVY LIFT JOURNAL OF INDIA

Inland Waterway
Emerging mode of Transportation for Growth

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NITIN GADKARI

सत्यमेव जयते

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सड़क परिवहन, राजमार्ग
एव पोत परिवहन
भारत सरकार
MINISTER OF ROAD TRANSPORT,
HIGHWAYS AND SHIPPING
GOVERNMENT OF INDIA

Message

I congratulate HEAVY HAULERS – a commendable initiative by HTOA- on completion of its first year of publication successfully.

HTOA has acted as a forum which has been in regular interaction with Ministry for appraising us on the key policy issues and simultaneously their possible solutions helping promote Ease of doing Business.

It is good to share that Ministry has granted more than 4000 online movement permissions for OD/OWC in past one year and HTOA member operators have expressed their confidence in the system by depositing more than Rs.100 million towards ODC fee in Government's account.

The movement data collected has been an eye opener to Government to think in long term for phased development of required infrastructure for OD/OWC movement and also explore & develop alternate means as waterways etc. to overcome road & bridge constraints for super OD/OWC movements.

I feel pleasure in conveying that my Ministry has been able to develop Indian Bridge Management System and very soon digitalized data on bridge structures will be available.

I wish HTOA all success in future and expect that it will continue regular interaction with Ministry concerning key policy issues and also promote transparency through wide circulation of Government Policies through HEAVY HAULERS on regular basis.

(Nitin Gadkari)

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Anurag Chaturvedi
Assistant Vice President

Message

It gives us immense pleasure to see the constructive synergy between Government and HTOA for easing out the movement of over dimensional/over weight consignments in India.

I wish to congratulate HTOA for regular publication of HEAVY HAULERS – a journal which gives an inside view on heavy cargo movement and keeping users posted on the latest developments.

Key initiatives in the past one year has helped ABB deliver our large Over Dimensional / Over Weight products to be delivered at project sites within scheduled time limits.

I wish entire HTOA team grand success in the days to come and also look forward for much more improvement through regular interaction between various stakeholders and development of world class infrastructure by Government with easing of policies.

Anurag Chaturvedi

Assistant Vice President

Head Center of Excellance – Transport, Trade & Logistics

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From the desk of Chairman

Manish Kataria
Chairman
Hydraulic Trailer Owners Assocation

Emerging Infrastructural Needs for transportation through waterways

I am pleased to inform that HEAVY HAULERS has completed its first year of publication and its contents and HTOA's efforts has been appreciated by all stakeholders as well as Government.

Ministry's online permission portal has given a clear picture of country's growth story and the constant growth in permission numbers gives a pulse of our Industrial & infrastructural growth.

The centralized data base at Ministry level has enabled Ministry to understand the OD/ OWC movement trend, corridors, constraints and moreover prioritize the developmental activities in this regard.

HTOA's concentrated efforts has been appreciated by the Ministry and moving ahead on the road map laid last year in January,2015 Ministry has developed a well organised ODC cell at IAHE campus , Noida under control of The Chief Engineer- Bridges (S&R). IDDC Engineers has been bestowed the responsibility of development & implementation of Indian Bridge Management System which will be one of the largest data base of bridge structures across the world.

The following factors which are directly linked to OD/OWC movements in country promotes an immediate thought to look for alternate means of transport:

i) Data collected in past one year through ODC portal.

ii) Government's concern on pollution levels directly hitting commercial vehicle operations in India.

iii) Stucking of Land Acquisition Bill in Parliament.

iv) Crisis of world class road

infrastructure developers in India.

v) Emerging OD/OWC movement requirements considering growth in Industrial activity and announcement of mega infrastructure projects.

vi) Growing size of indivisible equipments.

vii) Height constraints on public roads & under passes,

viii) Height constraints on electrified railway crossings.

ix) Transit time & freight cost emerging as a key deciding factor for buyers.

HTOA shared its concern on the issue with Ministry and stressed on demand of development of National waterways as well as Indian coast line with world class facilities suitable to handle over dimensional & over weight consignments.

HTOA is pleased to share that Shri. Nitin J.Gadkari, Hon'ble Minister of Shipping, Road, Transport & Highways, Government of India gave a patient hearing on the issue and has advised Inland Waterways Authority of India to discuss & deliberate on the issue in consultation with HTOA.

HTOA based on the vast member network can visualize the growing needs for movement of OD/OWC and also the increase in size & weight of cargo. On the other hand HTOA being in direct interaction with Ministry , IRC and allied Government bodies also understand the capacity constraint of bridge structures & road infrastructure.

Under such situation it is high time that necessary steps be initiated by all stakeholders for:

1. Logistic feasibility study for establishment of new manufacturing facilities under "MAKE IN INDIA" vision.
2. Existing large equipment manufacturing units share their plans & constraints with concerned Government Authorities transparently along with possible enforceable solutions with long term vision.
3. Exploration of nearest waterways to OD/OWC manufacturing & user industries which can be developed to promote fast & economical means of transport.
4. Make Indian products logistically viable at global level.

HTOA will continue to strive its efforts for the above.

JAI HIND

Manish Kataria
Chairman-HTOA

अध्यक्ष की कलम से

मनीष कटारिया
अध्यक्ष
हाइड्रौलिक ट्रेलर ओनर्स एसोसिएशन

जलमार्ग परिवहन की उभरती ढांचागत ज़रूरतें

मुझे आपको यह बताते हुए प्रसन्नता हो रही है कि हैवी हॉलर्स ने प्रकाशन का पहला साल पूरा कर लिया है तथा इसकी सामग्री एवं HTOA के प्रयासों को सभी हितधारकों एवं सरकार के द्वारा सराहा गया है।

मंत्रालय के ऑनलाईन अनुमति पोर्टल ने देश के विकास की स्पष्ट तस्वीर प्रस्तुत की है और अनुमति के आंकड़ों में लगातार वृद्धि ओद्यौगिक एवं बुनियादी संरचना के विकास को दर्शाती है।

मंत्रालय स्तर पर केन्द्रीकृत डेटा बेस ने मंत्रालय को ओडी/ओडब्ल्यूसी परिवहन के रूझानों, कॉरिडोर, बाधांए तथा इस संदर्भ में विकास गतिविधियों की प्राथमिकता को समझने में सक्षम बनाया है।

HTOA के प्रयासों को मंत्रालय के द्वारा सराहा गया है और जनवरी 2015 में तैयार किए गए खाके के आधार पर मंत्रालय ने आईएएचई परिसर, नोएडा में चीफ इंजीनियर–ब्रिजेस (S&R) के नियन्त्रण में एक ओडीसी सैल का गठन किया है। आईडीडीसी इंजीनियर्स लिमीटिड को भारतीय पुल प्रबन्धन प्रणाली का ज़िम्मा सौंपा गया है जो दुनिया भर में पुल की संरचनाओं के सबसे बड़े डेटाबेस को तैयार कर नियत्रिंत करेगी।

निम्नलिखित कारक जो देश में ओडी/ओडब्ल्यूसी परिवहन से सीधे सम्बन्धित हैं, परिवहन के वैकल्पिक साधनों को बढ़ावा देंगे:

- पिछले एक साल में भारत सरकार द्वारा संचालित ओडीसी पोर्टल के माध्यम से संग्रहित आंकड़े।
- प्रदूशण के स्तर को लेकर सरकार की चिंता जो सम्पूर्ण भारत में वाहनों के संचालन को प्रभावित करती है।
- संसद में भूमि अधिग्रहण विधेयक का अटकना।

- भारत में विश्वस्तरीय सड़क इन्फ्रास्ट्रक्चर के विकास का संकट
- विशाल इन्फ्रास्ट्रक्चर परियोजनाओं की घोषणा एवं ओद्यौगिक गतिविधियों में विकास की आवश्यकताओं को देखते हुए उभरती ओडी/ओडब्ल्यूसी आवश्यकताएं।
- अविभाज्य उपकरणों का बढ़ता आकार
- सार्वजनिक सड़कों और अंडर पास को लेकर उंचाई की बाधा
- विद्युतीकृत रेलवे क्रॉसिंग पर उंचाई को लेकर बाधा
- परिवहन का समय और माल ढुलाई की लागत खरीददारों के लिए मुख्य कारक है।

HTOA ने इस मुद्दे पर मंत्रालय के साथ चिंता जताई है तथा सामान्य से अधिक आयाम एवं वज़न के माल को हैण्डल करने के लिए उपयुक्त राष्ट्रीय जल मार्गों एवं भारतीय तटरेखा के विकास की मांग पर ज़ोर दिया है। HTOA को यह बताते हुए खुशी का अनुभव हो रहा है कि श्री नितिन गडकरी, शिपिंग, सड़क परिवहन एवं राजमार्गों के लिए माननीय मंत्री, भारत सरकार ने भारतीय अन्तर्देशीय जलमार्ग प्राधिकरण को निर्देश दिए है कि HTOA के साथ इस मुद्दे पर विचार–विमर्श एवं चर्चा की जाए।

HTOA सदस्यों के विशाल नेटवर्क के आधार पर ओडी/ओडब्लयूसी के परिवहन की बढ़ती ज़रूरतों तथा कार्गो के आकार और वज़न में वृद्धि की कल्पना कर सकता है। वहीं दूसरी ओर मंत्रालय, आईआरसी एवं सम्बद्ध सरकार संस्थाओं के सीधे सम्पर्क में है, तथा पुल एवं सड़क की संरचना की क्षमता में आने वाली बाधाओं को समझता है।

ऐसी स्थिति में समय आ गया है कि सभी हितधारकों के द्वारा निम्न के लिए ज़रूरी कदम उठाए जाएं:

1. 'मेक इन इण्डिया' दृश्टिकोण के तहत नई निर्माण सुविधाओं की स्थापना के लिए लॉजिस्टिक व्यवहार्यता अध्ययन
2. मौजूदा बड़ी उपकरण निर्माण ईकाईयां अपनी योजनाओं और बाधाओं को सम्बन्धित सरकारी अधिकारियों के साथ साझा करें, दीर्घकालिक दृश्टिकोण के आधार पर सम्भव समाधान प्रस्तुत करें।
3. ओडी/ओडब्लयूसी मैनुफैक्चरिंग एवं उपयोगकर्ता उद्योगों के लिए नज़दीकी जलमार्गों की खोज जिनका विकास परिवहन के तेज़ एवं आर्थिक दृष्टि से व्यवहार्य साधनों के विकास के लिए किया जा सकता है।
4. भारतीय उत्पादों को विश्वस्तर पर लॉजिस्टिक के लिए व्यवहार्य बनाया जाए।

HTOA उपरोक्त के लिए अपने प्रयासों को जारी रखेगा।

जय हिन्द

मनीष कटारिया
अध्यक्ष, एचटीओए

HTOA Meetings During
Dec, 2015 to Feb, 2016

Date	Dignitaries/ officials met	HTOA oficials Present	Issues Discussed	Venue
22-Dec-15	**Shri. Vijay Chhibber**, Secretary-Road, Transport & Highways, Govt.of India	**Shri. Manish Kataria** Chairman **Shri. Bharat Gandhi** Vice Chairman **Shri. Sukhvinder Singh** Treasurer	Pending S.O. Notification, Fitness Renewal, State Road Permission	Parivahan Bhawan, New Delhi
22-Dec-15	**Shri. Abhay Damle** Joint Secretary-Transport, MoRTH		Pending S.O. Notification, Fitness Renewal, Public Property Damage Liability Insurance	Parivahan Bhawan, New Delhi
22-Dec-15	**Dr. Sanjeev Kumar** (IAS), P. S. to Minister of Railways		Online Permission for Railway power block	Rail Bhawan, New Delhi
22-Dec-15	**Shri. S.N. Das** Director General-RD & Spl. Secretary, MoRTH		Improvement on ODC portal	Parivahan Bhawan, New Delhi
5-Jan-16	**Dr. Murli Manohar Joshi** Member of Parliament, Kanpur	**Shri. Manish Kataria** Chairman	Madhya Pradesh Transport Deptt. Harassment	Kanpur
11-Jan-16	Executive Committee Meeting-HTOA	HTOA Committee	Quarterly meeting	HTOA office, Mumbai
11-Jan-16	**Mr. Bhalchandra** Deputy Transport Commissioner Maharashtra	**Shri. Manish Kataria** Chairman **Shri. Bharat Gandhi** Vice Chairman	to appraise various ODC permission problems in Maharashtra	Transport Commissioner Office, Bandra
22-Jan-16	**Shri. R.K. Singh** Co-Ordinator, MoRTH	**Shri. Manish Kataria** Chairman **Shri. Sandeep Gupta**	Improvement on ODC portal	IAHE, Noida
22-Jan-16	**Shri. A.K. Pandey** SE-Bridges (S&R), MoRTH			

3-Feb-16	**Shri. Nawal Kishore Sharma** Director-Toll, MoRTH	**Shri. Manish Kataria** Chairman **Shri. Sandeep Gupta**	Toll policy on hydraulic trailer combinations	Parivahan Bhawan, New Delhi
10-Feb-16	**Shri. Shyam Vardhane** Transport Commissioner, Maharashtra	**Shri. Bharat Gandhi** Vice Chairman & **Shri Sukhvinder Singh** Treasurer	Courtesy Call on new joining	Transport Commissioner Office, Bandra
11-Feb-16	**Shri. Nitin J Gadkari**, Hon'ble Minister-Road, Transport & Highways, Shipping, Government of India	**Shri. Manish Kataria** Chairman **Shri. Jignesh Patel** Secretary **Shri. T. G. Ramalingam** Jt. Gen. Secretary	Inland waterways infra development for ODC movement, Skill Development for drivers & hydraulic axle operating crew, State Roads Permission system	Parivahan Bhawan, New Delhi
11-Feb-16	**Dr. Sanjeev Kumar (IAS)** P.S. to Minister of Railways		Online Permission for Railway power block	Rail Bhawan, New Delhi
16-Feb-16	**Shri. Kaushik Basu** Chief Engineer (Mechanical), MoRTH IRC3 Committee meeting	**Shri. Ravi Kumar** TII Sales **Shri. Sandeep Gupta**	Review of IRC 3 code	IRC Bhawan, New Delhi

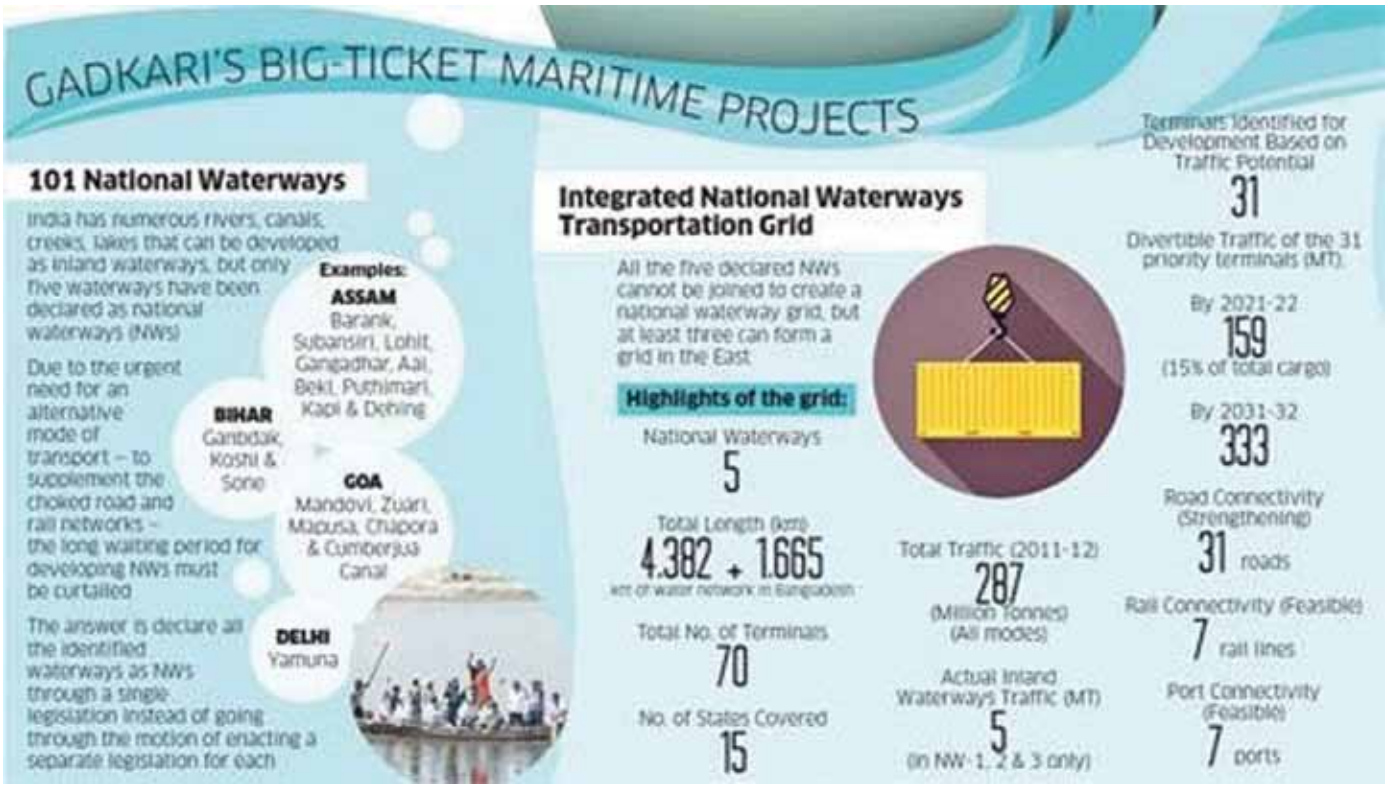
Inland waterways: How Nitin Gadkari is steering some of modern India's biggest infrastructure projects

By Binoy Prabhakar, The Economic Times

As minister of road transport and highways, and shipping, Nitin Gadkari runs a highly visible and critical ministry in the Narendra Modi government, but has — surprisingly — shown an averseness to the spotlight. He does talk occasionally to the press, as he did earlier this week about the prime minister asking him to prepare a policy to promote clean fuel. There is also the customary speech at government functions. Not to forget the odd controversy when he was snapped riding a scooter without a helmet or when he is said to have shown a keen interest in becoming the chief minister of Maharashtra, his home state.

But Gadkari has mostly maintained a low profile during the eight months in charge. That should not actually surprise in a government with Narendra Modi as head. An official at the shipping ministry said he and his colleagues respond to an enquiry from the Prime Minister's Office first and faster than they would do to a task from their minister.

Gadkari may not be the man about town, but he has not been idle at work. Far from it, he has envisioned some of modern India's biggest infrastructure projects yet. They are all centred on inland waterways — an old, creaking and perennially ignored part of India's infrastructure — in his capacity as shipping minister. Each of the projects (see Gadkari's Big-Ticket



Maritime Projects) has the potential to radically transform the economy and increase the competitiveness of Indian companies.

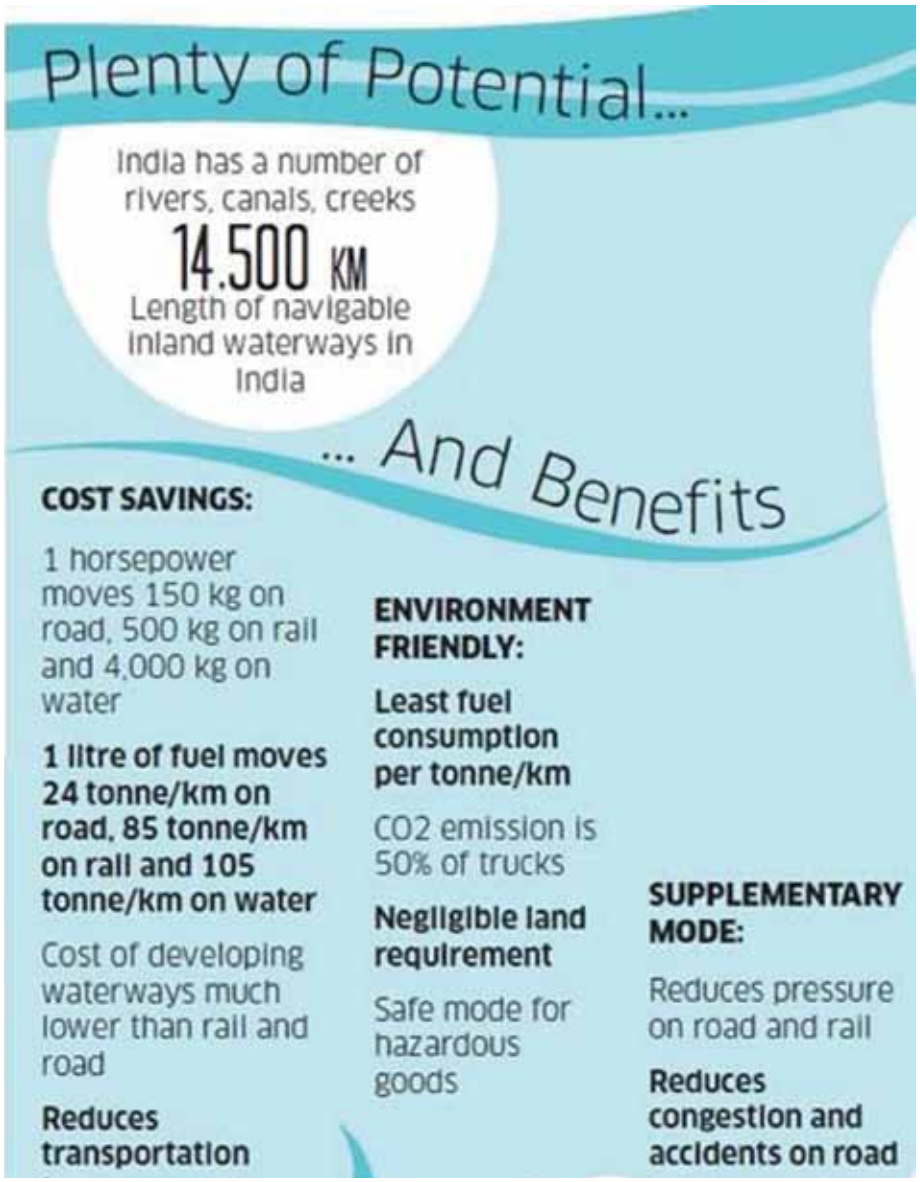
Ambitious Plans

Take Jal Marg Vikas, a World Bank-assisted project to develop the stretch on River Ganga between Haldia in West Bengal and Allahabad in Uttar Pradesh and make it navigable for ships with a depth of at least 3 meters. The project, worth `4,200 crore, has the potential to serve a number of big cities such as Haldia, Howrah, Kolkata, Bhagalpur, Patna, Ghazipur, Varanasi and Allahabad, their industrial hinterlands, and several industries located along the Ganga basin.

The benefits are immense. As the rail and road corridors of this region are already saturated, the development of this stretch of the river would create an alternative mode of transport. Huge quantities of bulk cargo can pass through the river. Transport costs of shippers will fall.

Increased cargo traffic on large vessels between Haldia and Farakka will boost the economy of these regions. Congestion and accidents on highways too will reduce. There is already an urgent demand to facilitate navigation by bigger vessels of 1,500 tonnage as many potential shippers (thermal power plants, cement companies, fertilizer companies, edible oil companies, Food Corporation of India) have shown interest, according to the details of the project prepared by the regulator Inland Waterways Authority of India (IWAI).

No less significant is Gadkari's plan to declare 101 water bodies across the country as National Waterways (NWs) in one go. A river, creek or canal is developed by deploying dredgers to remove sand and silt and build accompanying infrastructure such as barges, storage facilities and container depots. But the government must first declare it as a National Waterway (the central government has jurisdiction



over a NW, including development and regulation for shipping and navigation by vessels. Right over usage of water, ownership of adjacent land remain with state government as do jurisdiction over all other water bodies). To do so, the government requires approval from parliament, unlike the case of highways where a notification in the official gazette does the trick. That is cumbersome and time consuming, which is why since Independence, only five water bodies have been declared as NWs (see But there are only...).

Gadkari has proposed amending the Constitution to obviate the requirement of parliamentary approval for declaration of NWs. The shipping ministry has prepared a draft Cabinet note proposing to declare all the identified water bodies (see 101 National Waterways) as NWs through a single legislation instead of going through the motion of enacting separate legislations for each. The law ministry has sought more details on the new NWs.

It has asked the shipping ministry to provide the exact location of the water bodies and the stretches that will be developed, among other details.

Both these initiatives are testimony to the foresight and deftness Gadkari has brought to the shipping ministry. India has an abundance of water bodies — rivers, canals, creeks, lakes and the like — that can be developed as viable inland waterways, but like much else, its maritime infrastructure has long been crying desperately for government attention.

Vinayak Chatterjee, chairman and managing director, Feedback Infrastructure Services, which advises companies, said he is pleased that the minister has zeroed in on a historically neglected sector. "India is blessed with a number of water bodies but this sector has been surprisingly neglected."

No kidding. Even the existing NWs, with the exception of the one in Kerala — its direct connection to the Cochin Port facilitates trade — are in name only and require immediate upgrade. Transport and logistics company Jindal ITF carries imported coal from Haldia NTPC's power plant at Farakka on NW1 but that is because it has customised its vessels. National Waterways 4 and 5 were declared in 2008, but it took the IWAI six years to simply open an office in the states concerned.

Multiple Benefits

Inland waterways offer a more efficient mode of transport than rail or road — a single barge has the dry-cargo capacity of 50 trucks or 15 railcars. (see Plenty of Potential). Barges are also not fuel gluttons, emit fewer greenhouse gases and cause far fewer deaths than either trains or trucks. Yet, government attention has always been fixated on railways and roads.

Not that it has helped. Both these modes of transport are congested. That makes it all the more critical to

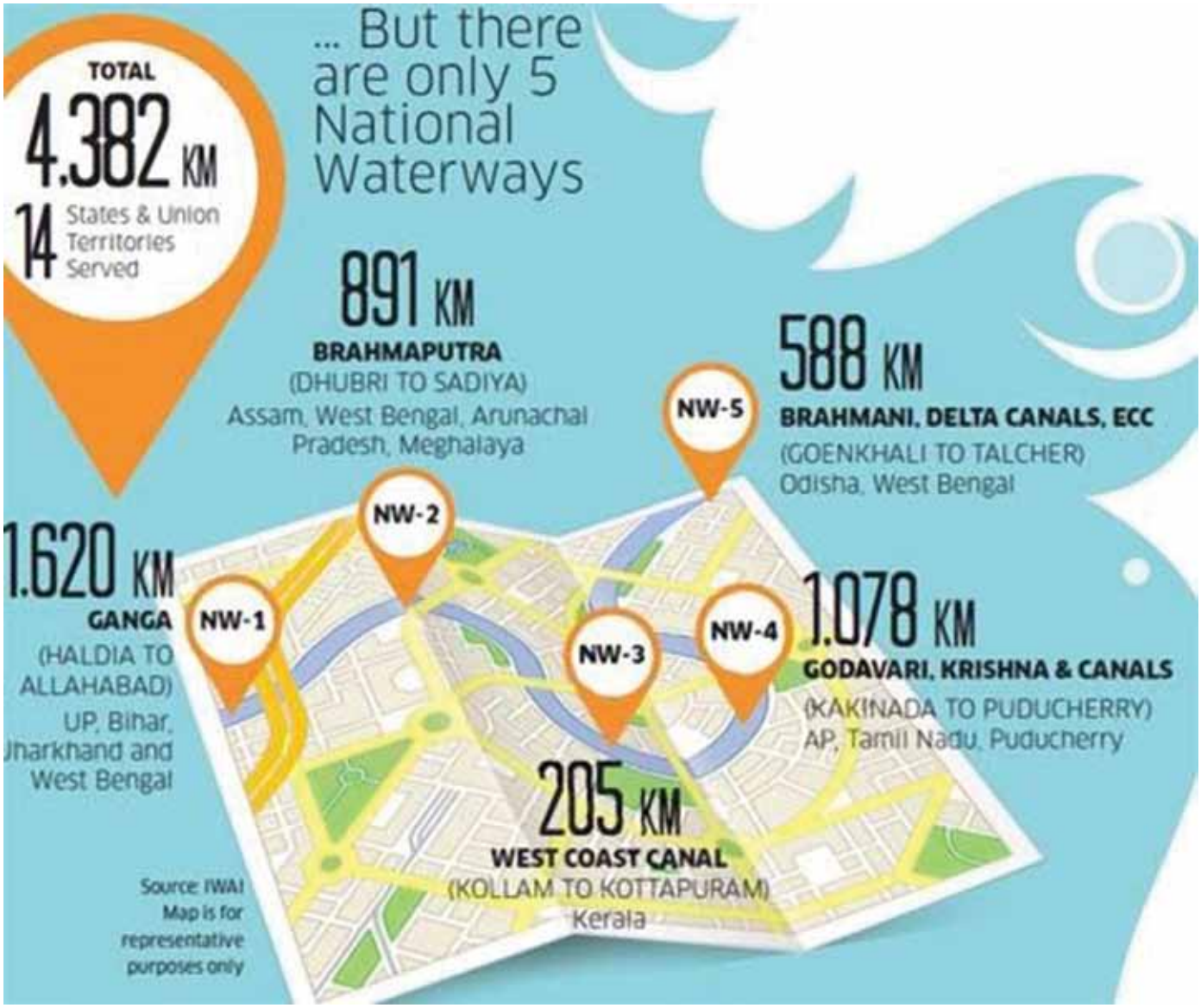
give a facelift to inland waterways to make them a supplementary transport network (see Divertible Traffic From...). The eastern region is ideal for a waterway grid due to the proximity of NWs.

The number of ships calling at Indian ports has been rising — about 45,000 ships dock at Indian ports in a year; more than half the number at major ports — owing to increasing trade. Typically, when shipping to and from a country increases, so too does the use of inland waterways. India has proved to be an exception.

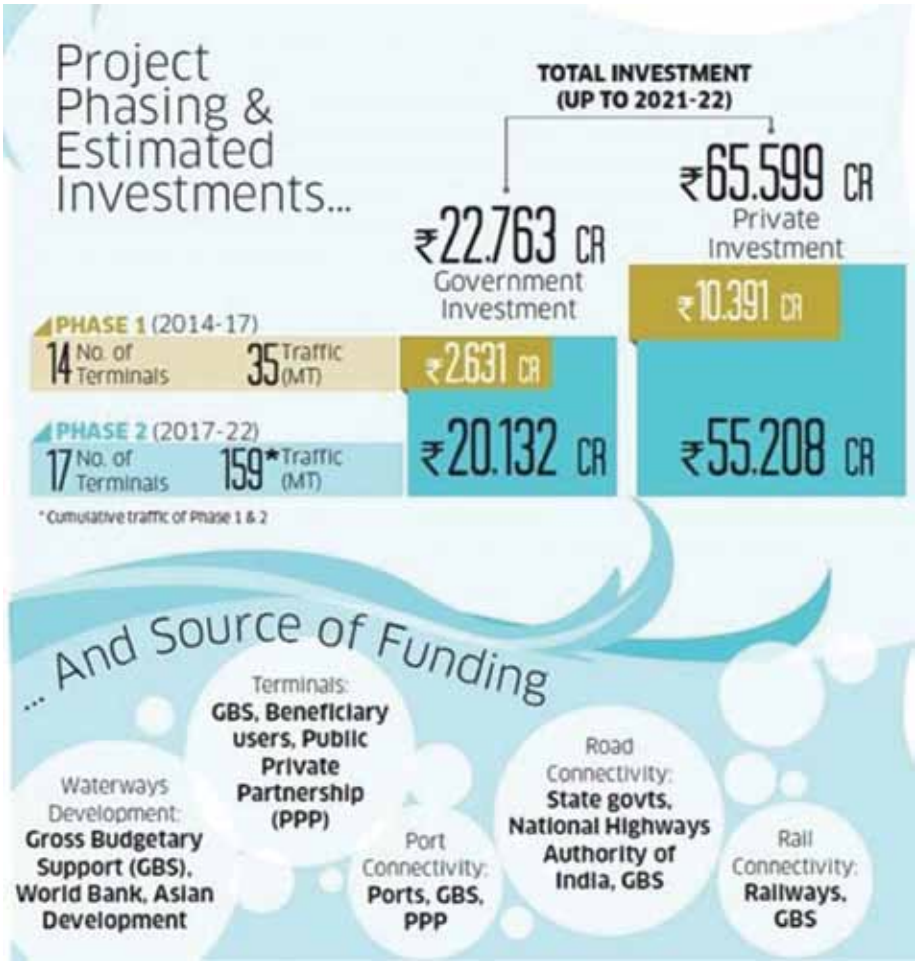
The primary mode of transport for much of India's exported commodities such as fly-ash, foodgrain, cement, stone chips and the like remains the railways, except when container ships are located within 300 km. Then roads become the preferred mode (for distances less than 100 km, pipelines are used to ship liquid petrochemicals).

According to the latest data from IWAI, India's inland waterways carried 70 million tonnes of exported commodities in 2012 compared with 55.82 million tonnes in 2008. More than 60% of this cargo was iron ore. Owing to the iron ore export ban in Goa, the size of exported commodities using inland waterways is estimated to have fallen to around 35 million tonnes in 2014.

These are dreadful statistics. The inland waters of the US, European Union and China carry 615 million tonnes, 565 million tonnes and 1.1 billon tonnes of cargo, according to an IWAI paper published last November. The number of vessels carrying cargo that ply on their waters are 31,000, 11,000 and 200,000, respectively. Hardly 1,000 vessels pass through Indian waters. "These countries have maintained and upgraded their river systems on core routes that can support large modern vessel fleets



up to 40,000 tonnes of cargo on a single voyage," said the IWAI paper. India is still looking to create depth in its waters for 1,500 tonnage vessels to pass through. Even poorer nations such as Bangladesh and Myanmar have developed superior inland waterways than India.



Shoddy State

It is not for lack of funds that India's inland waterways are so pathetic. Nearly 45% of the budget allocation to the shipping ministry has traditionally gone to inland waterways. IWAI itself received over Rs 41 crore in 2014-2015, but spent only a fifth of the money.

Nor is it for lack of demand. In the recent past, a substantial demand for waterway transportation has emerged for commodities such as coal, fly-ash, food grains, cement, stone chips, edible oil and the like on NW-1. Shippers too are interested to use NW-1 if adequate infrastructure is provided for navigation, according to IWAI.

Anand Sharma, director, Mantrana Maritime Advisory, said inland waterways require large public investments similar to what have been made in the road and railways sectors in India, but the government has never come up with a realistic policy. "Their approach has been either lackluster or too ambitious to achieve."

One of the worst execution of such projects is the inland waterway jetty at Patna, according to Sharma. "The government made a beautiful jetty smack in the middle of the city, but it is a nightmare to evacuate large volumes of cargo unloaded there. There is no backup land for storage of cargo in the open or in warehouses," he said. Jetties are of no use if they can't function like a port.

Sharma said he knew a cement company that was keen to ship cement on inland waterways. "It wanted to use the Patna jetty for distribution in the city and other parts of Bihar. But after seeing the condition of the jetty, it dropped the idea."

Gadkari wants to change this awful state by launching multiple projects simultaneously. That's not all.

His ministry has also drawn up plans to improve affiliated fields, particularly cruise tourism, which is plagued not just by government apathy but also by red tape and shocking rules (see Cruise Tourism). Example: the crew of foreign cruise vessels are lavish spenders, but they can hit Indian shores only between 8 am and 8 pm. Their visits too are restricted to city limits.

Last December, captain Jose Vilarinho of the US-based Azamara Club Cruises told reporters that he will take India off the route map if the immigration and customs norms are not eased. "If India wants cruise liners to call on its ports, the procedures have to change," he said.

India has big rivers such as Ganga and Brahmaputra, but cruise tourism is still dormant. Indians aren't even allowed to board foreign vessels calling on Indian ports. That means they have to fly to Singapore or Malaysia to experience cruise tourism.

Ratna Chadha, chief executive, Tirun Travel Marketing, which represents three foreign cruise companies in India, said the sad state of cruise tourism in India is an age-old story.

"River cruises in India suffer from a piecemeal approach by the government. Every city in Europe has a thriving river cruise industry. Why can't we do the same?"

Ships and Planes

Gadkari wants to do exactly that. He is looking to create the infrastructure for cruise facilities. As the first step, the shipping ministry has sought a status report from the traffic managers of the Chennai Port Trust. A report from the Port Trust concludes that no project has been held up due to financial shortage but the bane of sector has been red tape. The ministry is about to talk to its counterparts to help the industry.

The ministry is also exploring seaplane connectivity from various ports. Junior shipping minister Pon Radhakrishnan told the Rajya Sabha on August 12, 2014 that the Mumbai port has launched a preliminary study to run seaplanes between Girgaon Chowpatty in south Mumbai and Juhu in the suburbs.

Siddharth Verma, co-founder and director of seaplane company MEHAIR, said the shipping ministry's interest in boosting seaplane operations makes perfect business sense because there are plenty of affluent passengers who want to save time and are longing for a convenient mode of transport.

MEHAIR has launched services from the Jaigarh Port to Ganapatipule beach in Maharashtra. It is also in talks with the Gujarat Maritime Board to connect Pipavav Port with Mumbai. "Given the scale of operations, we can manage for now. But it will be great if the government can chip in as we expand," said Verma.

Verma said inland waterways badly needs a centralised policy and the government must push for single window clearance for approvals. "At least minimise the number of approvals. It is frustrating and so many of our efforts are being stonewalled," he said.

No doubt, Gadkari has the right intent. But is he biting off more than he can chew? He could be exceeding his brief in at least the plan to revive the Yamuna, given that there is a ministry of water resources whose job is exactly that. As the existing National Waterways are in a shambles, a few experts believe that Gadkari should have developed those before launching new ones.

Plenty of obstacles surface between approval and completion. Most of Gadkari's projects require dollops of capital, a tall ask for a fiscally conscious government, and land. Creating the infrastructure too is no picnic. Navigable waterways cannot work without open river navigation techniques, dredgers, modern river information systems, digital global positioning systems, night navigation units and modern methods of channel marking, besides terminals.

Unlike other countries, rivers in India suffer from high siltation. Even a navigable fairway with a channel width of up to 45 metres and depth of 2 metres is a major challenge due to heavy silt loads. Thousands of tonnes of waste dumped by cities on river banks add to the problem. Gadkari's own roads department has played spoilsport by building low bridges on rivers that impede passage of ships.

Man for the Job?

Gadkari's ambitions will also not bear fruit without the private sector's participation. The spectacular failure of the public private partnership (PPP) model has put a big question mark on this front too.

Feedback's Chatterjee said he favours a programmatic approach to building infrastructure. He said when former prime minister AB Vajpayee launched the Golden Quadrilateral (an expansive road network), there were similar arguments. "We should rise above such arguments."

Gadkari's challenges are manageable, according to Chatterjee. "If there is return of capital, private companies will join." Sharma of Mantrana said private companies are already present in inland waterways that are financially feasible.

Indeed, there is a huge scope for companies to make money because they can collect toll money, charge for freight, build real estate and launch tourism services.

Gadkari also has an impeccable record in executing large projects. As PWD minister of Maharashtra from 1995-99, he completed development projects worth Rs 6,000 crore. He succeeded using the PPP model. And if there has ever been a pro-business government, it is this government.

Verma of MEHAIR said the new minister means business, is ready to hear suggestions of industry and meet business leaders. "It is these little things that keeps us in the business."

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Roll-on, Roll-off Operation in Inland Waterway Transportation

By Marco J van Daal
Lecturer/Author/Speaker

Ro-ro is short for "roll-on, roll-off" which covers both operations from shore to barge as well as from barge to shore. There is a significant difference between the roll-on and the roll-off operation. So, to further clarify the type of ro-ro operation we talk about load-out (move from shore to barge) or load-in (move from barge to shore).

When preparing for a ro-ro operation it is important to know your environment (tides, depths, type of quay/jetty) as this has an impact on equipment selection (number of ballast pumps, size of the barge) and type of ro-ro operation (with ramp, with steel plate, grounded barge, floating barge).

We differentiate between 5 basic types of ro-ro operations;

1 roll-on (roll-off) to free floating barge (tidal)

2 roll-on (roll-off) to free floating barge (non tidal)

3 roll-on (roll-off) via steel plates (non tidal)

4 roll-on (roll-off) to barge fixed aground

5 beach landing, barge fixed aground

In nautical and marine operations, reference is often made to documents that have been drafted by classification societies. Complying with the contents of such documents, to a great extend, warrants a safe project performance or at least preparation, in order to satisfy insurances and/or insurance appointed surveyors. Reference is made to one such document here, the DNV document "Guidelines for Load-outs" with document number 0013/ND of which the latest revision was issued last December 2015. In section 5 (table 5-1) DNV recognizes 5 types of load-outs, see figure-1.

Table 5-1 Load-out Classes

Class	Tidal Limitations
1	The tidal range is such that regardless of the pumping capacity provided, it is not possible to maintain the barge level with the quay throughout the full tidal cycle, and the load-out must be completed within a dedined tidal window, generally on a rising tide.
2	The tidal range is such that whilst significant puming capacity is required, it is possible to maintain the barge level with the quay during the full spring tidal cycle, and for at least 24 hours thereafter.
3	Tidal range is negligible or zero, and there are no tidal constraints on load-out. Pumping is required only to compensale for weight changes as the load-out proceeds.
4	Grounded load-out, with tidal range requiring puming to maintain ground reaction and/or barge loading within acceptable limits.
5	Grounded load-out requiring no puming to maintain ground reaction and/or barge loading within acceptable limits.

Figure-1

Note: On 12 September 2013, DNV (Det Norske Veritas) and GL (Germanischer Lloyd) merged into DNV GL, forming the largest classification society with headquarters in Oslo, Norway.

It is important to point out the difference between the two summations of these 5 ro-ro types as they may seen identical at first glance but there is a distinct difference which could cause confusion.

The DNV classes of load-out (figure 1) are based on tidal limitations with reference to pumping capacity or pumping requirement whereas the basic 5 ro-ro operations has expanded that and includes the operational environment.

The two main differences being that DNV does not differentiate between using ro-ro ramps or using a steel plate as the transition between shore and barge, because from a pumping requirement it makes no difference. It makes however an operational difference in the allowable vertical barge movement, which is much less when using steel plates.

DNV also does not differentiate between a grounded barge at a jetty and a beach landing where a jetty is absent and has to be constructed.

Note: Even though the list in figure 1 is titled "load-out classes" and the DNV 0013/ND document is called

"guidelines for load-outs", leaving the impression that only load-outs are covered (excluding load-ins), section 1.2 states that load-ins are also covered by this document.

Load-out onto free floating barge with tidal conditions

For every load-out (and load-in for that matter) the barge is pre-ballasted so that the barge deck is horizontally lined up with the quay. Figure 4.

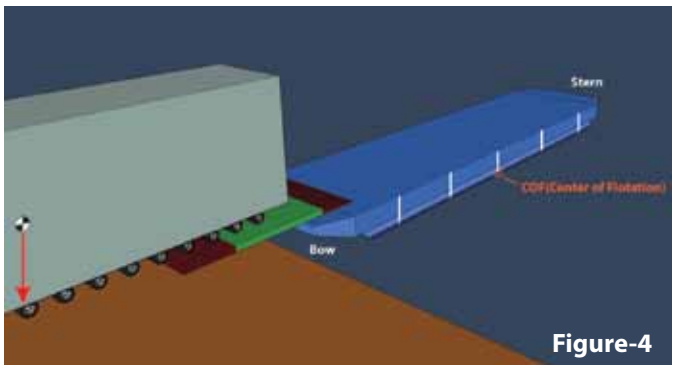

Figure-4

Load-outs performed in an area with tidal conditions often make use of buoyancy. While the load or cargo is inching forward onto the barge an increasingly higher load is transferred from shore to barge. The consequence of this is that the draft (the submerged part of the barge) increases and the freeboard (the part of the barge above the waterline) decreases. How much the draft increases can be determined from the hydrostatic particulars as shown in figure 2.

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Project No. 3064 Rev. 0 [by: MDJ] 12-09-1999

HYDROSTATIC TABLES
400'X99.75'X20'DKBOX

MLD. DRAFT (ft)	DISPL. (LT-SW)	KMt (ft)	LCB (ft-FP)	LCF (ft-FP)	MT1in (ft-LT/in)	TPI (LT/in)
2.500	2,114.28	357.124	202.776A	202.316A	1728.301	77.45
3.000	2,579.33	304.950	202.929A	202.666A	1767.346	78.01
3.500	3,048.99	251.474	203.052A	203.011A	1807.138	78.58
4.000	3,522.88	219.400	203.143A	203.348A	1847.313	79.14
4.500	3,999.92	195.514	203.176A	203.451A	1892.068	79.78
5.000	4,481.39	176.529	203.242A	203.599A	1936.046	80.41
5.500	4,967.16	161.076	203.293A	203.782A	1979.527	81.01
6.000	5,456.21	148.300	203.365A	203.934A	2024.766	81.64
6.500	5,949.14	137.885	203.426A	203.836A	2079.315	82.38
7.000	6,445.14	128.808	203.450A	204.001A	2125.597	82.99
7.500	6,945.25	121.010	203.478A	204.169A	2172.378	83.61
8.000	7,450.46	114.238	203.547A	204.342A	2219.606	84.22
8.500	7,959.21	108.245	203.615A	204.535A	2266.973	84.82
9.000	8,471.51	102.968	203.686A	204.696A	2316.332	85.43
9.500	8,986.52	98.308	203.748A	204.856A	2366.372	86.05
10.000	9,504.01	94.153	203.813A	205.016A	2417.091	86.67
10.500	10,029.27	90.407	203.889A	205.193A	2467.882	87.27
11.000	10,556.22	87.013	203.966A	205.388A	2518.717	87.87
11.500	11,086.70	83.953	204.049A	205.581A	2570.238	88.47
12.000	11,619.21	81.208	204.118A	205.739A	2623.885	89.09
12.500	12,155.58	78.696	204.180A	205.909A	2677.781	89.70
13.000	12,697.36	76.329	204.273A	206.132A	2730.349	90.28
13.500	13,242.42	74.167	204.365A	206.366A	2783.559	90.87
14.000	13,790.96	72.187	204.457A	206.582A	2837.275	91.45
14.500	14,342.21	70.235	204.538A	206.463A	2874.766	91.85
15.000	14,895.74	68.303	204.606A	206.019A	2894.664	92.06
15.500	15,451.01	66.547	204.654A	205.561A	2915.201	92.28
16.000	16,007.82	64.921	204.680A	205.149A	2933.693	92.47
16.500	16,566.02	63.365	204.689A	204.859A	2947.274	92.61
17.000	17,125.58	61.920	204.681A	204.602A	2958.533	92.73
17.500	17,686.49	60.556	204.655A	204.437A	2966.051	92.81
18.000	18,248.63	59.191	204.624A	204.362A	2969.432	92.84
18.500	18,811.28	57.967	204.586A	204.362A	2969.432	92.84
19.000	19,374.00	56.828	204.550A	204.362A	2969.432	92.84
19.500	19,936.21	55.398	204.516A	204.376A	2961.126	92.59
20.000	20,494.51	52.189	204.484A	204.411A	2907.743	90.96

Figure-2

The first column shows the average draft (in decimal feet) and the second column shows at which displacement (barge weight plus all cargo, fuel, equipment, crew etc) this occurs.

Ideally, when performing a load-out and the draft of the barge increases, the upcoming or rising tide will bring the barge deck back to the desired level, in line with the quay. This delicate balance has to be monitored throughout the entire load-out. If the cargo is rolled onto the barge too fast and the tide cannot catch up, the barge deck will end up below the quay. Likewise, if the cargo is rolled onto the barge too slow, the barge deck will end up above the quay, as the rising tide will not stop and wait.

From the above, we can draw the conclusion that a load-out is preferably performed on a rising tide. As we know that the time between two high tides (or two low tides) is 12 hours and 26 minutes (provided there is no disturbance by land masses and/or restricted water flows etc.) we can state that the load-out should be completed well within 6 hours starting from low tide as after 6 hours the rising tide will turn in a falling tide and will work against you. Figure 3.

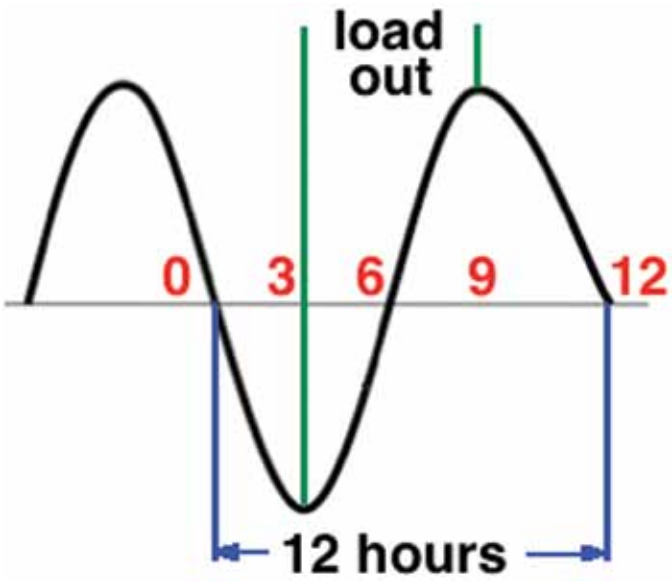

Figure-3

Does this mean that the load-out can be performed without any ballasting if the rising tide provides sufficient buoyancy? The answer to this question is a resounding "No". Lets assume that the load-out is performed on the bow of the barge. As the load is transferred from shore to barge, the bow of the barge submerses further into the water. At the same time the stern raises (draft at the stern reduces) and the barge will end up with a certain amount

of trim. Trim being defined as a difference in draft between bow and stern. The length of the transporter determines the allowable trim, you cannot run out of stroke. DNV 0013/ND document section 14.2.5 recommends not to plan beyond 70% of the transporter stroke. Generally during a load-out the barge is maintained at near zero trim.

Knowing that the barge moves (pivots) about the Center of Flotation (COF), for the sake of convenience, we assume that the barge in question is perfectly symmetrical at the bow and the stern, and that the COF is located exactly at the longitudinal centerline of the barge. This means that if the draft at the bow increases by 30 cm (1 ft), the draft at the stern decreases by 30 cm (1 ft).

Note: The actual Center of Flotation can be found in the hydrostatic particulars and differs with the draft as the barge in reality is not symmetrical. Column 5 in figure 2.

Every ton of weight transferred to the barge at the bow needs to be compensated with water pumped into the ballast tanks at the stern in order to keep the barge at near zero trim. Figure 5.

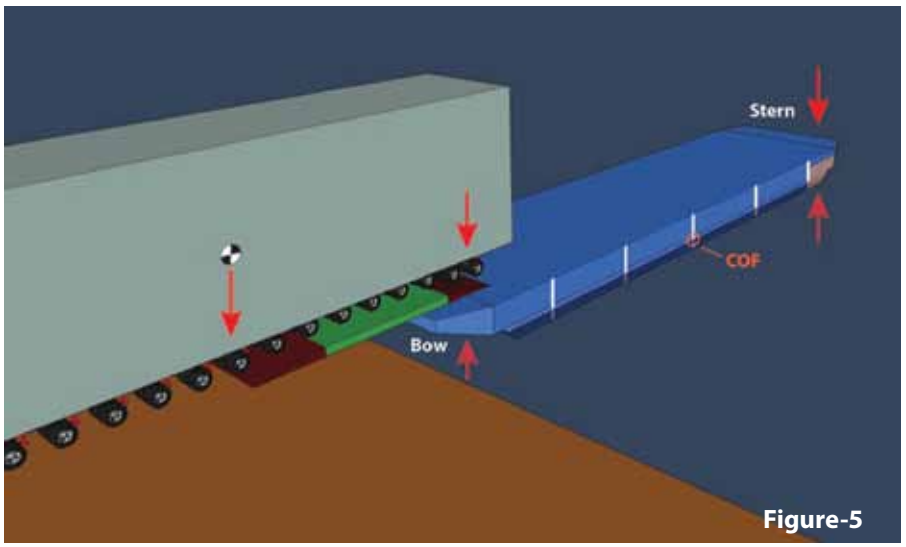

Figure-5

From the total weight of the barge (incl. ballast and cargo), the average draft can be read from the hydrostatic tables (column 1) in figure 2.

The trim of the barge can be calculated with the following formula;

$$trim = \frac{displacement * (COG - COB)}{MT1}$$

Equation 1

where;

- displacement is equal to the total weight of the barge, cargo, crew, equipment etc
- COG and COB are the Center of Gravity and Center of Buoyancy in longitudinal direction
- MT1 is the moment to change trim 1 inch, column 7 in figure 2

Notes;

The trim is affected by the term (COG-COB), as the COG get closer to the COB the barge will show less trim. We cannot influence the COB but we can influence the COG (the combined COG) by means of ballasting. If we manage to ballast the barge in such a way that the COG gets close (or even lines up with) the COB, the barge will remain at near zero trim.

MT1 stands for Moment to Change trim by 1 unit (either 1 inch or 1 cm depending on other units in the hydrostatic tables). In figure 2 MT1 is Moment to Change Trim 1 inch.

It is important to check that the unit for the displacement (metric ton, long ton etc) is the same unit as for the MT1 (metric ton * meter / cm, long ton * ft / inch).

With the above information (average draft and trim) we can determine the draft at the bow and stern with the below two formulas;

$$draft\ bow = av.draft - \left(trim * \frac{COF}{L} \right)$$

Equation 2

$$draft\ stern = av.draft + \left(trim * \frac{(L - COF)}{L} \right)$$

Equation 3

As the axles move beyond the COF something changes. These axles now place load on the barge beyond the pivoting, the COF, and contribute to the draft at the stern. As we have been pumping ballast water into the stern tanks, we now need to start pumping water out of the stern tanks as the axles beyond the COF take over this function.

At the same time, there is less and less weight placed on the bow of the barge. We have been relying on the tide to keep the barge in line with the quay but as there is now less weight on the bow, we need to replace this weight with ballast water. In short, when the cargo moves

beyond the COF, the stern requires de-ballasting while the bow requires ballasting in order to keep the barge at near zero trim.

The principle of moment about the COF applies. Figure 6.

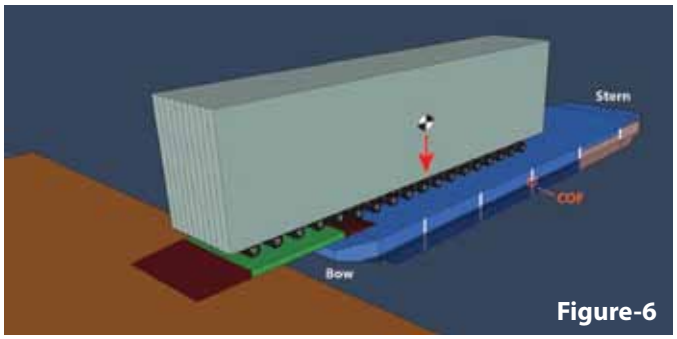

Figure-6

Once the cargo is in its final location (often required to be confirmed by a marine warranty surveyor) it is common that both bow and stern tanks contain a certain amount of water. The exact amount of water depends on the required or preferred draft. Figure7.

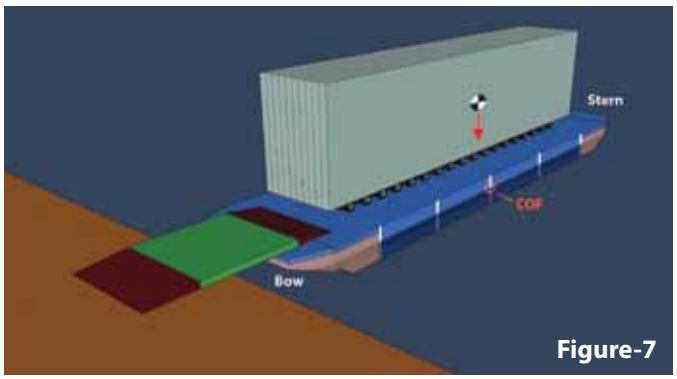

Figure-7

When a barge is being prepared for its voyage it is often trimmed with the bow slightly higher than the stern (some 1 to 2 degrees) as it aids its hydrostatic behavior and reduces fuel consumption of the tug boats.

Load-out onto free floating barge without tidal conditions.

The above case covered the load-out onto a barge in an area where tidal conditions apply. Such a load-out is subject to two constraints;

- load-out is subject to (low) tide and is to be completed within 6 hours
- rising tide provides buoyancy and reduces ballasting requirements

So what happens in an area where tides are absent, such as on a river or lake, how is a load-out performed under these conditions as there is no tide to provide the needed buoyancy.

Let's review this step by step. If there is no tide, than the load-out is not subject to any tidal movement. This means that the load-out can therefore be performed at any time of the day (or night). Secondly, if there is no tide, than there is no reason to complete the load-out within 6 hours as there is no falling tide after 6 hours. Those are two positive aspects of performing a load-out in a non-tidal area.

How do we deal with the lack of increased buoyancy from a rising tide? As with a load-out in a tidal area, the first activity is to pre-ballast the barge so it lines up horizontally with the quay. See Figure 8.

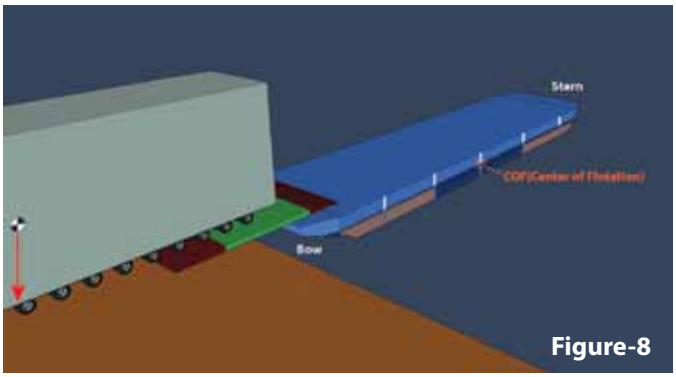

Figure-8

To keep the barge horizontally lined up with the quay we must maintain the draft at the same level as during pre-ballast condition. When the first axles roll onto the bow of the barge the draft at the bow increases. To ensure that the draft remains equal, and does not increase, weight has to be removed from the barge as the axles roll onto it. This can only be achieved by pumping out water from the bow that was pumped into the barge for pre-ballasting. For every ton of weight that rolls onto the barge, a ton of water has to be pumped out to keep the barge horizontally lined up with the quay. See Figure9.

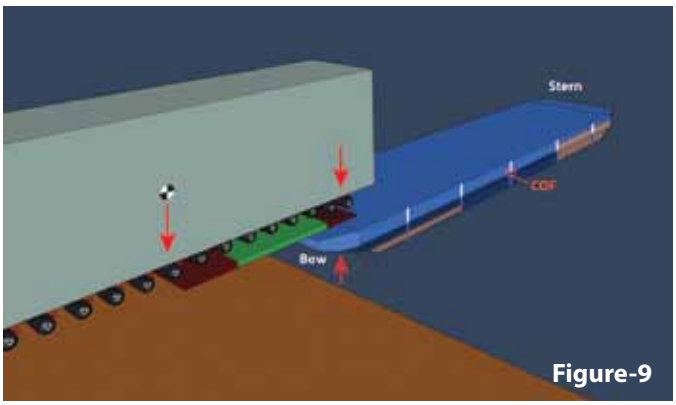

Figure-9

This is an interesting phenomenon as this means that the barge should hold quite a bit of water in pre-ballasted condition. Indeed, the barge should hold at least an amount of water that is equal to the weight of the cargo

that is rolled onto it. Ideally this should be a bit more as ballast tanks cannot be emptied completely, a 5% residual volume is a fair assumption. If there is less water in the ballast tanks than the weight of the cargo that is rolled onto the barge, you will eventually run out of water in the ballast tanks and you will not be able to complete the load-out as the barge draft will increase and horizontal line up of the barge with the quay is disturbed. This can have very serious negative affects on the load-out performance.

One note needs to be made here. When in a situation where the barge ballast tanks are empty and the cargo has not yet completely rolled onto the barge, there is a way to recover from this situation. As there is no tide, it is relatively easy to roll the cargo off the barge again while filling the ballast tanks again. There are no time restrains from a tidal point of view.

As far as the hydrostatic behavior of the barge goes, this is quite a bit easier than compared to a load-out with tidal conditions as we are now dealing with only one draft. Consequently we are dealing with only one fixed Center of Floatation (COF) instead of a varying COF due to varying drafts.

During the execution of a load-out it is next to impossible to keep the draft at a fixed value. A load-out is a dynamic process that is performed in a dynamic environment (waves, other water traffic etc). These constant motions have an affect on the transporters; they reduce the effective usable stroke of each axle. That is why it is important to keep the barge and the quay horizontally lined up at near zero trim. The transition between the barge and the quay can consist of a ramp or a steel plate. Typical ramp height is 30 cm (1 ft) and this thickness result in a reduction of the effective transporter stroke. In case of a steel plate (typical thickness 1.0 to 1.5 inch) obviously has much less impact on the transporter stroke. The drawback of using steel plates is a much smaller degree of allowable barge movement in vertical direction.

It is imperative that a load-out is prepared and engineered to an extend that prevents and avoids unexpected situations, such as running out of ballast water, as mentioned above. In practice however, a load-out is not an exact science. When performing a load-out onto a reasonable size barge it is not practical to aim for a draft within 1 cm or 0.5 inch. The dynamics of the surrounding environment simple prohibits this. Therefore, in case of using a steel ramp as the transition between the quay and the barge, the ramp is used as an indicator. As mentioned before, the barge is pre-ballasted so that it is lined up horizontally with the quay. In reality the barge is often ballasted to a few inches above the quay. When the ramps are positioned they show an air gap between the underside of the ramp and the quay. This air gap is used as an indication of how much the cargo can be rolled onto the barge as the air gap will decrease during this motion. When the air gap has been decreased to virtually nothing it is time to let the ballast operation increase this air gap again while the transport does not move forward. With sufficient experience the rolling onto the barge and maintaining a certain air gap can be a simultaneous task.

Figure 10 shows that the cargo has passed the Center of Flotation (COF).

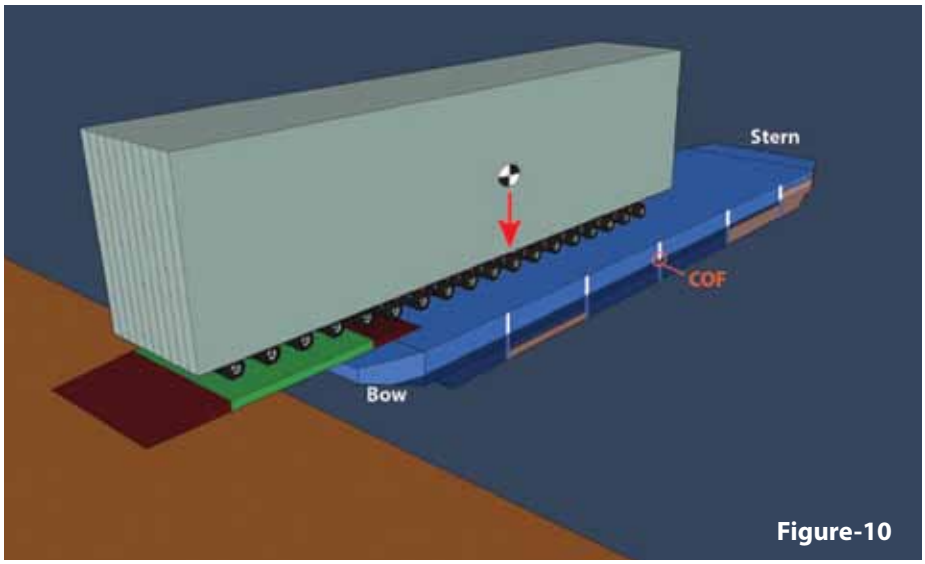

Figure-10

In this figure it is shown that the bow still holds sufficient water for de-ballasting if there would be a deviation from the expected situation. At the same time we can see that the stern has started with de-ballasting as the cargo has passed the COF, which causes the stern to increase in draft if de-ballasting would not commence.

When the cargo has reached its final location and assuming that the Center of Gravity (COG) is lined up with the longitudinal and transverse centerlines of the barge and assuming that the barge shape on the bow and stern is identical, the amount of ballast water in the stern and bow tanks would be identical as well. At this point it could be stated that the load-out has been successfully completed. However, the operation has not yet been

completed as the transporters still have to be removed from underneath the cargo back onto the quay. This may be seen as a minor detail but this is not always the case. Lets assume that the cargo has been rolled onto the barge via a 30 cm (1 ft) steel ramp using SPMT's with a minimum deck height of 1.2 mtr (4 ft) and a maximum deck height of 1.8 mtr (6 ft). The cargo has been set onto sea fastening stillages of 1.65 mtr (5.5 ft). There is 1.65 – 1.2 = 45 cm (1.5 ft) of space left between the transporter deck and the underside of the cargo, the transporter has therefore this 45 cm of vertical maneuvering space or stroke. There is also 30 cm (1 ft) of ramp height that the transporter needs to negotiate, this needs to be deducted from the available transporter stroke. So there is only 45 cm – 30 cm = 15 cm (6 inch) of stroke available the maneuver the transporter from underneath the cargo back onto the quay. As you can see, even during this part of the operation it is important that the barge is vertically lined up with the quay in order to retrieve the transporter combination. It may even be required to ballast the barge to achieve this. See Figure 11.

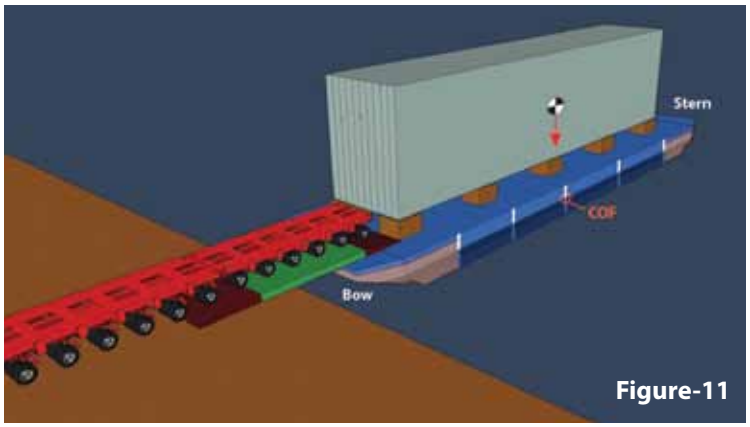

Figure-11

Bio.

Marco J. van Daal has been in the heavy lift & transport industry since 1993 starting with Mammoet Transport from the Netherlands and later with Fagioli PSC from Italy, both esteemed companies and leading authorities in the industry. His 20 year plus experience extends to 5 continents and over 55 countries and has resulted in a best selling book "The Art of Heavy Transport" which is available at www.the-works-int.com. Marco has a real passion for sharing knowledge and experience, the prime reason for his frequently held seminars all over the world. He currently resides in Aruba, Dutch Caribbean, with his wife and two daughters.

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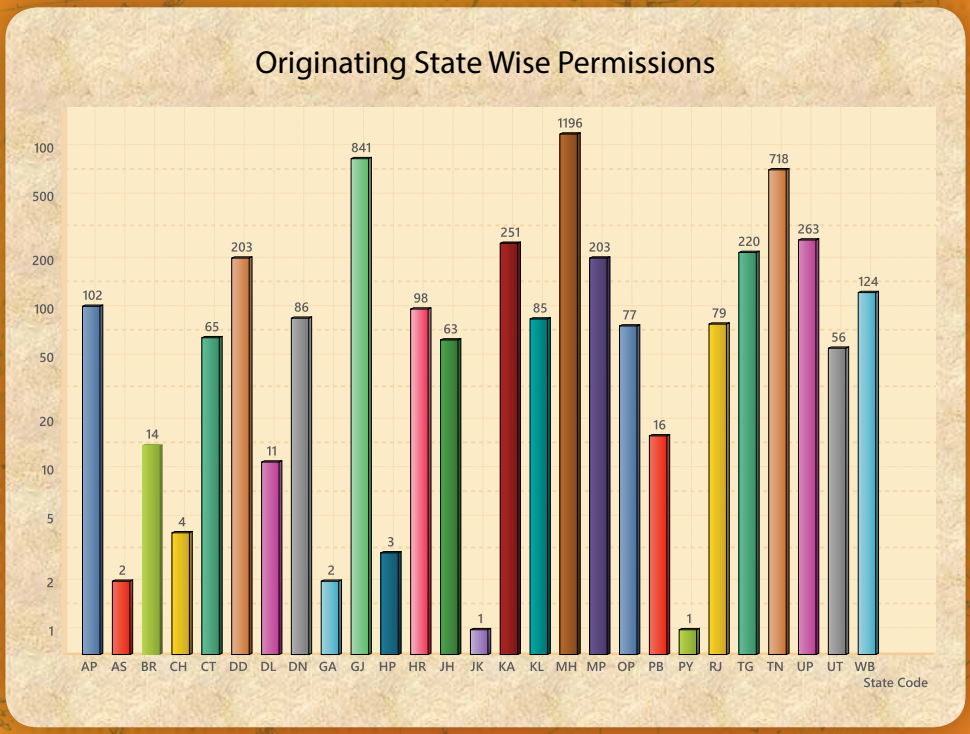

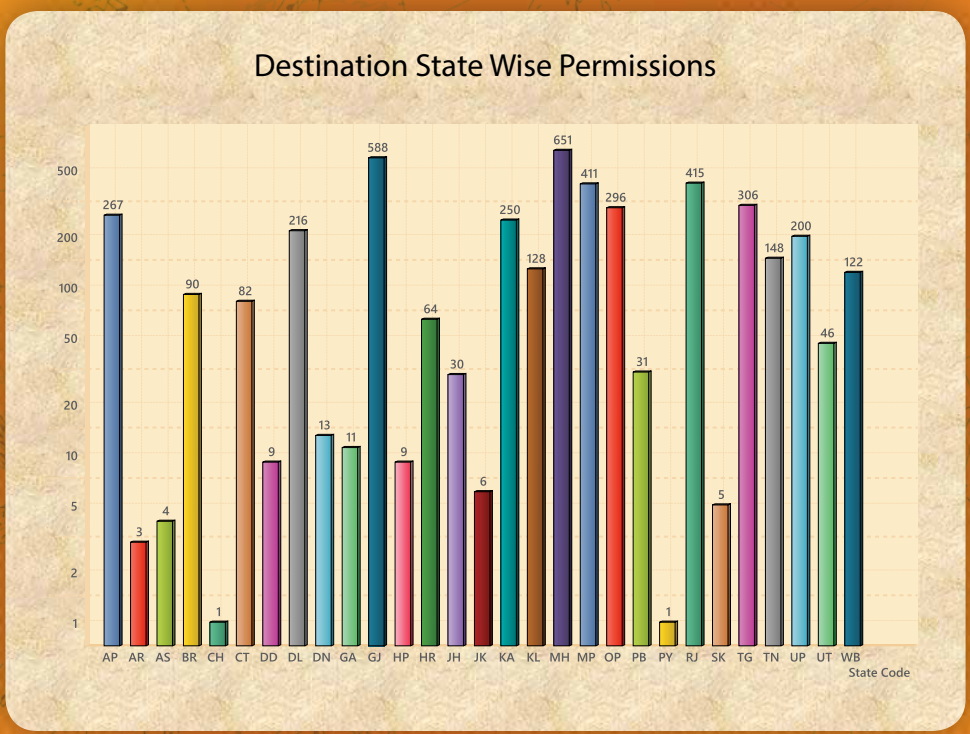

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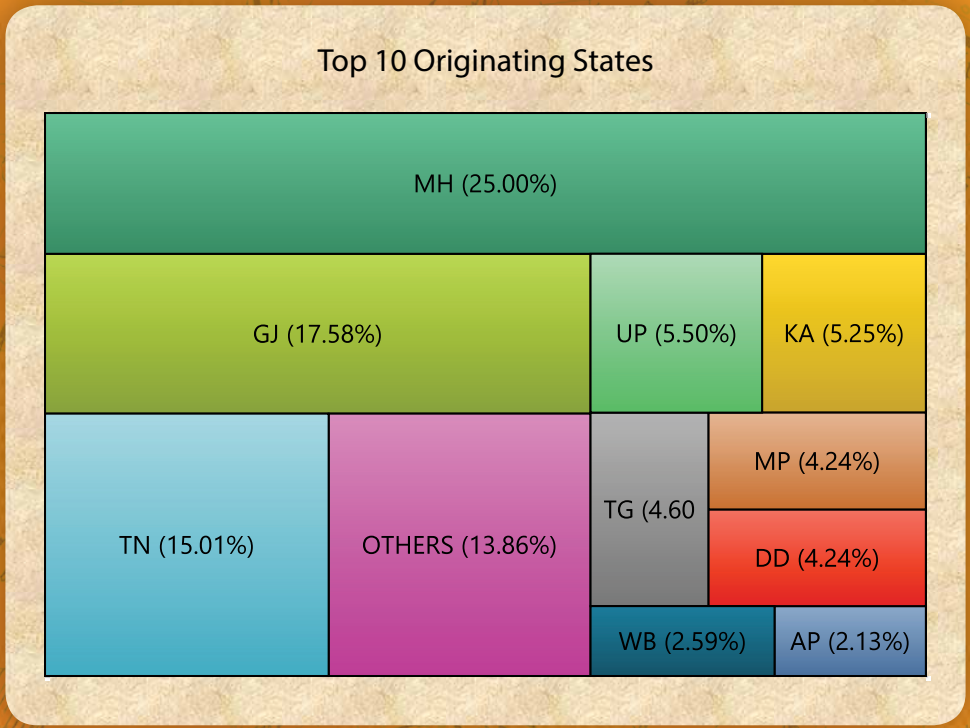

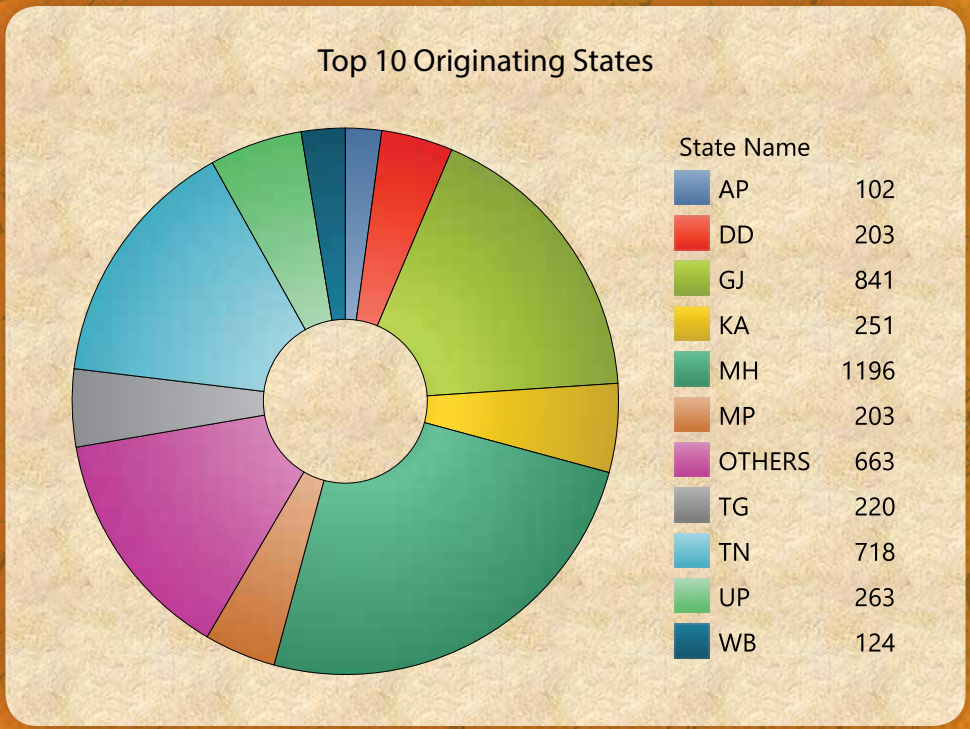

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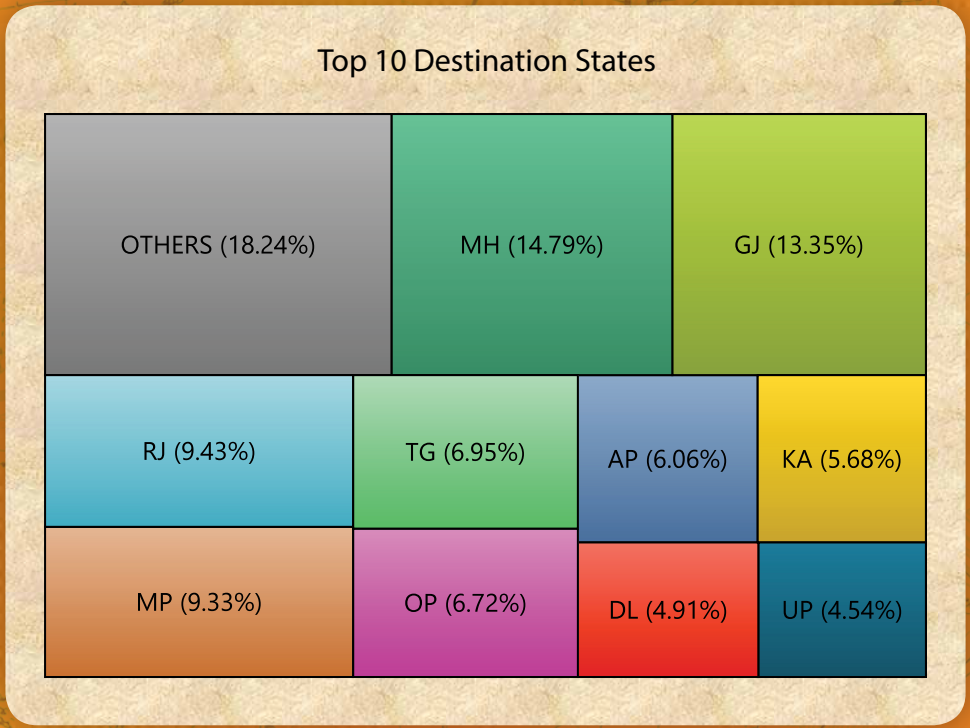

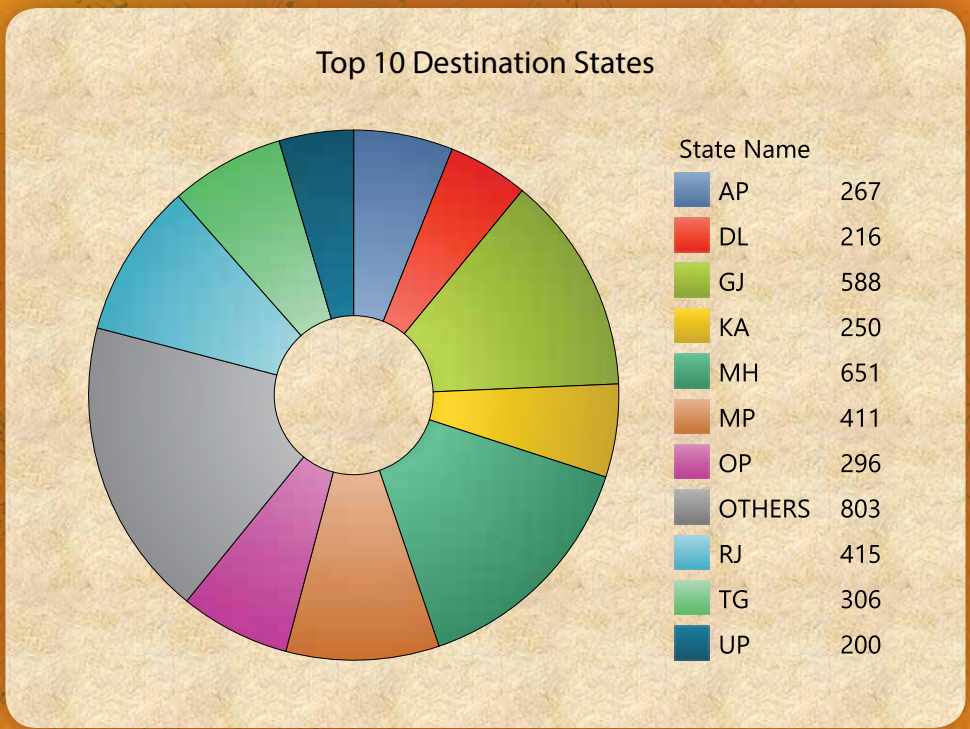

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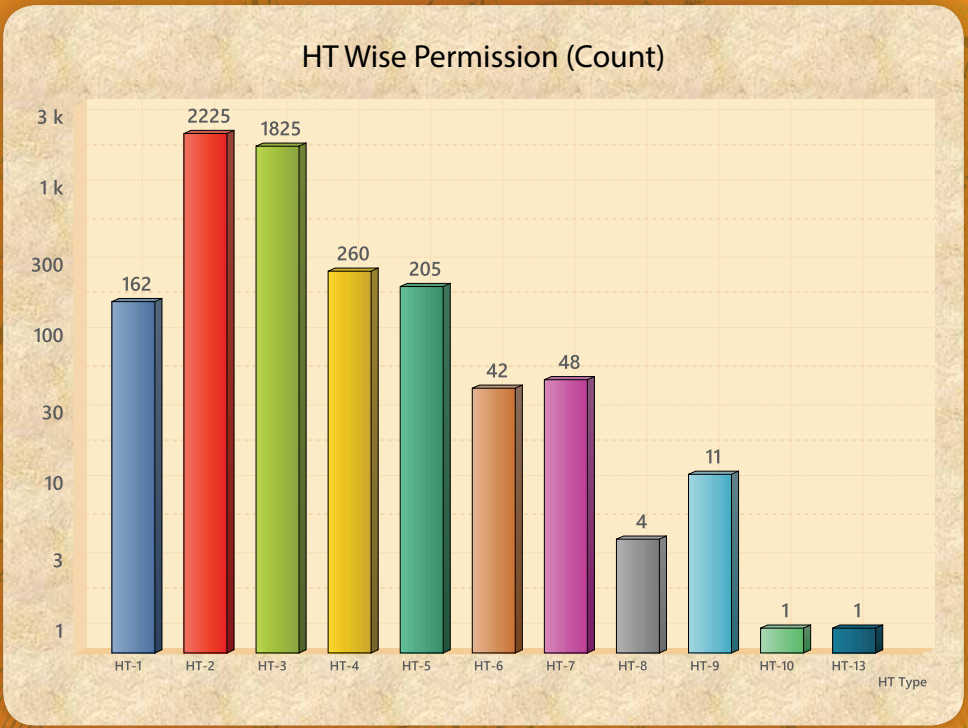

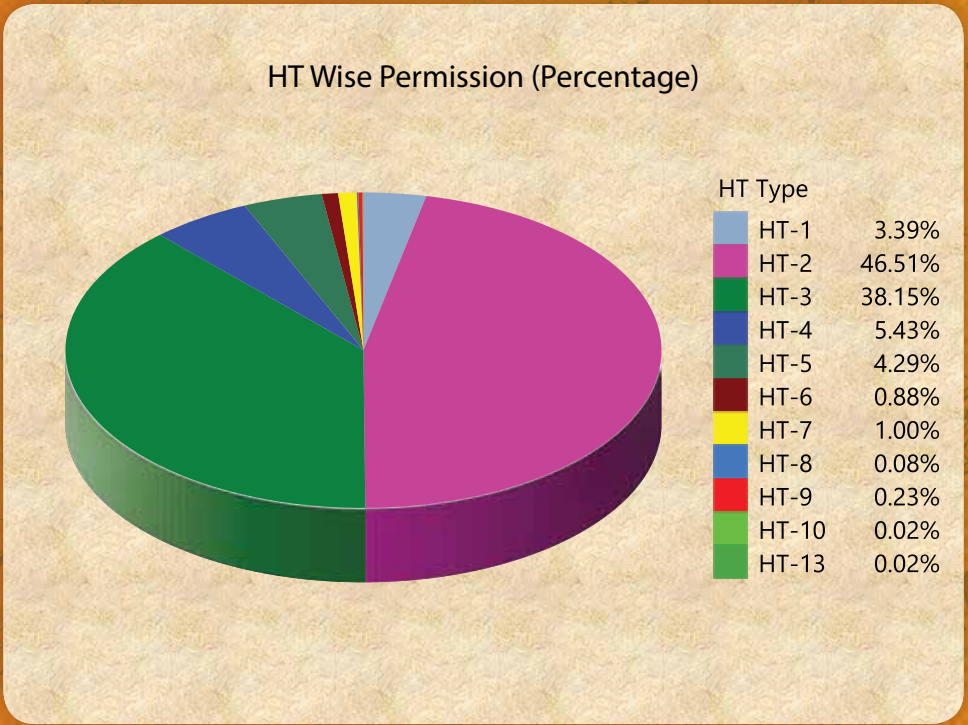

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Protocol on Inland Water Transit and Trade between Bangladesh and India

By HTOA Research Team

In accordance with ArticleVIII of the trade Agreement Protocol on Inland Water Transit and Trade between India and Bangladesh was signed.

This Protocol is for mutually beneficial arrangement for the use of waterways for commerce and passage of goods between two places in one country through the territory of the other.

The Protocol was first signed in 1972 and since then it has been continuing without any interruption.

The existing Protocol signed on 6th June 2015 and it shall automatically be extended for successive 5 year unless either government terminates the Protocol by giving a written notice of 6 month before end of terms.

Salient features of the Protocol:

There are 8 routes prescribed as per latest protocol and details are attached in the copy of protocol however major routes are as under, which are being used regularly.

a) Major Routes

i) Kolkata-Chandpur-Pandu-Silghat-Kolkata

ii) Kolkata-Chandpur-Karimganj-Kolkata

iii) Silghat-Pandu-Ashuganj-Karimganj-Pandu-Silghat

iv) Rajshahi-Dhulian-Rajshahi.

b) Ports of Call

There are five Ports of Call on each side to provide facilities to the vessels of the other country engaged in inter-country trade.

Bangladesh	India
Narayanganj	Kolkata
Khulna	Haldia
Mongla	Karimganj
Sirajganj	Pandu
Ashuganj	Silghat

C) Vessel:

Vessel means watercraft registered under Inland Shipping Ordinance, 1976 in case of Bangladesh vessel and Inland vessels Act, 1917 in case of Indian vessel.

d) Supply of bunkers

The vessels of either country plying under the Protocol will be permitted to purchase fuels and essential stores at such points mentioned below:

Bangladesh	India
Sheikhbaria	Kolkata
Mongla	Budge Budge
Khulna	Haldia
Barisal	Namkhana
Chandpur	Karimganj
Narayanganj	Dhubri
Sirajganj	Jogigopa
Chilmari	Pandu

e) Voyage permission

The vessel intend to operate under the Protocol will obtain the permission of the Competent Authorities appointed by the respective Governments for this purpose.

f) Permission to operate Truck

The Protocol provide the permission to operate trucks between places in India and river stations in Bangladesh.

g) Port dues

Port dues may be levied by the competent authorities in either country on the vessels belonging to the other country and engaged in inter country trade.

h) Map

PROTOCOL ON INLAND WATER TRANSIT AND TRADE

In pursuance of Article VIII of the Trade Agreement entered into between the Government of the People's Republic of Bangladesh and the Government of the Republic of India on the Sixth day of June, 2015 wherein the two governments agree to make mutually beneficial arrangements for the use of their waterways for commerce between the two countries and for passage of goods between two places in one country and to third countries through the territory of the other under the terms mutually agreed upon.

In such cases, fees and charges, if leviable as per international agreements, conventions or practices, may be applied and transit guarantee regime may be established through mutual consultations. It is further agreed as following:

1. Definition:

For the purpose of this Protocol unless the context otherwise requires:

1.1 The term **"Competent Authorities"** will mean the authorities authorized by the respective Government:

1.2 The term **"route"** will refer to the routes:

(1) Kolkata- Haldia- Raimongal- Chalna- Khulna- Mongla- Kawkhali- Barisal- Hizla- Chandpur- Narayanganj- Aricha- Sirajganj- Bahadurabad- Chilmari- Dhubri- Pandu- Shilghat.

(2) Shilghat- Pandu- Dhubri- Chilmari- Bahadurabad- Sirajganj- Aricha- Narayanganj- Chandpur- Hizla- Barisal- Kawkhali- Mongla- Khulna- Chalna- Raimongal- Haldia- Kolkata.

(3) Kolkata- Haldia- Raimongal- Mongla- Kawkhali- Barisal- Hizla- Chandpur- Narayanganj- Bhairab Bazar- Ashuganj- Ajmiriganj- Markuli- Sherpur- Fenchuganj- Zakiganj- Karimganj.

(4) Karimganj- Zakiganj- Fenchuganj- Sherpur- Markuli- Ajmiriganj- Ashuganj- Bhairab Bazar- Narayanganj- Chandpur- Hizla- Barisal- Kawkhali- Mongla- Raimongal- Haldia- Kolkata.

(5) Rajshahi- Godagari- Dhulian.

(6) Dhulian- Godagari- Rajshahi.

(7) Karimganj- Zakiganj- Fenchuganj- Sherpur- Markuli- Ajmiriganj- Ashuganj- Bhairab Bazar- Narayanganj- Chandpur- Aricha- Sirajganj- Bahadurabad- Chilmari- Dhubri- Pandu- Shilghat.

(8) Shilghat- Pandu- Dhubri- Chilmari- Bahadurabad- Sirajganj- Aricha- Chandpur- Narayanganj- Bhairab Bazar- Ashuganj- Ajmiriganj- Markuli- Sherpur- Fenchuganj- Zakiganj- Karimganj

or such other routes as may be prescribed by the Competent Authorities from time to time.

1.3. The term **"Vessels"** will mean the watercrafts which are registered under the Inland Shipping Ordinance, 1976, as amended from time to time in case of Bangladesh vessels and Inland Vessels Act, 1917, as amended from time to time in case of Indian Vessels. This will cover vessels which carry only commercial goods stated in the preamble of the Protocol.

2. Conservancy and pilotage:

2.1 Each country will maintain the river routes falling within its territory in a navigable condition and provide all the essential pilotage and conservancy services, including hydrographic surveys and supply of charts, if prepared and available for commercial navigational use to inland water transport operators, and aids to night navigation where facilities for such navigation already exist.

2.2 Acknowledging that there may be routes or parts of routes in one country, primarily being used by the transit traffic of the other, the country maintaining such routes will provide aids to night navigation on such routes, provided the country using such routes pays, by mutual agreement, for the installation and maintenance of such aids. The amount to be paid and the manner of its payment shall be mutually agreed upon by the two sides.

3. Port dues and other charges:

3.1 Port dues may be levied by the competent authorities in either country on the vessels belonging to the other country and engaged in inter country trade.

3.2 The competent authorities in either country may also levy on the vessels of the other country charges for conservancy, pilotage and other specific services at par with those charged from the local vessels. The charges will be determined with reference to cargo carrying capacity of the vessels, as applicable to local vessels. Charges for such services shall be paid within 30 (thirty) days of receipt of the bills by the Competent Authority, failing which further voyage will not be permitted.

3.3 Acknowledging that one country may be required to maintain routes or parts of routes primarily on account of the transit traffic of the other, the country utilizing such routes will provide to the other country an agreed sum of money for the maintenance of such routes including conservancy and pilotage.

3.4 The routes between Sirajganj and Daikhawa in the Northern Delta Section of the River Jamuna-Brahamaputra and the route between Sherpur and Zakiganj in the North Eastern Delta Section of the Kushiara river are recognized by both sides as routes being maintained primarily for the use of Indian transit traffic.

3.5 For the maintenance of the above mentioned services on these routes, the Government of India has been paying to the Government of Bangladesh in convertible currency **(in USD)** at the rate of BD taka **1000 lakh** for the period **April 1, 2015 to** March 31, 2016. The sum may be enhanced considering prevailing market prices of operational aspects as and when required on mutual agreement.

4. Handling facilities:

Each country will permit the vessels of the other country to utilize all available cranes and other handling facilities on the same terms and conditions as are applicable to local vessels.

5. Supply of bunkers:

The vessels of either country plying between the two countries and also between places in the same country through the other country will be permitted to purchase the fuel required by them for the purpose of their operations on payment of the convertible currency. Vessels of one country may be bunkered at the following points of other country:

Bangladesh	India
Sheikbaria	Kolkata
Mongla	Budge Budge
Khulna	Haldia
Barisal	Namkhana
Chandpur	Karimganj
Narayanganj	Dhubri
Sirajganj	Jogigopa
Chilmari	Pandu

or at any other points as determined mutually from time to time by the Competent Authorities of both the countries.

6. Purchase of essential stores:

The vessels operating in either country will be allowed to purchase in convertible currency the stores which they may require for their operation during the voyage in the other country at places of bunkering. In order to do so, conversion facilities will be provided at the bunkering points.

7. Purchase of provisions by the fleet personnel during voyage:

Fresh food and other provisions essential for fleet personnel will be allowed to be purchased in either country to meet the requirements of voyage. The purchase will be made in convertible currency at the points of bunkering. In order to do so, conversion facilities will be provided at the bunkering points. In exceptional circumstances only purchases may be made at places other than the bunkering points. The appropriate authorities of either country may prescribe the manner in which such purchases may be made should it be deemed necessary.

8. Repair facilities:

Vessels of either country calling for urgent repairs on route will be allowed to have repairs done at the Government owned or any reputed marine workshop in either country with the prior permission of the respective Competent Authority. The expenditure incurred on such repairs will be reported by the operators to the concerned foreign exchange authorities for their clearance in accordance with the provisions of Article 25.

9. Assistance to be provided by either country to the vessels of the other in distress :

Each country will provide all the necessary facilities to the vessels of the other, which may be grounded or otherwise in distress during their voyage in its waterways. Expenditure incurred in salvage operations, if required on such occasions, shall be cleared in accordance with the arrangements to be made under Article 25.

10. Submission of voyage forecast for voyage permission to use waterways:

The vessels of one country before using the waterways of the other country will obtain the permission of the other country for entry. In such cases the voyage forecasts, in the prescribed form, for the vessels of one country will be submitted to the competent authority of the other country at least four days before the expected date of entry into the country of entry.

11. Nomination of "Ports of Call" on equal basis:

One country will provide the facilities of "Ports of Call" to the vessels of the other country engaged in inter country trade and number of such Ports of Call will be equal in both countries. Both sides agreed that the following would be treated as 'Ports of Call' in their respective country.

Bangladesh	India
Narayanganj	Kolkata
Khulna	Haldia
Mongla	Karimganj
Sirajganj	Pandu
Ashuganj	Shilghat

12. Recognition of survey certificates and other documents:

The survey certificates and other documents issued by the appropriate authorities in one country for the vessels registered in it and running to or through the other will be recognized and accepted as valid by the other. These certificates or documents shall be produced by the Master of the vessels concerned at the points of entry and at the other points, as may be required, during the voyage.

13. Flying of Flags:

The vessels of each country will carry its national flag and the national flag of the country through which it is transiting besides its house flag.

14. Use of radio-telephone by river craft:

Inland vessels will be allowed to be equipped with radio-telephone for facilities of speedy commercial communications, specially in emergencies

in conformity with the current regulations of the country through which the vessels are in transit.

15. Registration and issue of identity cards:

The personnel manning vessels plying through or between the two countries shall carry certificate of employment and permits with a photograph of the concerned individual duly authenticated by the authorities to be nominated by the respective countries in regard to their personnel. Officers supervising or controlling the fleet of the operators in either country shall carry passport endorsed with multiple entry visas.

16. Permission to fleet personnel and travelling officers to go by rail, road or air in special circumstances:

Fleet personnel and travelling officers posted to any of the vessels, carrying transit cargo in either country will be allowed to travel by rail, road or air, whenever they are required to join duty on the vessels, or when they have to leave their duty on the vessels by reason of sickness or other urgent contingencies. Such movements will be simultaneously reported to the appropriate authorities of either country.

17. Prohibition on vessels carrying transit cargo:

Vessels carrying transit cargo through one country will not be engaged in inter country trade and will not take or discharge cargo or passengers in the country through which they are passing. All necessary facilities for inspection will be accorded by each country to the Customs and other agencies. No undue delay will be caused to the voyage of any vessels on account of such inspections.

18. Sharing of inter-country trade and transit cargo:

The two Governments agree to sharing of the carriage of inter country trade and transit cargo on an equal tonnage basis (i.e. 50:50) as far as practicable by the vessels of signatory countries to and from ports of

call/customs stations including extended places of loading and unloading under customs formalities and supervision. The competent authorities of the two countries will take steps to operationalise the sharing through appropriate measures keeping in view that expeditious transportation of cargo is in the mutual interest of both countries.

19. Common freight rates:

The operators in both the countries will charge to the extent practicable uniform freight rates for both inter-country trade and transit traffic. Such rates will be fixed by the competent authorities by mutual consultations.

20. Evolving uniform documentation for vessels:

The document issued in accordance with the regulations in one country, in respect of the cargoes carried by vessels going to or through the other country will be accepted by the other. Efforts will be made to evolve uniform documentation in both the countries as early as possible.

A Manifest in duplicate for in-transit goods in addition to the Manifest Book shall be submitted to the Customs Officer at the point of entry. One copy of the Manifest will be retained by him and the other, duly endorsed will be sent in sealed cover through the Master of the vessel to the Customs Officer at the exit points.

21. Customs checks and documentation:

Both the countries agree to reduce customs documentation and other requirements to the essential minimum for the purpose of transit and to have custom stations at or near the points of entry and exit in each country.

22. Freight remittance facilities:

The freight earned by the vessels of either country from the traffic, originating in the other and carried by them, will be allowed to be remitted to the owners of the vessels in accordance with the arrangements for

remittance of surplus collection between the two countries that may be in force from time to time in accordance with Article25.

23. Permission to operate trucks between places in India and river stations in Bangladesh:

23.1 Bangladesh Truck and/or Tractor-Trailers may carry cargoes transshipped from river crafts at Sherpur and Ashuganj to the Indian border.

23.2 Cargoes brought by deeper draft vessels from India up to Sherpur and Ashuganj or any other point on the waterways in Bangladesh may be transshipped into shallow draft vessels for destination in India. Conversely, transshipments can also be made from shallow draft vessels to deeper draft vessels. Transshipments will be carried out under the supervision of BIWTA and Customs authorities of Bangladesh.

24. Opening of branch offices and appointment of agents:

The operators of vessels in one country will be allowed to open their branch offices or appoint their agents only at major inland ports and secondary river ports in the other. However, such branch offices will be opened with due approval from the country concerned.

25. Arrangements for settlement, clearance & remittance:

Subject to their respective foreign exchange regulations, the competent authorities of India and Bangladesh, shall through mutual consultations, establish a comprehensive system for quick settlement, clearance and remittance of all sums, claims, or dues on account of goods supplied, services rendered or facilities accorded to the vessels of one country in or by the other.

26. Setting up of a Standing Committee:

For evaluation and reviewing the working of this Protocol and for the purpose of improvement of inland water transportation between the two countries, there shall be a Standing Committee, including representatives of the Ministry of Shipping of Bangladesh and Department of Shipping, Ministry of Shipping, Road Transport and Highways of India, the representatives of the Ministry of Finance of Bangladesh and of India, the representatives of BIWTA, BIWTC of Bangladesh and IWAI and CIWTC of India, the concerned Customs officials of both countries and two representatives of the operators, one from each country.

The Committee may co-opt members whose participation is considered necessary by it. The Standing Committee shall meet at least once in six months and its findings shall be forwarded to the respective Governments for necessary action.

27. Addition of new Routes and more Ports of Call:

Amendment, alteration, addition, repeal of any provision of this Protocol may be done by both the Governments by mutual consultations and through exchange of letters.

28. Term of the Protocol:

This Protocol shall be automatically renewed in line with India - Bangladesh Trade Agreement. This Protocol shall come into force from the Sixth day of June 2015. It shall automatically be extended for successive five years unless either Government terminates the Protocol by giving a written notice of its intention to terminate to the other Government at least 6 months before end of term. In case of termination, it shall cease to operate on the expiry of the respective term. But termination shall not affect the actions taken or agreements reached pursuant to this Protocol.

To assess the progress of operation of PIWT&T as well as to take instant decision considering the circumstances, Shipping Secretary of both the countries will meet at least once in every two years.

Done in Dhaka on the Sixth day of June, 2015 in two original copies, both in English.

For the Government of the
People's Republic of Bangladesh

.....

Shafique Alam Mehdi
Secretary
Ministry of Shipping
Govt. of the People's Republic
of Bangladesh

M/o. Shipping Dhaka
Date.....

For the Government of the
Republic of India

.....

apurva natvar parikh group

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Part of the bigger picture

"Every time you buy a Genuine Volvo Part, you're buying the same quality that comes with every Volvo truck. The same durability, maintainability and reliability. That's what the blue box stands for," says Mohan Iyengar, responsible for the Genuine Volvo Parts product range.

"Each and every component of a Volvo truck has a precise specification – designed, built and verified by Volvo Trucks' most experienced engineers," says Mohan Iyengar.

They've all been designed to work together

No single part is ever thought of in isolation. Because how the parts work together in the truck is key to secure the best performance, uptime and fuel efficiency.

KEEPING IT REAL Take for example the fuel injectors, air filters, fuel pumps and turbos. In every Volvo truck, they have been optimised together: how they fit, their specifications and how they interact is crucial for the truck's fuel efficiency.

"Replace one with something other than a Genuine Volvo Part, and you just can't be sure whether you'll enjoy the same fuel economy," says Saji George, Parts Business Manager at Volvo Trucks.

A SAFE BET "Safety is intangible," adds Saji George. So unless you go behind the scenes and step into one of Volvo Trucks' development centres, you won't see the rigorous testing that has gone into the development phase. It's all to ensure that the toughest quality standards are met and that the safety performance of each part is guaranteed.

"We know our trucks and each and every part that goes into them, so you can repose your trust in us. Because it's our goal to provide your operation with world-class support while helping to improve your bottom line," says Saji George

CLEVER COMPONENTS Maximising a part's life is important when maintaining uptime and keeping the cost of the parts down.

Genuine Volvo Parts

It's now possible to remotely monitor the wear of specific components; the brake pads and clutch, for example, are equipped with sensors. This helps your Volvo Trucks' dealer plan parts replacement together with you, to be done at just the right time – not too early, or too late.

THINK OUTSIDE THE BOX Commitment to the part doesn't end after it has been unpacked from its blue box either.

"Just as much effort has gone into the design of our special tools. This helps to secure the highest quality and allows for the quickest replacement, while taking the health and safety of the technician into consideration at the same time," says Saji George.

"And our certified technicians have all been given the expert training to carry out a perfect repair, the first time, every time."

WELL STOCKED With over 27 dealerships across India, Volvo Trucks can help you find the part you need.

"We have the full parts range for Volvo Trucks worldwide – more than 130000 parts. No other after-sales competitor can match that," says Saji George. "Even 15 years after the production ends for a particular truck model, we'll be providing parts for it."

Mohan Iyengar

TAKING PART AGAIN Volvo Trucks also takes used parts and turns them into a more environmental and economical option through Volvo Renovated Parts.

'We remanufacture the parts to the same standards and with the same rigorous testing as our new parts,' says Saji George. 'And if we can't achieve the same durability, maintainability and reliability – we just won't sell them.'

Greetings from the workshop

"For our customers it's reassuring to know that Volvo Trucks is behind them in every aspect of the workshop – from special tools to parts and training. There's no substitute for that feeling of security," says Ramireddy P V, Technician and Workshop Supervisor.

Ramireddy P V knows that even the smallest stop can have a big impact on an operator. "It's always important for us to be positive and supportive, so customers know we're doing everything for them," he says.

"Sometimes they're with us while their trucks are being serviced. They become our friends – and you never want to let your friends down."

A HISTORY VOLVO TRUCKS Growing up watching trucks, Ramireddy developed a passion and curiosity for trucks at an early age. And during his career, he's seen firsthand how much the industry has changed and how trucks have rapidly become high-tech.

NEVER STOP LEARNING "With new trucks there's so much to learn, but we like that and are proud of the fact that Volvo Trucks is leading the way," says Ramireddy P V.

He's not just talking about leading the way when it comes to truck technology, but the constant training that each and every technician receives. This ensures that Volvo Trucks' certified technicians stay at the forefront, helping you get the most out of your truck – throughout its service life.

"To stay at the top, you need to be improving your competence all the time. That's why almost every week one of our technicians is off at the Volvo Service and Parts Centre attending a course," he adds.

EVERYONE PLAYS THEIR PART While Ramireddy P V sees himself as an all-rounder, he's noticing a trend for younger technicians to specialise in areas that interest them the most.

"This means it's important to pre-plan service occasions. Not just to make sure you have the right tools and parts, but to ensure that you have the right technicians on the job," he points out. And while workshops make every effort to pro-actively optimise these services, sometimes urgent issues arise. "When this happens, it's just a matter of throwing yourself into the job to solve things as quickly as possible," he adds.


Ramireddy P V

THE BEST OF EVERYTHING Each technician is trained to use the specially designed diagnostic equipment. "We know Volvo trucks inside out, and with our diagnostic equipment it's easy to make a smart and quick assessment of the truck," says Ramireddy P V. And of course, they only use Genuine Volvo Parts.

To keep up, you need to be improving all the time

"Each and every component has been specifically made for the truck," he points out. Because he knows that this helps guarantee the vehicle's safety, reliability, durability and maintainability.

IN THE WORKSHOP, OUT ON THE ROAD Part of Ramireddy's role is being on duty for Volvo Action Service. "It's a challenge, but one of the most fun part of the job. You're put on the spot and put to the test.

Case Study on Alternative Lifting Technology for Bridge Replacement & Heavy Equipment

Steve Price
Lift Systems Inc, USA & Equipment Consultant of BLIS Ltd, Australia

Bridges that carry light rail trains in cities are an essential part of mass transit systems and cannot be out of service for long periods. Methods to build and rebuild them are as efficient as possible. Two bridges in Sydney, Australia cross a roadway and were built in 1920. They needed to be replaced. An additional two bridges were built in 1985 and were in good condition. Contractors were challenged to find the most efficient means to replace the older bridges and keep the out of service time to a minimum.

The original proposal for the job was to use a 750 tonne capacity mobile crane to lift the old sections out and move the bridge beams in place. This, however, would have required road closures, turning off the power and removing the overhead lines to give the crane space to move. The job would have taken weeks rather than the days it actually took with the innovative shuffle system.

NSW railway (Railcorp) Australia decided to choose an unconventional means presented by a leading logistics company in Australia to replace the bridges on Parramatta road in Sydney. To save time and money, the company proposed to use its 360 tonne hydraulic gantry manufactured at US, to lift each bridge section out of the head stock by 1.7 m and roll them out from under the overhead wires.

The old bridges weighed 70 tonnes and the new design called for a 70 tonne steel frame base bridge with a total weight of 165 tonnes. To shuffle the bridges in one piece, the gantry lifted one of the newer bridges off their abutments and out of the area so a crane could set it off to the side, clear of the working area. Then the gantry picked up the older bridges out of the way.

There were a few challenges, unique to the project.

Gantry track needs a flat surface and the roadway under the bridges had a dip so crane mats and blocks were used to straighten out the surface for the track.

The bridges were at an angle, with one set of jacks 8m behind the other. The gantry had to carry the bridges 17 m out to a clear area.

Height of the bridges was measured precisely with a laser height indicator. This kept the mating surface at the same height in spite of the long distance between abutments and up to 6.3m distance from the track to the bottom of the bridge girders..

Because the jacks were on both sides of the road and one set of jacks was 8 m behind each other, the gantry crew needed to control the speed to make them work in symmetry. They did this with hydraulic and electrical hook ups. They lifted the jack heads and turned them to face each other so that they could hold a head beam. They also put a second set of clamps in place on top of the head beam to the bridge and used a laser to control the lift height. Because each bridge had a different centre of gravity, they weighed each lift one month before.(took our quote marks)

The project took place during a holiday and trains were not operating. Over a three day period the rail bridges were back in operation and caused the least amount of disruption for rail passengers. A successful project stayed on schedule and the riders, owners and contractors were very pleased at the outcome.
These jacks are widely used in India as well for Installation of Press Machine in Auto & Forging Industries , Installation of Generator Stator and Transformers in Power Sector, Handling of Locomotive & Rail cars in Railway Sector, etc.

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- At any point 7000 trucks are carrying TCI Shipments.
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- Vehicle Tracking System through GPS (on select routes)
- Web based Track and Trace (www.tcifreight.in)
- Dedicated Customer care centre (18001800824)

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भारत का राजपत्र
The Gazette of India

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सड़क परिवहन और राजमार्ग मंत्रालय

अधिसूचना

नई दिल्ली, 7 जनवरी, 2016

का.आ. 41(अ).—केंद्रीय सरकार, मोटर यान अधिनियम, 1988 (1988 का 59) की उपधारा (1) द्वारा प्रदत्त शक्तियों का प्रयोग करते हुए, भारत सरकार की तत्कालीन भूतल परिवहन मंत्रालय (परिवहन खंड) द्वारा भारत के राजपत्र, असाधारण, भाग II, खंड 3, उपखंड (iii) तारीख 18 अक्टूबर, 1986 में प्रकाशित अधिसूचना सं. 728(अ) में निम्नलिखित और संशोधन करती है, अर्थात –

उक्त अधिसूचना की अनुसूची में,-

(1) "1 n`<+ वाहन" शीर्षक के अधीन संख्या (iv) के पश्चात् निम्नलिखित को अतःस्थापित किया जाएगा, अर्थात् -

	परिवहन यानों की श्रेणी	अधिकतम स.वा.भा. (टन में)	अधिकतम सुरक्षित धुरी भार
1.	2.	3.	4.
"(v)	*एयर सस्पेंशन के साथ 2 धुरी यात्री यान अगली धुरी पर दो टायर और पिछली धुरी पर चार टायर *यदि स्प्रिंग प्रभाव का कम से कम 75% एयर स्प्रिंग द्वारा कारित होता है तो सस्पेंशन सिस्टम को एयर संस्पेंशन सिस्टम समझा जाएगा ।	18.0	अगली धुरी पर 6.5 टन पिछली धुरी पर 11.5 टन"

(ii) अनुसूची के पश्चात् निम्नलिखित स्पष्टीकरण अंतः स्थापित किया जाएगा अर्थात : -

"स्पष्टीकरण- इस अधिसूचना के प्रयोजनों के लिए, मोटरयान अधिनियम, 1988 (1988 का 59) की धारा 113 की उपधारा (3) के अनुपालन के प्रयोजन के लिए उपर यथाविनिर्दिष्ट सकल यान वजन और सुरक्षा धुरी वजन में पांच प्रतिशत तक सहनशीलता अनुज्ञात की जा सकेगी ।

[सं. आर.टी-11036/92/2015-एमवीएल]

अभय दामले, संयुक्त सचिव

टिप्पण:- मूल अधिसूचना, भारत के राजपत्र, असाधारण, भाग-II, खंड-3, उपखंड (ii) तारीख 18 अक्टूबर, 1996 में अधिसूचना सं. का.आ. 728(अ), द्वारा प्रकाशित की गई थी तत्पश्चात् भारत के राजपत्र, असाधारण, भाग II, खंड 3, उपखंड (ii), तारीख 26 मई, 2000 में प्रकाशित अधिसूचना संख्या का.आ. 517(अ), द्वारा उसका संशोधन किया गया था।

MINISTRY OF ROAD TRANSPORT AND HIGHWAYS

NOTIFICATION

New Delhi, the 7th January, 2016

S.O. 41(E).—In exercise of the powers conferred by sub-section (1) of section 58 of the Motor Vehicles Act, 1988 (59 of 1988), the Central Government hereby makes the following further amendments in the notification of Government of India in the erstwhile Ministry of Surface Transport (Transport Wing) number S.O. 728(E), published in the Gazette of India, Extraordinary, Part II, Section 3, Sub-section (ii), dated 18th October, 1996, namely:–

In the Schedule to the said notification,-

(i) Under the heading "I Rigid Vehicles", after number (iv), the following shall be inserted, namely:-

	Transport Vehicles Category	Max. GVW (in Tonnes)	Maximum Safe Axle Weight
1.	2.	3.	4.
"(v)	2 axle Passenger Vehicle with Air Suspension* Two tyres on front axle and Four tyres on rear axle *A suspension system is to be considered as air suspension system if at least 75% of the spring effect is caused by the air spring.	18.0	6.5 tonnes on Front Axle 11.5 tonnes on Rear Axle";

(ii) after the schedule, the following Explanation shall be inserted, namely :-

"Explanation. – For the purposes of this notification, the tolerance up to five per cent. in the gross vehicle weight and safe axle weight as specified above may be allowed for the purpose of compliance to sub-section (3) of section 113 of the Motor Vehicles Act, 1988 (59 of 1988).".

[No. RT-11036/92/2015-MVL]

ABHAY DAMLE, Jt. Secy.

Note: The principal notification was published vide number S.O.728(E), in the Gazette of India, Extraordinary, Part II, Section 3, Sub-Section (ii) dated 18th October, 1996, and subsequently amended vide notification number S.O.517(E) published in the Gazette of India, Extraordinary, Part II, Section 3, Sub-Section (ii), dated the 26th May, 2000.

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MINISTRY OF SURFACE TRANSPORT

(TRANSPORT WING)

NOTIFICATION

New Delhi, the 18th October, 1996

S.O. 728(E).— In exercise of the powers conferred by sub-section (1) of section 58 of the Motor Vehicles Act, 1988 (59 of 1988), and in supersession of the notification of the Government of India in the Ministry of Surface Transport, No. S.O. 479(E), dated the 4th July, 1996, the Central Government hereby specifies that in relation to the transport vehicles (other than motor cabs) of various categories detailed in the Schedule below, the maximum gross vehicle weight and the maximum safe axle weight of each axle of such vehicles shall, having regard to the size, nature and number of tyres and maximum weight permitted to be carried by the tyres as per rule 95 of the Central Motor Vehicles Rules, 1989, be—

(i) vehicle manufacturers rating of the gross vehicle weight and axle weight respectively for each make and model as duly certified by the testing agencies for compliance of rule 126 of the Central Motor Vehicles Rules, 1989, or

(ii) the maximum gross vehicle weight and the maximum safe axle weight of each vehicle respectively as specified in the Schedule below for the relevant category, or

(iii) the maximum load permitted to be carried by the tyre(s) as specified in the rule 95 of the Central Motor Vehicles Rules, 1989, for the size and number of the tyres fitted on the axle(s) of the relevant make and model, whichever is less :

Provided that the maximum gross vehicle weight in respect of all such transport vehicles, including multi-axle vehicles shall not be more than the sum total of all the maximum safe axle weight put together subject to the restrictions, if any, on the maximum gross vehicle weight given in the said Schedule :—

SCHEDULE

	Transport Vehicles Category	Max GVW Tonnes	Maximum Safe Axle Weight
1	2	3	4
I	**Rigid Vehicles**		
(i)	Two Axle	9.00	
	One tyre on front axle		3 tonnes on Front Axle
	Two tyres on rear axle		6 tonnes on Rear Axle
(ii)	Two Axle	12.0	
	Two tyres on each axle.		6 tonnes on Front Axle
			6 tonnes on Rear Axle
(iii)	Two Axle	16.2	
	Two tyres on front axle and		6 tonnes on Front Axle
	four tyres on rear axle.		10.2 tonnes on Rear Axle.
(iv)	Three Axle	25.0	
	Two tyres on front axle and		6 tonnes on front axle
	Eight tyres on rear tandem axle.		19 tonnes on rear tandem axle.
II	**Semi Articulated Vehicles**		
(i)	Two Axle Tractor	26.4	
	Single Axle Trailer		
	Tractor :		
	2 tyres on front axle		6 tonnes on Front Axle
	4 tyres on rear axle		10.2 tonnes on Rear Axle
	Trailer :		
	4 tyres on single axle		10.2 Tonnes on Single Trailer axle.
(ii)	Two Axle Tractor	35.2	
	Tandem Axle Trailer		
	Tractor :		
	2 Tyres on front axle		6 tonnes on Front Axle
	4 tyres on rear axle		10.2 tonnes on Rear Axle
	Trailer :		
	8 tyres on tandem axle		19 tonnes on Tandem axle.

1	2	3	
(iii)	Two Axle Tractor	40.1	
	Three Axle Trailer		
	Tractor :		
	2 tyres on front axle		6 tonnes on Front Axle
	4 tyres on rear axle		10.2 tonnes on Rear Axle
	Trailer :		
	12 tyres on 3 axles		24 tonnes on 3 axles
(iv)	Three Axle Tractor	35.2	
	Single Axle Trailer		
	Tractor :		
	2 tyres on front axle		6 tonnes on Front Axle
	8 tyres on tandem axle		19 tonnes on Rear Axle
	Trailer :		
	8 tyres on single axle		10.2 tonnes on single axle
(v)	Three Axle Tractor	41.0	
	Tandem Axle Trailer		
	Tractor :		
	2 Tyres on front axle		6 tonnes on Front Axle
	8 tyres on tandem axle		19 tonnes on Rear Tandem Axle
	Trailer :		
	8 tyres on tandem axle		19 tonnes on Tandem axle
III	Truck-Trailer Combinations		
(i)	Two Axle Truck	36.6	
	Two Axle Trailer		
	Truck :		
	2 tyres on front axle		6 tonnes on Front Axle
	4 tyres on rear axle		10.2 tonnes on Rear Axle
	Trailer :		
	4 tyres on front axle		10.2 tonnes on Front axle
	4 tyres on rear axle		10.2 tonnes on rear axle
(ii)	Three Axle Truck	45.4	
	Two Axle Trailer	(restricted to 44.0 tonnes)	
	Truck :		
	2 tyres on front axle		6 tonnes on Front Axle
	8 tyres on rear tandem axle		19 tonnes on Rear Tandem Axle
	Trailer :		
	4 tyres on front axle		10.2 tonnes on Front axle
	4 tyres on rear axle		10.2 tonnes on rear axle
(iii)	Two Axle Truck	45.4	
	Three Axle Trailer	(restricted to 44.0 tonnes)	
	Truck :		
	2 tyres on front axle		6 tonnes on Front Axle
	4 tyres on rear axle		10.2 tonnes on Rear Axle
	Trailer :		
	4 tyres on front axle		10.2 tonnes on Front axle
	8 tyres on rear tandem axle		19.0 tonnes on rear tandem axle
(iv)	Three Axle Truck	54.2	
	Three Axle Trailer	(restricted to 44.0 tonnes)	
	Truck :		
	2 tyres on front axle		6 tonnes on Front Axle
	8 tyres on rear tandem axle		19 tonnes on Rear Tandem Axle
	Trailer :		
	4 tyres on front axle		10.2 tonnes on Front axle
	8 tyres on rear tandem axle		19.0 tonnes on rear tandem axle

[F. No. RT-11021/11/93-MVL]
K. R. BHATI, JL Secy.

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MINISTRY OF SURFACE TRANSPORT

(Department of Road Transport and Highways)

(Transport Wing)

NOTIFICATION

New Delhi, the 26th May, 2000

S.O. 517(E).—In exercise of the powers conferred by sub-section (1) of Section 58 of the Motor Vehicles Act, 1988 (59 of 1988), the Central Government hereby makes the following amendments in the notification of the Government of India in the Ministry of Surface Transport (Transport Wing), No. S.O. 728(E) dated the 18th October, 1996 published in the Gazette of India, Extraordinary, Part-II, Sec. 3, sub-section (ii) dated 18th October, 1996, namely:—

In the schedule to the said notification under the heading "II Semi Articulated Vehicles" after item (v) the following shall be inserted namely :—

1	2	3	4
(vi)	Three Axle Tractor Three Axle Trailer Tractor : 2 tyres on front axle 8 tyres on tandem axle Trailer : 12 tyres on 3 axles	49.0	6 tonnes on Front Axle 19 tonnes on Rear Tandem Axle 24 tonnes on 3 axles

[F. No. RT-11042/3/2000-MVL]

K. V. RAO, Jt. Secy.

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A.K. Pandey,
S.E, S & R (B)

No. RW-NH-34049/4/14-S&R (B

Ministry of Road Transport & Highways
A5, IAHE Camp,
Sector 62, NOIDA

Date: 22nd January 2016
4/2/16

To.

1. The Chief Secretaries of all State Governments / Union Territories
2. The Principal Secretaries / Secretaries of all States / U.Ts. Public Works Department
3. The Engineer-in-Chief and Chief Engineers of Public Works Departments of States / U.Ts

Subject: Online portal for according permission for movement of Overweight and Over Dimension Consignment (OW/ ODC) over modular hydraulic axle trailers.

The Central Motor Vehicle Rules, 1989 (CMVR) restricts movement with maximum Gross Vehicle Weight upto 49 tons for Semi Articulate Vehicles.

2. With the growth in economy and our country moving for mega- infrastructural development, the size and weight of single indivisible equipment is increasing day by day. The same are to be transported from manufacturing units / ports to the project/ plant sites and vice versa. Considering the dimensions and weight of such equipments the same need to be transported over modular hydraulic trailers which are registered for higher payloads and to smoothen the process the same has been inducted in CMVR vide GSR no 212E dated 20.03.15. (Copy enclosed for ready reference).

3. Modular hydraulic trailers are globally proven technology for movement of OD/ OWC equipments with even distribution of loads on all axles of the trailers which is of utmost importance for safety of road and bridge structures.

4. Permission to movement of heavy Overweight and over dimension Consignment (OW/ ODC) was causing a bottleneck in Infrastructure development. As such there was no

Pandey
4/2/16

organized mechanism for granting permission for movement of Overweight and Over dimension Consignment (OW/ODC) permission prior to 2013. You may appreciate that movement of Overweight and Over dimension Consignment (OW/ODC) is of paramount importance to enable infrastructure development in the field of Power generation, Defence, Aerospace, Petroleum refineries, etc.

5. In the year 2013, Ministry undertook an initiative to expedite single window approval to Overweight and Over dimension Consignment (OW/ ODC) movement on National Highways. As a first step towards easing such permission, Ministry brought out three important circulars on the procedure to expedite permission for such movements. All the circulars (Circular no. RW-NH-35072/1/2014- S &R(B) dated 24th January 2013, dated 20th May 2014 and dated 20th April 2015) are appended to this letter for your ready reference and record. The spirit of ministry is to provide seamless movement procedure for such movements of national importance. The consignment has to move from its origin to destination, which include National Highways/ State highways/ Major district roads.

6. The first major hurdle for such movement was granting permission for movement on specified highways. To resolve this Ministry established an online portal for granting permission to such movements on National Highways. Movement permission of Overweight and Over dimension Consignment (OW/ ODC)are now granted for National Highways on real time basis through the web portal www.morth-owc.nic.in based on the parameters laid. Though the permission for movement shall be granted based on Condition survey of bridges; however pending condition survey, the online permission are being granted currently on deemed fitness basis considering the importance of such movements.

7. The second major hurdle in this movement is the uncertainty of uninterrupted movement. Bridges on route causes uncertainty due to unavailable data on the present condition of the existing bridges. So Ministry of Road Transport and Highways (MoRTH) to ease these movements has taken certain steps like establishing Indian Bridge Management System (IBMS) for National Highways for centralized bridge inventorization and condition survey in addition to granting of online permission to such movement based on the condition survey of bridges en-route and also proposal of most feasible safe route.

4/2/16

8. These heavy movements occur on National Highways & State Highways. On the basis of data captured through online web portal under use since more than a year now, it has emerged that origin to destination single window permission cannot be materialized without synchronization of state highways and bridges on them with the ministry's portal. The origin of the consignment and so also the destination of the consignment are also moving on State highways bridges on them. Thus, this makes our efforts to ease movement untenable unless the similar efforts are undertaken and supported by each and every State Government.

9. In view of above, State Governments are requested to join this effort of Nation building by ensuring that both systems are established. To ensure that there is uniformity in our joint approach to this issue of National importance, we request the State Government to compile their inventory of bridges and condition status of bridges using the same platform as that used for IBMS by the Ministry and also to use the Overweight and Over dimension Consignment (OW/ODC) Online permission portal for movement on State Highways and bridges.

10. Both these platforms and software are owned by Ministry and a Center for Bridge Management is established within the premises of Indian Academy of Highway Engineers NOIDA. We invite States to take benefit of the developed system and Center to ensure that similar database (Inventory) and condition status of bridges is created for your state based on the same platform. This will ensure seamless access of data when some strategic movement is to be planned and/or in times of disaster.

11. It is therefore requested to synchronize with Ministry's initiative for Bridge Management System and seamless movement of OD/OWC on hydraulic trailers which will also enhance the safety of road and bride structures across the nation by playing as a major tool for eradication of overloading menace on public roads and bridges with ease in transportation of OD/OWC. Circular no. RW-NH-35072/1/2014- S &R(B) dated 24th January 2013 (Para 6) has requested State/ U.Ts. to issue similar circular for movement of ODC / OWC. Action taken on this may please be informed to Ministry.

12. For any further communications / clarifications on the above issue, the undersigned or the following officials may be approached.

4/2/16

Sachin Joshi (Director IDDC Engineers)

Team Leader- TEAM IBMS

Cell: +91 9873418595

Postal address: S & R (B) Department, MORTH at Indian Academy of Highway Engineers, A-5, SECTOR 62, NOIDA, UP. 201301.

With regards

4/2/16

(A. K. Pandey)
Land Line No. 0120 - 2403394

Copy with enclosures for information and necessary action to :

1. All technical officers of the Ministry.
2. All ROs and ELOs of MORTH.
3. Secretary General IRC New Delhi- With request to publish in Indian Highways Journal.
4. NIC – with request to upload the same on web page of the Ministry.
5. General Secretary, Hydraulic Trailer Owners Association, Mumbai.
6. Sachin Joshi- Director and Team Leader Indian Bridge Management System.

Copy for kind information to :

1. P.S to Hon'ble Minister (RT&H).
2. Sr. PPS to Secretary (RT&H).

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MULTIMODAL TRANSPORTATION OF PROJECT CARGO – COASTAL & INLAND WATERWAYS TRANSPORTATION AN IMPORTANT LINKAGE

H. S. Acharya
Project Logistics Consultant

Author of this article is Ex-CEO of Urmila Project Services and has been in the Heavy lift transport industry since 1996, currently providing Project Logistic consultancy services.

INDUSTRY

Size of the projects is becoming bigger and bigger in India in Refinery, Oil & Gas, Fertilizer and Power Sector, therefore the weight and diameter of Project cargo equipment's also becoming big. Clients want fabricated equipment's delivered at site in single piece to avoid site fabrication. In India most of the new project sites are at far off locations from the discharge Ports/Manufacturers locations and many are in land-locked interior locations. There are many large ongoing /upcoming projects in power, Fertilizer and Refinery Sector for which large and heavy consignments are required to be moved for long distances in the shortest possible time.

MARKET NEED

Logistic Service Providers are required to move such heavy and oversized cargo from port of discharge/manufacturing units to project site across India by Multimodal mode which sometimes cover combined road -cum waterway transport distance of upto 4000 KMs which includes destinations located in North East States. In case of power Project single package weight of Stator which is a concentrated load goes upto 462 MT and for refinery it goes upto 120 Mtr long, 14 Mtrs. Diameter and weight upto 1600 MT. Safe and timely movement of such cargo is a big challenge for Transport Operators and cargo cannot be moved entirely by Road because of long bridges enroute and insufficient width and height clearances available on road and one has to opt for multimodal only.

Our Indian Heavy Lift Transport operators are fully geared up to handle Projects of any size with all the required resources like Hydraulic Axle Trailers, Girder Bridge, Barges, Tugs, skilled manpower and Transport Engg., and in-house Technical Expertise to find feasible Transport solutions including construction of temporary Ro-Ro facilities at the nearest waterfront.

For Domestic movement of all such heavy and over size consignments Multimodal Transportation mode is the best option, Road-Barge--Road, Road-Ship-Barge-Road. Despite the fact that we do not have suitable port infrastructure and handling facilities at load port and discharge port for coastal and Inland waterways movement of Heavy Lifts and so many constraints and faced with many challenges our Heavy Lift operators have done commendable job by safely delivering the cargo by using the available resources and also by creating low cost temporary discharge facilities with innovative ideas and contributed for industrial growth of the country. I am proud to say that we Indians can deliver what others cannot. A few major projects where Multimodal Transport, road-barge-road and road-ship-barge-road undertaken by our Heavy Lift Transport Industry in the recent years are detailed below:

REFINERY Sector :

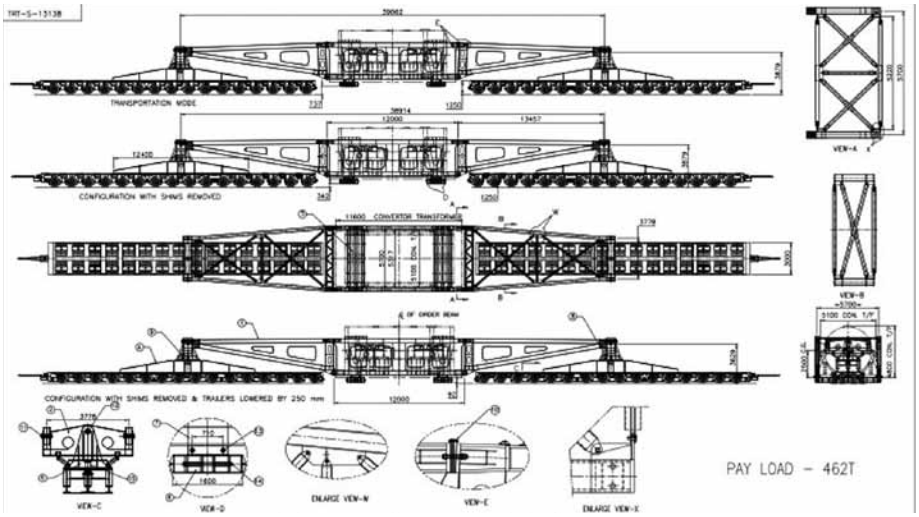
Several Heavy and Super ODC movements including Reactors weighing upto 930 MT from west coast to east coast for IOCL, Paradip, West Coast to west Coast for Reliance J3 Project upto 120 mtrs. long and Weight upto 1600 MT, and many super ODCs to BPCL Kochi and MRPL Mangalore Projects were transported by Multimodal mode successfully.

POWER Sector : Many TG Stators weighing upto 390 Tons and Transformers weighing 325 MTs discharged at Mumbai Port moved via Kasheli Jetty to various power projects and HVDC sites covering road distance upto 1800 KMs approx. in Maharashtra and Chhattisgarh already moved. Stators weighting up to 390T and Transformers up to 250t for projects such as Sasan, Mahan, Anpara , Mejia, Nigri, Nabhinagar etc. all via Inland Waterways No.1 Ganga River and also for many large HVDC Projects like Ballia & Bhiwadi, Champa & Kurushetra and NE Agra located in North India, Chattisgarh and North East states Multimodal mode was used.

MULTIMODAL TRANSPORTATION FOR PGCIL,S CHAMPA HVDC PROJECT :

As reported by Media on 30th September, 2015 in EXIM. 32 Nos. Heavy Transformers to Champa and Kurushetra (CKL1) being transported by leading Heavy Equipment Transport company transported for M/s ALSTOM T & D (India) Ltd. 8 Nos. 800 KVA Transformers weighing 325 Tons, few from Mumbai Port and Baroda. Baroda packages moved by Road to Dahej Port and barging from Dahej to Kasheli jetty and then by Road to Champ HVDC Project on Girder Bridge. Road Transport distance from Baroda to Dahej and Kasheli (Thane) to Champa Site is approx. 1800 KMs and sea movement is 200 NM. 1st Transformer was delivered at site on 9th September 2015.

Road Transportation for a distance of 1600 KMs on 14+14 Axles Goldhofer axles with Heavy Duty Girder Bridge WITH TOTAL LENGTH OF 72 MTRS from Kasheli Jetty to Champa HDVC Site. This is the safest way to transport such heavy Cargo and is now a proven mode of transportation for such heavy and concentrated load. A proper feasibility study of the entire route was carried out for girder bridge movement and hydrographic survey was done for barge movement from Vasai to Kasheli. Old Railway Bridge at Bhayandar with less air draft and width clearance of just 17 Mtrs was a major hurdle which the company has been able to overcome with indepth study of draft, clearance available and pre-planning. Heavy Lift moved on this sea route after a gap of 2 decade and the credit goes to Transport company for re-opening up this channel with the permission of authorities for regular barge movement for future Project cargo for moving out of Mumbai Port to connect Mumbai – Nasik Highway NH 3.



COASTAL AND INLAND WATER TRANSPORT :

India has a long coastline, forming one of the biggest peninsulas in the world. It is serviced by 13 major ports and many Private and minor and intermediate ports. These ports account for nearly 90% (by volume) of India's international trade. Yet, coastal shipping accounts below very small percentage of country's total domestic freight. Coastal shipping – or short sea shipping is an alternate mode for transportation that can help address the challenges faced through use of road. There is hardly any rail movement of heavy and ODC cargo in India. World over use of sea/ waterways for transportation is a much more prevalent mode. There are many inherent advantages of this mode of transportation both on cost and transit time.

CONSISTENCY OF SERVICE:

To promote greater use of our coastline and inland waterways for freight movement, there is a need to address the concerns of the user community, without which there can be no growth whatever we may develop the infrastructure or amend policies. There is need to have reliability of service, regular frequency, simplification of administrative requirements and most of all, development of a complete door to door multimodal solution with coastal linkages. Change in the merchant shipping rules by permitting cabotage, simplification in the administrative requirements for enabling foreign flag vessels to operate on coastal routes. This would ensure higher availability of ships and more tonnage for coastal movement on coastal route.

Govt. has announced several steps to promote coastal and inland water transport - a sector that has been

325T Transformer moving under Bhayandar Bridge to Kasheli Jetty

neglected for years which has the potential to emerge as one of the cheapest and most environment-friendly modes of transport. Few new port projects are proposed to be awarded by the Govt. with a focus on port connectivity, Development of inland waterways can improve vastly the capacity for the transportation of goods and so a project on the river Ganga called 'Jal Marg Vikas' (National Waterways-I) will be developed between Allahabad and Haldia to cover a distance of 1,620 km. This would enable commercial navigation of at least 1,500 tonne vessels. With the kind of steps being taken towards the inland waterways and port segment, it is very clear that the government is looking at balancing multi-modal transportation, "Transportation via inland waterways, which is a cheaper mode of transportation, can in fact bring down cost of logistics to a great extent.

CHALLENGES / SOLUTIONS :

PORT INFRASTRUCTURE:

Ports in India do not have Ro-Ro Jetty facilities for loading and discharging ODCs and Heavy Lifts in beached condition on flat top barges of all sizes except Mundra and Dahej. Paradip

Port has floating Ro-Ro Jetty. Ports like Mumbai, Mangalore, Chennai and Haldia have only Wharf with can be used for floating Roll off.

All major and private ports which are handling project cargo having road connectivity for movement of heavy lifts and ODCs both inbound and outbound cargo should be made to compulsorily create Ro-Ro Jetty facilities with long term perspective for project cargo handling to facilitate barge operations on both for beaching and floating to load / discharge heavy lifts by Ro-Ro method.

BERTHING DELAY :

Currently there is no priority berthing ships carrying coastal cargo which makes coastal shipping uneconomical due to high cost of demurrage. Priority Berthing/berthing on arrival for both Ships and Barges is a must.

UNIFORM AND LOW PORT TARIF :

Current high port tariff for coastal cargo makes coastal shipping unworkable. There is no uniform port tariff for coastal cargo and sometimes the cargo related charges and a port due for barge and tug goes upto 80% of barging cost. There is a need to bring uniform port tariff on weight basis say Rs.100/MT.

FREE PERIOD :

More free storage period and concessional storage rent will encourage operators to bring more cargo for costal movement.

CREATION OF RO-RO FACILITIES AT INLAND WATERWAYS:

There is no single Ro-Ro jetty suitable for heavy lift loading and discharge operations constructed and maintained by IWAI. Suitable locations to be identified and facilities to be created. Also required draft to be maintained in the channel by dredging regularly.

AVAILABILITY OF MARINE CRAFTS SUITABLE FOR HEAVY LIFT CARGO:

Currently due to uncertainty over demand for Ballastable Barges and suitable Tugs are hardly available in the market on hire when required . For new construction which are going to be used for costal movement should be given some subsidy as these are capital intensive assets and involves huge long term investment.

RETURN CARGO (2 WAY CARGO) :

One way Project cargo movement by barge is today pushing up the cost. Barges should not return empty and concerted efforts should be made by Govt. and operators to put some general cargo as return cargo and offer some incentives schemes including exemption of service tax on coastal cargo movement.

COASTAL CUSTOM CLEARANCE :

Current system of BOCG clearance and inspection of cargo by customs should be replaced with self-declaration/ assessment or online approval similar to ODC permission online as there is no customs duty involved. This will save paper work and considerable time in processing of the documents.

UNDER UTILIZATION OF RESOURCES:

Currently because of gross underutilization of both Marine and Road equipment's due to non-availability of return cargo and also dumb barge tug cannot move during foul weather, Freight cost is too high. Concerted efforts should be put to minimize the logistics cost by getting return cargo and make available self-propelled barges which can operate throughout the year.

I feel, there is need for Government, Ports, Transport Operators and Investors to come together to work on the strategy for developing and implementation of Coastal and Inland waterways transport linkage to promote Multimodal Transportation of project cargo which brings down the Logistics cost and helps the economy.

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Richard L. Krabbendam
Heavy Lift Specialist

It is the 1st of January 2016 and a New year lies ahead of me and when you read this last article related to safety, it will already be February 2016. With the past four articles dealing on safety, I think it is time for a review on the subject as well as on the past year and what can be done to improve safety in our daily operations and in our Industry as a whole.

History

When I look back on my career in the Heavy Transport, Lifting, Shipping and Offshore Industry, which started in 1973 and compare it to what it is today in relation to Safety, there is a lot of difference. Despite the fact that we were not confronted with a lot of Rules & Regulations back then, we did everything in our power to execute a Project in a Safe and responsible way. Maybe, I have been lucky that I have never been involved in a personal accident or serious injury myself, despite the fact that I have been involved in Project execution and Hands-on experience on projects in the Netherlands, Taiwan, Spain, Iran, India, Qatar, UK, France, Malta, Italy, USA, Australia, Belgium, Thailand, Indonesia, Saudi Arabia, Sri Lanka, Malaysia, Denmark, Argentina, Venezuela etc. I must admit, in my 42 years being in this Industry, I have had some minor incidents, which mainly were to be blamed on myself by exposing myself to unsafe situations and taking unnecessary risks. Let me give you some examples below. (see picture Fig.01)

Fig.01 Recognize unsafe and risky situations

Almost cut off fingers

On a Refinery project in Belgium, I was helping the rigging crew to put a tail sling in the hook of a 200 tons Telescopic crane. While I was standing in a man basket approx. 5 m above ground level, the 200 Tons hook was slewed towards me and while it was approaching me, I tried to hook the sling eye into the rams horn hook, not realizing that the moving hook could catch my fingers between the sling eye and the rams horn hook when it swung back. I was lucky wearing hand gloves and the sling caught just the glove and part of my finger skin, which did hurt, but did not damage it, except a little contusion.

Lesson learned

Do not put a sling or grommet into a

hook while the hook is still moving, or use other tools instead of your hands and fingers. When working with heavy slings and grommets, especially under Offshore conditions, hook blocks are often in motion and you must be aware of how vulnerable you are in relation to these moving objects, so stay clear and use sling handling tools or hoists and try to stop the motion by tugger winches. On another Project in Denmark one of the staff members of a local transport contractor, working for us, jumped of the trailer and his ring finger hooked on the railing, while he jumped off the trailer deck and snatched his finger.

Lesson learned

Do not wear any rings or other decorations which can be caught by objects and hurt yourself. Long hair should be kept under your helmet or cut short and do not wear short sleeves, as unprotected arms can easily get scratched without the sleeve protection. Once, I was eager to get on board of our Heavy Lift Vessel, moored alongside a finger peer in Indonesia, which was made up of gratings with manholes on certain spots in order to get access to the piles underneath the finger peer. As I was more or less running over the gratings towards the vessel, I did not notice one of the manhole covers being open and fell into it, hurting my shinbone badly. I managed to hobble to the vessel, where I was treated by the captain.

Lesson Learned

Do not rush and watch out for risky situations and close manhole covers.

Sharing the Experience

In order to increase Safety in the Industry, I strongly recommend that we share our experiences on mishaps and incidents, so that others will not make the same mistakes over and over again. Why is the airline Industry one of the Safest Transportation Industries in the World? Because it is in the Airline Industries Interest to make sure it is a Safe industry, otherwise you and myself will never fly again, if flying was unsafe. How did flying become such a safe transportation Industry? They investigated each and every incident in great detail, even in many cases, National Geographic made a Documentary of the incident under the Heading: "Air crash Investigation" and the final outcome of the investigation was published and new guidelines were drafted so that the same mistakes could not be made again. Safety in the airline industry has reached this level due to better training of aircraft crews and improve on the design and control instruments of an aircraft. My father, who died at the age of 94 in 2010, was a flight engineer with KLM Royal Dutch Airlines until 1965 and I remember, during my teenage years, that my father was always very keen on Safety and did not accept an aircraft, unless it was in tip top condition and all "small" technical issues were solved and in good working order. Any excuse from the technical/ maintenance department stating that they did not have time to solve the "small" problem now, was not accepted by him. He refused to fly in an aircraft, which was not 100% in order to fly. His valid argument to the maintenance department was: "I am not accepting it, if it is not in Tip Top condition, as I am in it and you are not". He was right in doing so, despite the delay for passengers and crew.

Fatal incidents

I wish all crane operators take the same attitude as my father did in his days. Unfortunately it now is too late for mr.Lindsay Easton, the operator, who drove as a replacement operator a 500 tons crane in a mountainous area in Scotland, relocating the crane in a Wind farm project. The Crane Rental company had been found guilty end last year, after being charged with Corporate Manslaughter and fined £700,000.— plus £200,000.— in cost, due to the fact that the crane's brakes had not only not been maintained, but some of the braking systems were also partially disabled. The court heard that the crane was not Easton's usual crane. Detective Sergeant John McNamara, spoke at the sentencing said: "We welcome today's sentencing and hope that it serves as a reminder to all companies to properly manage and maintain equipment and vehicles, and to keep the safety of their employees at the forefront of their responsibilities".

"The brakes on the crane driven by Mr. Easton that day were in a shockingly bad state and this was a disaster waiting to happen. Had this happened on a road with more vehicles this incident could

Fig.02 Alphen Crane disaster

have been even more serious than it already was". Lesson Learned: Keep your equipment in Tip Top working condition and create a Safe Working environment for your Workers and Staff.

Proper Project Planning & Preparation is crucial

Not only maintenance and repair is needed to maintain a Safe Working environment.

Remember the seven P's: Proper Planning & Preparation Prevents Piss Poor Performance. We have had this past year some bad examples of how a Project should not be executed, due to bad Planning and Preparation. I learned from Mike Ponsonby that in the year 2015 he recorded a total of 159 fatalities in the Crane Industry. Take as an example the tandem lift operation in the city of Alphen aan den Rijn, in the Netherlands. It happened on the 3rd of August 2015, and we are still waiting on the official incident report, which will clearly state what went wrong on that job. Fortunately there were no casualties on that project. (See picture in Fig.02). It is not in the Industries interest to keep us in the dark of what went wrong there. Be transparent and inform the public what went wrong and what caused the incident, then the Industry is learning from the mistakes made earlier and hopefully such an incident will never happen again. Unfortunately it is too late for mr. Lindsay Easton and the 111 persons, who were killed by the Mecca Crane incident, in which a Liebherr LR11350 crane was blown over by stormy winds. The contractor had not taken pre-cautions to lower the 104 m main boom with 84 m fly-jib, despite the Liebherr operation instruction manual. The contractor being charged with Negligence. (See picture in Fig.03)

Paper Tiger

Be aware though and do not create a so-called "Paper Tiger". A Method Statement of a Project should amongst all i.e. be:

Fig.03 Blown over Liebherr LR11350 in Mecca

- Practical and simple
- Detailed lift- and transport plans and details of the load(s) to be handled
- Contain all relevant information needed for the operational staff to execute the Project
- Checklist and Last Minute Risk Analysis
- Forces and weights expected on the loads being handled
- Bar Chart Planning Schedule, showing the Critical Path of the Project

The above is just a short summary what is needed as a minimum, but be ware of not using too many forms and checklists, which do not serve a purpose. Key to a Safe Work execution is doing the project with Properly trained and experienced Operators, Engineers and Staff.

In the UK, 'Safe Systems of Work' is the common Law Obligation. With any departure from that leaving the Employer wide open to Prosecution by Police, HSE and the State. The benefit of which is that everyone gets to go home in one piece at the end of the day : Meanwhile the Fatal Crane incident above gives a new celebrity to Crane Safety and energizes the need for Pro-Active Management of Lifting Operations. Therefore all Crane Industry CEO's and MD's should now recognize this particular Prosecution as ***'The Game Changing'*** moment, after which they ignore safety at their peril.

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Bill Summary
The National Waterways Bill, 2015

1. The National Waterways Bill, 2015 was introduced in Lok Sabha on May 5, 2015 by the Minister of Road Transport and Highways and Shipping, Mr. Nitin Gadkari.

2. Under Entry 24 of the Union List of the Seventh Schedule of the Constitution, the central government can make laws on shipping and navigation on inland waterways which are classified as national waterways by Parliament by law.

3. The Bill identifies additional 101 waterways as national waterways. The Schedule of the Bill also specifies the extent of development to be undertaken on each waterway.

4. The Bill repeals the five Acts that declare the existing national waterways. These five national waterways are now covered under the Bill. The following existing Acts are proposed to be repealed:

   a. the National Waterway (Allahabad-Haldia stretch of the Ganga Bhagirathi-Hooghly River) Act, 1982;

   b. the National Waterway (Sadiya-Dhubri stretch of Brahmaputra River) Act, 1988;

   c. the National Waterway (Kollam-Kottapuram stretch of West Coast Canal and Champakara and Udyogmandal Canals) Act, 1992;

   d. the National Waterway (Talcher-Dhamra stretch of Rivers, Geonkhali- Charbatia stretch of East Coast Canal, Charbatia-Dhamra stretch of Matai River and Mahanadi Delta Rivers) Act, 2008; and

   e. the National Waterway (Kakinada-Puducherry stretch of Canals and the Kaluvelly Tank, Bhadrachalam-Rajahmundry stretch of River Godavari and Wazirabad-Vijayawada stretch of River Krishna) Act, 2008.

5. The Statement of Objects and Reasons of the Bill states that while inland waterways are recognized as a fuel efficient, cost effective and environment friendly mode of transport, it has received lesser investment as compared to roads and railways. Since inland waterways are lagging behind other modes of transport, the central government has evolved a policy for integrated development of inland waterways.

6. Status of Bill :

a.	Introduction of Bill	:	05 May 2015
b.	Refer to Standing Committee	:	21 May 2015
c.	Submission of standing committee report	:	12 Aug 2015
d.	Bill Passed at Lok Sabha	:	21 Dec 2015
e.	Status of Rajya Sabha	:	Pending

As introduced in Lok Sabha

Bill No. 122 of 2015

THE NATIONAL WATERWAYS BILL, 2015

A

BILL

to make provisions for existing national waterways and to provide for the declaration of certain inland waterways to be national waterways and also to provide for the regulation and development of the said waterways for the purposes of shipping and navigation and for matters connected therewith or incidental thereto.

Be it enacted by Parliament in the Sixty-sixth Year of the Republic of India as follows:—

1. *(1)* This Act may be called the National Waterways Act, 2015. Short title and commence-ment.

(2) It shall come into force on such date as the Central Government may, by notification in the Official Gazette, appoint.

Existing national waterways and declaration of certain inland waterways as national waterways.

2. *(1)* The existing national waterways specified at serial numbers 1 to 5 in the Schedule alongwith their limits given in column (3) thereof, which have been declared as such under the Acts referred to in sub-section (*1*) of section 5, shall continue to be national waterways for the purposes of shipping and navigation under this Act.

(2) The regulation and development of the waterways referred to in sub-section (*1*) which have been under the control of the Central Government shall continue, as if the said waterways are declared as national waterways under the provisions of this Act.

(3) The inland waterways specified at serial numbers 6 to 106 in the Schedule along with their limits given in column (3) thereof are hereby declared to be national waterways for the purposes of shipping and navigation.

Declaration as to expediency of control and development by Union of waterways specified in Schedule for certain purposes.

3. Save as provided in sub-sections (*1*) and (*2*) of section 2, it is hereby declared that it is expedient in the public interest that the Union should take under its control the regulation and development of the waterways specified in the Schedule for the purposes of shipping and navigation to the extent provided in the Inland Waterways Authority of India Act, 1985. 82 of 1985.

Amendment of section 2 of Act 82 of 1985.

4. In the Inland Waterways Authority of India Act, 1985, in section 2, for clause (*h*), the following clause shall be substituted, namely:—

'*(h)* "national waterway" means the inland waterway declared by section 2 of the National Waterways Act, 2015, to be a national waterway.

Explanation.— If Parliament declares by law any other waterway to be a national waterway, then, from the date on which such declaration takes effect, such other waterway—

(i) shall also be deemed to be a national waterway within the meaning of this clause; and

(ii) the provisions of this Act shall, with necessary modifications (including modification for construing any reference to the commencement of this Act as a reference to the date aforesaid), apply to such national waterway;'.

Repeal of certain enactments and saving.

5. *(1)* The following Acts, namely:—

(a) the National Waterway (Allahabad-Haldia Stretch of the Ganga Bhagirathi-Hooghly River) Act, 1982; 49 of 1982.

(b) the National Waterway (Sadiya-Dhubri Stretch of Brahmaputra River) Act, 1988; 40 of 1988.

(c) the National Waterway (Kollam-Kottapuram Stretch of West Coast Canal and Champakara and Udyogmandal Canals) Act, 1992; 25 of 1992.

(d) the National Waterway (Talcher-Dhamra Stretch of Rivers, Geonkhali-Charbatia Stretch of East Coast Canal, Charbatia-Dhamra Stretch of Matai River and Mahanadi Delta Rivers) Act, 2008; and 23 of 2008.

(e) the National Waterway (Kakinada-Puducherry Stretch of Canals and the Kaluvelly Tank, Bhadrachalam-Rajahmundry Stretch of River Godavari and Wazirabad-Vijayawada Stretch of River Krishna) Act, 2008, 24 of 2008.

are hereby repealed.

(2) Notwithstanding such repeal, anything done or any action taken under the Acts referred to in sub-section (*1*), in so far as they are in conformity with the provisions of this Act, shall be deemed to have been done or omitted to be done or taken or not taken under the provisions of this Act.

THE SCHEDULE

(See section 2*)*

Sl.No.	National Waterways	Limits of the National Waterways
(1)	(2)	(3)
1.	National Waterway 1	Allahabad-Haldia Stretch of the Ganga Bhagirathi-Hooghly River with the following limits, namely:— From road bridge at Allahabad across the river Ganga, about 2 kilometres upstream of the confluence of the rivers Ganga and Yamuna at Triveni to the inland waterway limit on the tidal waters of the river Hooghly from a line drawn between No.1 Refuge house at the entrance to Baratola river commonly called channel creek, to a position 2.5 kilometres due south of Saugor lighthouse, and then connected to the right or south bank at the entrance to the Hijili or Russulpore river, through river Ganga, lock canal and feeder canal at Farakka, river Bhagirathi and river Hooghly.
2.	National Waterway 2	Sadiya-Dhubri Stretch of Brahmaputra River with the following limits, namely:— From a line drawn across the Brahmaputra river from the point on the north bank of the Kundil river at its confluence with the Brahmaputra river near Sadiya to the beginning of the river island Majuli and therefrom through all the channels of the Brahmaputra river on either side of the river island Majuli up to the end of the river island Majuli and then up to the international border down stream of Dhubri.
3.	National Waterway 3	Kollam-Kottapuram Stretch of West Coast Canal and Champakara and Udyogmandal Canals with the following limits, namely:— The northern limit of the West Coast Canal shall be a line drawn across the river Periyar parallel to Kottapuram road bridge (NH-17) connecting Maliankara and Valiapanikan Thuruthu at a distance of 1.0 kilometre upstream, and the southern limit shall be a line drawn across the Ashtamudi Kayal at a distance of 100 metres south of Kollam jetty. The Champakara Canal starting from the confluence with the West Coast Canal and ending at the railway bridge (railway siding for Cochin Oil Refinery) near Fertilisers and Chemicals Travancore Limited, boat basin. The Udyogmandal Canal starting from the confluence with West Coast Canal and ending at the Padalarn road bridge (Eloor-Edayar).

(1)	(2)	(3)
4.	National Waterway 4	Kakinada-Puducherry Stretch of Canals and the Kaluvelly Tank, Bhadrachalam-Rajahmundry Stretch of River Godavari and Wazirabad-Vijayawada Stretch of River Krishna with the following limits, namely:— *Kakinada-Puducherry canal* (Canal system consisting of Kakinada canal, Eluru canal, Commamur canal and North Buckingham canal, portion of the Coovum river linking North and South Buckingham canals, South Buckingham canal and Kaluvelly tank) Northern limit: A line drawn across the Kakinada canal parallel to the Jagannadhapuram road bridge, Kakinada at a distance of 500 metres down stream at Lat 16° 56' 24" N, Lon 82° 14' 20"; Southern limit: Junction of East Coast Highway and Chinnakalawari-Kanakachettikulam road at Kanakachettikulam which is the end point of the artificial canal link to Kaluvelly tank at Lat 12° 02' 36" N, Lon 79° 52' 12" E. *River Godavari* Western limit: Road bridge at Bhadrachalam across river Godavari at Lat 17° 40' 39" N, Lon 80° 52' 52" E; Eastern limit: Sir Arthur Cotton barrage across river Godavari at Dowlaiswaram, Rajahmundry at Lat 16° 56' 05" N, Lon 81° 45' 32" E. *River Krishna* Western limit: Road bridge at Wazirabad across river Krishna at Lat 16° 40' 50" N, Lon 79° 39' 29" E. Eastern limit: Prakasam barrage across river Krishna at Vijayawada at Lat 16° 30' 18" N, Lon 80° 36' 23" E.
5.	National Waterway 5	Talcher-Dhamra Stretch of Brahmani-Kharsua-Dhamra Rivers, Geonkhali-Charbatia Stretch of East Coast Canal, Charbatia-Dhamra Stretch of Matai River and Mahanadi Delta Rivers with the following limits, namely:— *East Coast Canal and Matai river* (Consisting of old Hijli tidal canal, Orissa coast canal and Matai river) Northern limit: Confluence point of Hooghly river and Hijli tidal canal at Geonkhali at Lat 22° 12' 20" N, Lon 88° 03' 07" E; Southern limit: Confluence of Matai river and Dhamra river near Dhamra Fishing harbour at Lat 20° 47' 42" N, Lon 86° 53' 03" E. *Brahmani-Kharsua-Dhamra river system* (Consisting of Brahmani-Kharsua-Dhamra rivers)

(1)	(2)	(3)
		North-Western limit: Samal barrage across river Brahmani, Talcher at Lat 21° 04' 26" N, Lon 86° 08' 05" E;
		South-Eastern limit: An imaginary line drawn across Dhamra river at East Point of Kalibhanj Dian Reserved Forest near Chandnipal at Lat 20° 46' 26" N, Lon 86° 57' 15" E.
		Mahanadi delta rivers (Consisting of Hansua river, Nuna nala, Gobri nala, Kharnasi river and Mahanadi river)
		(Alternate route-Hansua river enters into Bay of Bengal through northern point of False point bay, then enters river Kharnasi at southern end of False point bay, river Atharabanko, a northernly distributory of river Mahanadi)
		Northern limit: Confluence of Kharsua river with Brahmani river at Ramchandrapur at Lat 20° 36' 55"N, Lon 86° 45' 05" E;
		Southern limit: An imaginary line in continuation to the Northern break water structure across the entrance channel at Paradip Port at Lat 20° 15' 38"N, Long 86°' 40' 55" E.
6.	National Waterway 6	*Aai River:*
		71 kms length of the river from Upstream of Bridge at Adalguri No.3 at Lat 26°33'32.17"N, Lon 90°34'0.86"E to confluence with Brahmaputra river at Lat 26°12'49.90"N, Lon 90°36'24.40"E (4.7km upstream of Naranarayan Setu at Jogighopa).
7.	National Waterway 7	*Ajoy River:*
		96 kms from Bridge on Morgram-Panagarh State Highway No. 14 at Illambazar Lat 23°36'56.10"N, Lon 87°31'58.07"E to confluence of river Ajoy with river Bhagirathi at Lat 23°39'23.33"N, Lon 88° 7'56.72"E at Katwa.
8.	National Waterway 8	*Amba River:*
		45 kms length of the river from Arabian Sea, Dharamtaar creek near village Revas at Lat 18°50'15.14"N, Lon 72°56'31.22"E to a Bridge near Nagothane ST Stand at Lat 18°32'19.82"N, Lon 73° 8'0.29"E.
9.	National Waterway 9	*Arunawati / Aran River:*
		98 kms length of the river from a Bridge on State Highway No. 211 at Lat 20°13'32.91"N, Lon 77°33'23.32"E to confluence of Arunawati and Aran rivers near Ratnapur village at Lat 19°59'30.70"N, Lon 78° 9'37.51"E to confluence of Aran and Penganga rivers near Chimata village at Lat 19°54'8.32"N, Lon 78°12'36.43"E.
10.	National Waterway 10	*Asi River:*
		5.5 kms length of the river from Ganga river confluence at Assi Ghat, Varanasi at Lat 25°17'18.64"N, Lon 83°

(1)	(2)	(3)
		0'25.46"E to near Newada, Varanasi at Lat 25°16'37.28"N, Lon 82°58'17.60"E.
11.	National Waterway 11	*AVM Canal:*
		11 kms length of the canal from Poovar Beach at Lat 8°18'29.73"N, Lon 77° 4'45.20"E to Erayumanthurai Bus Stop at Lat 8°14'54.16"N, Lon 77° 9'33.50"E.
12.	National Waterway 12	*Baitarni River*:
		49 kms length of the river from Dattapur village at Lat 20°51'44.61"N, Lon 86°33'30.45"E to confluence with Dhamra river near Laxmiprasad Dia at Lat 20°45'13.32"N, Lon 86°49'15.36"E.
13.	National Waterway 13	*Bakreswar / Mayurakshi River:*
		110 kms length of the Bakreswar river from Nil Nirjan Dam at Lat 23°49'30.77"N, Lon 87°24'59.04"E to confluence of Bakreswar and Mayurakshi rivers near Talgram village at Lat 23°51'58.01"N, Lon 88° 2'21.04"E and 27 kms Mayurakshi river from Talgram village to confluence with Dwarka river near Dakshin Hijal village at Lat 23°58'22.24"N, Lon 88° 9'21.19"E.
14.	National Waterway 14	*Barak River:*
		121 kms length of the river from Lakhipur Ferry Ghat Lat 24°47'17.73"N, Lon 93° 1'16.33"E to Tuker Gram Lat 24°52'33.96"N, Lon 92°29'20.60"E.
15.	National Waterway 15	*Beas River:*
		191 kms length of the river from Talwara Barrage at Lat 31°57'21.93"N, Lon 75°53'37.44"E to confluence of Beas and Sutlej rivers near Harike at Lat 31° 9'9.17"N, Lon 74°58'7.93"E
16.	National Waterway 16	*Beki River:*
		73 kms length of the river from Elenagamari Lat 26°38'37.19"N, Lon 90°59'2.15"E to Brahmaputra confluence at Lat 26°14'23.80"N, Lon 90°47'20.86"E.
17.	National Waterway 17	*Betwa River:*
		68 kms length of the river from Rirwa Buzurg Dariya at Lat 25°54'16.78"N, Lon 79°45'6.46"E to confluence of Betwa and Yamuna rivers near Merapur Daria village at Lat 25°55'11.48"N, Lon 80°13'7.65"E.
18.	National Waterway 18	*Bharathappuzha River:*
		61 kms length of the river from 80 m upstream of Shornur Railway bridge at Lat 10°45'6.38"N, Lon 76°16'52.94"E to Lakshadweep Sea, location Koottayi Padinijarekkara Azhimugam, Ponnani at Lat 10°47'12.03"N, Lon 75°54'40.04"E.

(1)	(2)	(3)
19.	National Waterway 19	*Bhavani River:* 94 kms length of the river from Bhavani Sagar Dam, Sathyamangalam at Lat 11°28'16.21"N, Lon 77° 6'49.11"E to confluence of Bhavani and Kaveri rivers at Kaveri river bridge on Salem-Coimbatore Highway: NH-47 Lat 11°25'54.41"N, Lon 77°41'1.92"E.
20.	National Waterway 20	*Bheema River:* 139 kms length of the river from Barrage (approx 1 km from Hippargi village) at Lat 17° 9'4.50"N, Lon 76°46'34.14"E to confluence of Bheema and Krishna rivers at Gundloor Lat 16°24'27.96"N, Lon 77°17'12.60"E.
21.	National Waterway 21	*Birupa / Badi Genguti / Brahmani River System:* 102 kms length of the river from Birupa Barrage at Choudwar at Lat 20°30'49.00"N, Lon 85°55'20.17"E to confluence of Birupa and Brahmani rivers near Upperkai Pada village at Lat 20°37'36.25"N, Lon 86°24'19.13"E including alternative route of 25 kms from Samaspur village Lat 20°35'40.59"N, Lon 86° 6'31.50"E to near Kharagpur village Lat 20°38'27.77"N, Lon 86°17'31.81"E and additional 54 kms length of Brahmani river from confluence of Birupa and Brahmani rivers near Upperkai Pada village at Lat 20°37'36.25"N, Lon 86°24'19.13"E to Brahmani river at Katana Lat 20°39'26.28"N, Lon 86°44'52.86"E.
22.	National Waterway 22	*Budha Balanga:* 56 kms length of the river from Barrage (approx 300m from Patalipura village) at Lat 21°38'12.96"N, Lon 86°50'53.17"E to confluence of Budha Balanga river with Bay of Bengal at Chandipur Fishing Port Lat 21°28'12.14"N, Lon 87° 4'11.60"E.
23.	National Waterway 23	*Chaliyar River:* 88 kms length of the river from Bridge on Panamkayam road at Lat 11°23'50.87"N, Lon 76°14'45.90"E to confluence of Chaliyar river with Lakshadweep Sea at Beypore Port at Lat 11° 9'42.21"N, Lon 75°48'10.61"E (part of the river also under West Coast Canal).
24.	National Waterway 24	*Chambal River:* 402 kms length of the river from Sawai Madhopur-Sheopur road bridge on State Highway No. 30 near Jailalpura village Lat 25°51'48.77"N, Lon 76°34'34.27"E to confluence of Chambal and Yamuna rivers at Charakpura village Lat 26°29'29.89"N Lon 79°15'0.89"E.

(1)	(2)	(3)
25.	National Waterway 25	*Chapora River:* 33 kms length of the river from Bridge at State Highway No.124 (1Km from Maneri village) Lat 15°42'47.31"N, Lon 73°57'23.38"E to Confluence of Chapora river with Arabian Sea at Morjim Lat 15°36' 33.27"N, Lon 73°44'0.93"E.
26.	National Waterway 26	*Chenab River:* 53 kms length of the river from Chenab road bridge at Lat 33° 5'7.34"N, Lon 74°48'6.16"E to Bridge near Bharda kalan at Lat 32°48'12.42"N, Lon 74°34'53.24"E.
27.	National Waterway 27	*Cumberjua River:* 17 kms length of the river at confluence of Cumberjua and Zuvari rivers near Cortalim ferry terminal Lat 15°24'39.76"N, Lon 73°54'47.94"E to confluence of Cumberjua and Mandovi rivers near Sao Martias Vidhan Parishad Lat 15°31'26.44"N, Lon 73°55'34.30"E.
28.	National Waterway 28	*Damodar River:* 135 kms length of the river from Krishak Setu, Bardhman on State Highway No. 8 at Lat 23°12'39.83"N, Lon 87°50'53.85"E to confluence with Hooghly river near Purbba Basudebpur at Lat 22°21'0.58"N, Lon 88° 5'19.31"E.
29.	National Waterway 29	*Dehing River:* 114 kms length of the river from rail Bridge at Merbil Majuli No.1 Lat 27°19'24.58"N, Lon 95°18'44.60"E to confluence of Dehing and Brahmaputra rivers near village Lachan at Lat 27°15'10.21"N, Lon 94°40'1.33"E.
30.	National Waterway 30	*Dhansiri / Chathe:* 110 kms length of the river from Bridge near Morongi T.E. village Lat 26°24'40.65"N, Lon 93°53'46.75"E to Numaligarh Lat 26°42'1.20"N, Lon 93°35'15.42"E.
31.	National Waterway 31	*Dikhu River:* 63 kms length of the river from Bridge at Nazira on State Highway No.1 Lat 26°55'18.43"N, Lon 94°44'27.03"E to confluence of Dikhu and Brahmaputra rivers at Lat 26°59'58.33"N, Lon 94°27'41.73"E.
32.	National Waterway 32	*Doyans River:* 61 kms length of the river from Bridge near Sialmari Lat 26°10'47.45"N, Lon 93°59'10.26"E to confluence of Doyans and Subansiri rivers at Lat 26°26'53.34"N, Lon 93°57'11.61"E.

(1)	(2)	(3)
33.	National Waterway 33	*DVC Canal:* 130 kms length of the canal from Durgapur Barrage Lat 23°28'47.36"N, Lon 87°18'19.04"E to Confluence point of DVC canal with Hooghly river near Tribeni Lat 23° 0'30.95"N, Lon 88°24'54.72"E.
34.	National Waterway 34	*Dwarekeswar River:* 113 kms length of the river from Bridge near Abantika Lat 23° 6'54.76"N, Lon 87°18'46.99"E to confluence of Dwarakeswar and Silai rivers at Pratappur Lat 22°40'16.94"N, Lon 87°46'42.57"E.
35.	National Waterway 35	*Dwarka River:* 121 kms length of the river from Bridge at Tarapith at Lat 24°6'57.70"N, Lon 87°47'51.48"E to confluence with Bhagirathi river near Maugram village at Lat 23°43'52.56"N, Lon 88°10'51.44"E.
36.	National Waterway 36	*Gandak River:* 300 kms length of the river from Bhaisaslotal Barrage near Triveni Ghat at Lat 27°26'21.75"N, Lon 83°54'23.90"E to Gandak and Ganga rivers confluence at Hajipur Lat 25°39'17.59"N, Lon 85°10'27.85"E.
37.	National Waterway 37	*Gangadhar River:* 62 kms length of the river from Pakriguri Bridge on NH 31C at Lat 26°27'29.98"N, Lon 89°51'24.97"E to Bangladesh Border at Binnachara Point III Lat 26° 0'31.81"N, Lon 89°49'57.18"E.
38.	National Waterway 38	*Ghaghra River:* 340 kms length of the river from Faizabad Lat 26°47'51.38"N, Lon 82° 6'46.10"E to Ghaghra and Ganga rivers confluence at Manjhi Ghat Lat 25°44'12.56"N, Lon 84°42'2.89"E.
39.	National Waterway 39	*Ghataprabha River:* 112 kms length of the river from Barrage near Malali Lat 16°20'1.13"N, Lon 75°11'23.14"E to confluence with river Krishna at Chicksangam Lat 16°20'13.37"N, Lon 75°47'53.52"E.
40.	National Waterway 40	*Gomti River:* 518 kms length of the river from Bara Imambara, Lucknow Lat 26°52'21.23"N, Lon 80°54'58.08"E to confluence of Gomti with river Ganga Lat 25°30'31.41"N, Lon 83°10'16.86"E.
41.	National Waterway 41	*Ichamati River:* 64 kms length of the river from Bridge on Border Main Road at Gobra near Bangladesh Border at Lat 22°53'49.64"N, Lon 88°53'48.87"E to near

(1)	(2)	(3)
		Bangladesh Border at Bansjhari Mallikpur Lat 22°39'6.71"N, Lon 88°55'35.35"E
42.	National Waterway 42	*Indira Gandhi Canal:*
		277 kms length of the canal from Harike Barrage at Lat 31° 8'33.11"N, Lon 74°56'56.72"E to Bridge on NH 15 near village Piperan Lat 29°12'18.49"N, Lon 73°53'58.09"E.
43.	National Waterway 43	*Indus River:*
		35 kms length of the river from Bridge on highway at Upshi village Lat 33°49'42.69"N, Lon 77°48'56.23"E to Bridge on Shey-Chuchol road near Shey village Lat 34° 3'35.41"N, Lon 77°38'33.14"E.
44.	National Waterway 44	*Jalangi River:*
		131 kms length of the river from Bridge on State Highway No. 14 near Plashipara at Lat 23°47'47.15"N, Long 88°27'8.97"E to confluence of Jalangi with Hooghly/ Bhagirathi rivers at Nabadwip Lat 23°24'38.73"N, Lon 88°22'48.38"E.
45.	National Waterway 45	*Jhelum River:*
		110 kms length of the river from Bridge on highway at Lat 33°49'25.78"N, Lon 75° 3'50.14"E to Wuler lake, Srinagar at Lat 34°21'37.16"N, Lon 74°36'36.35"E.
46.	National Waterway 46	*Kadalundy River:*
		53 kms length of the river from old bridge near Parappuram village at Lat 11° 3'15.98"N, Lon 76° 1'42.58"E to confluence of Kadalundy river with Arabian Sea at Kadalundy bridge Lat 11° 7'26.15"N, Lon 75°49'32.37"E (part of the river also under West Coast Canal).
47.	National Waterway 47	*Kali River:*
		54 kms length of the river from Kodasalli Dam Lat 14°55'8.24"N, Lon 74°32'6.90"E to confluence of Kali river with Arabian Sea near Sadashivgad bridge at Lat 14°50'30.95"N, Lon 74° 7'21.32"E.
48.	National Waterway 48	*Kallada River:*
		69 kms length of the river from PPM Dam at Lat 9° 2'7.30"N, Lon 76°54'46.03"E to Lakshadweep Sea, Neendakara Lat 8°56'1.94"N, Lon 76°32'16.52"E *via* Ashtamudi Lake.
49.	National Waterway 49	*Kalyan-Thane-Mumbai Waterway:*
		57 kms length of the river from Bridge on Kalyan-Badlapur road near Kalyan railway yard at Kalyan Lat 19°14'6.39"N, Lon 73° 8'49.13"E to Navi Mumbai Lat 19° 0'7.65"N, Lon 72°58'55.10"E *via* Ulhas river.

(1)	(2)	(3)
50.	National Waterway 50	*Karamnasa River:* 86 kms length of the river from Bridge at Kakarait Lat 25°18'11.21"N, Lon 83°31'38.43"E to confluence of Karamanasa and Ganga rivers at Kutubpur Lat 25°31'6.21"N, Lon 83°52'47.32"E.
51.	National Waterway 51	*Kaveri/ Kollidam River:* 364 kms length of the river from Uratchikottai Barrage at Lat 11°29'3.09"N, Lon 77°42'13.68"E to confluence of river Kollidam with Bay of Bengal at Pazhaiyar Lat 11°21'37.97"N, Lon 79°49'53.23"E.
52.	National Waterway 52	*Kherkai River:* 23 kms length of the river from Dam near Gangia village at Lat 22°45'11.99"N, Lon 86° 5'9.19"E to confluence with Subarnrekha river at Jamshedpur Lat 22°50'13.26"N, Lon 86° 9'37.11"E.
53.	National Waterway 53	*Kopili River:* 46 kms length of the river from Bridge at Banthai Gaon Tinali Bus Stop at Lat 26°10'41.02"N, Lon 92°13'5.31"E to confluence with Brahmaputra river at Chandrapur No.2 Lat 26°15'7.22"N, Lon 91°56'48.71"E.
54.	National Waterway 54	*Korapuzha River:* 23 kms length of the river from Bridge near Theruvathukadavu on State Highway No. 38 at Lat 11°27'59.35"N, Lon 75°46'20.40"E to confluence of Korapuzha river with Lakshadweep Sea at Elathur Lat 11°20'46.69"N, Lon 75°44'8.46"E.
55.	National Waterway 55	*Kosi River:* 236 kms length of the river from Kosi Barrage at Hanuman Nagar Lat 26°31'39.85"N, Lon 86°55'28.95"E to Confluence of Kosi with Ganga river at Kursela Lat 25°24'40.44"N, Lon 87°15'13.61"E.
56.	National Waterway 56	*Krishna River:* (1) 628 kms length of the river from Bridge near village Galagali Lat 16°25'27.87"N, Lon 75°26'18.70"E to Wazirabad Barrage (NW-4 limit) at Lat 16°40'55.99"N, Lon 79°39'26.82"E; (2) 99 kms length of the river from Vijayawada Barrage (NW-4 limit) at Lat 16°30'23.46"N, Lon 80°36'19.62"E to confluence with Bay of Bengal at Hamasaladeevi (near Koduru) Lat 15°42'47.09"N, Lon 80°49'55.74"E.
57.	National Waterway 57	*Kumari River:* 77 kms length of the river from Dam near Amruhasa village at Lat 23° 6'36.54"N, Lon 86°15'50.92"E to Mukutmanipur Dam at Chiada Lat 22°57'18.24"N, Lon 86°44'42.87"E.

(1)	(2)	(3)
58.	National Waterway 58	*Lohit River:* 100 kms length of the river from Parasuram Kund Lat 27°52'40.06"N, Lon 96°21'39.70"E to Saikhowa Ghat, Sadiya Lat 27°47'49.14"N, Lon 95°38'13.84"E.
59.	National Waterway 59	*Luni River:* 327 kms length of the river from Dam at Jaswantpura Lat 26°13'34.99"N, Lon 73°41'20.07"E to Barrage near Malipura Lat 24°57'4.42"N, Lon 71°38'1.51"E.
60.	National Waterway 60	*Mahanadi River:* 425 kms length of the river from Sambalpur Barrage at Lat 21°27'34.33"N, Lon 83°57'49.80"E to Paradip at Lat 20°19'38.12"N, Lon 86°40'16.96"E.
61.	National Waterway 61	*Mahananda River:* 81 kms length of the river from Bridge near Gosaipur at Lat 25°26'41.22"N, Lon 88° 5'26.36"E to Bangladesh Border near Adampur at Lat 24°57'16.56"N, Lon 88°10'59.38"E.
62.	National Waterway 62	*Mahi River:* 248 kms length of the river from Kadana Dam Lat 23°18'22.35"N, Lon 73°49'37.45"E to confluence with Gulf of Khambhat near Kavi railway station Lat 22°10'34.71"N, Lon 72°30'36.31"E.
63.	National Waterway 63	*Malaprabha River:* 94 kms length of the river from Jakanuru Lat 15°49'50.87"N, Lon 75°38'53.93"E to confluence with river Krishna at Kudalasangama Lat 16°12'30.22"N, Lon 76° 4'15.60"E.
64.	National Waterway 64	*Mandovi River:* 41 kms length of the river from a Bridge at Usgaon at Lat 15°26'41.55"N, Lon 74° 3'12.23"E to confluence of Mandovi river with Arabian Sea at Reis Magos Lat 15°28'32.46"N, Lon 73°46'45.56"E.
65.	National Waterway 65	*Manimala River:* 67 kms length of the river from a bridge on Murani-Anikadu road at Murani Lat 9°27'18.26"N, Lon 76°40'30.66"E to Vembanad Lake at Kainakary Lat 9°31'15.55"N, Lon 76°22'51.64"E.
66.	National Waterway 66	*Manimutharu River:* 5 kms length of the river from Manimutharu Dam Lat 8°39'13.71"N, Lon 77°24'47.44"E to confluence with Tamaraparani river near Aladiur Lat 8°41'2.68"N, Lon 77°26'7.23"E.

(1)	(2)	(3)
67.	National Waterway 67	*Manjara River*: 242 kms length of the river from Singur Dam at Lat 17°44'58.35"N, Lon 77°55'40.79"E to confluence with river Godavari at Kandakurthi at Lat 18°49'6.80"N, Lon 77°52'20.48"E.
68.	National Waterway 68	*Mapusa River:* 27 kms length of the river (including Moide river) from bridge on NH 17 at Mapusa Lat 15°35'20.79"N, Lon 73°49'17.20"E to confluence point of Mapua and Mandovi rivers at Porvorim Lat 15°30'20.01"N, Lon 73°50'42.09"E.
69.	National Waterway 69	*Meenachil River:* 44 kms length of the river from check Dam at Kidangoor Lat 9°40'27.39"N, Lon 76°36'8.72"E to Kumarakom, Vembanad lake Lat 9°35'52.58"N, Lon 76°25'29.10"E and from Illickal at Lat 9°34'56.65"N, Lon 76°29'15.00"E to Vembanad Kayal at Lat 9°33'51.04"N, Lon 76°24'53.76"E.
70.	National Waterway 70	*Muvattupuzha River:* 56 kms length of the river from Bridge on State Highway No.41 at Muvattupuzha at Lat 9°59'16.59"N, Lon 76°34'40.84"E to Vembanad Lake at downstream of Murinjapuzha bridge Lat 9°49'45.69"N, Lon 76°22'48.36"E.
71.	National Waterway 71	*Nag River:* 60 kms length of the river from Bridge near NIT Colony, Nagpur Lat 21° 6'17.25"N, Lon 79° 6'2.62"E to confluence with river Kanhan near Sawangi village at Lat 21° 5'38.27"N, Lon 79°27'53.84"E.
72.	National Waterway 72	*Narmada River:* 637 kms length of the river from Hoshangabad at Lat 22°45'29.28"N, Lon 77°44'5.41"E to confluence of Narmada with Arabian Sea at Gulf of Khambhat Lat 21°38'26.81"N, Lon 72°33'28.24"E.
73.	National Waterway 73	*Netravathi River:* 78 kms length of the river from Netravathi Dam, Dharmsthala Lat 12°57'55.23"N, Lon 75°22'10.19"E to confluence with Arabian sea at Bengre Lat 12°50'42.73"N, Lon 74°49'28.86"E.
74.	National Waterway 74	*Palar River:* 141 kms length of the river from rail bridge at Virudampattu, Vellore at Lat 12°56'14.07"N, Lon 79° 7'29.70"E to confluence with Bay of Bengal at Sadurangapattinam Lat 12°27'52.16"N, Lon 80° 9'13.47"E.

(1)	(2)	(3)
75.	National Waterway 75	*Pamba River:* 100 kms length of the river from Cherukolpuzha Lat 9°21'3.13"N, Lon 76°44'17.55"E to confluence of Pamba river with NW3 (West Coast Canal) at Lat 9°21'1.18"N, Lon 76°25'47.63"E and from Manimala river at Nedumpuram Lat 9°22'5.67"N, Lon 76°31'26.07"E to Vembanad lake, Kainakary at Lat 9°32'29.36"N, Lon 76°21'47.36"E.
76.	National Waterway 76	*Pazhyar River:* 20 kms length of the river from Bridge near Veeranarayana Mangalam village at Lat 8°13'48.97"N, Lon 77°26'27.34"E to confluence with Arabian Sea at Manakudi at Lat 8° 5'15.01"N, Lon 77°29'7.61"E.
77.	National Waterway 77	*Pengang / Wardha River:* 265 kms length of the river from confluence of Aran and Penganga rivers near Chimata village at Lat 19°54'8.32"N, Lon 78°12'36.43"E to confluence with Wardha river to confluence of Wardha and Pranahita rivers near Ravalli village at Lat 19°33'59.30"N, Lon 79°49'0.39"E.
78.	National Waterway 78	*Pennar River:* 29 kms length of the river from Penna Barrage, Pothireddypalem at Lat 14°28'8.38"N, Lon 79°59'9.31"E to confluence with Bay of Bengal near Kudithipalem at Lat 14°35'36.75"N, Lon 80°11'30.61"E.
79.	National Waterway 79	*Punpun River:* 35 kms length of the river from Bridge on NH 83 Dudhaila near Pakri village Lat 25°29'49.79"N, Lon 85° 6'19.44"E to confluence with river Ganga at Fatuha Lat 25°30'50.37"N, Lon 85°18'16.72"E.
80.	National Waterway 80	*Puthimari River:* 72 kms length of the river from Bridge on NH 31 near village Ghopla at Lat 26°22'1.10"N, Lon 91°39'10.92"E to confluence with Brahmaputra river near Bamunbori at Lat 26°15'27.52"N, Lon 91°20'34.84"E.
81.	National Waterway 81	*Ravi River:* 42 kms length of the river from Dam at Gandhiar Lat 32°35'51.27"N, Lon 75°59'4.96"E to Ranjeet Sagar Dam at Basoli Lat 32°26'35.86"N, Lon 75°43'45.19"E.
82.	National Waterway 82	*Rupnarayan River:* 72 kms length of the river from confluence of Dwarakeswar and Silai rivers at Pratappur Lat 22°40'16.94"N, Lon 87°46'42.57"E to confluence with Hooghly river at Geonkhali Lat 22°12'41.58"N, Lon 88° 3'13.99"E.

(1)	(2)	(3)
83.	National Waterway 83	*Sabarmati River:* 212 kms length of the river from Barrage near Sadoliya Lat 23°26'49.66"N, Lon 72°48'34.85"E to confluence with Gulf of Khambhat near Khambhat Lat 22° 9'17.99"N, Lon 72°27'27.81"E.
84.	National Waterway 84	*Sal River:* 14 kms length of the river from Orlim Deusa Bridge Lat 15°13'11.41"N, Lon 73°57'29.77"E to confluence with Arabian Sea at Mobor Lat 15° 8'31.93"N, Lon 73°56'59.89"E.
85.	National Waterway 85	*Savitri River:* 44 kms length of the river from Bridge near Sape at Lat 18° 5'54.11"N, Lon 73°20'8.81"E to Arabian Sea at Harihareswar Lat 17°58'47.10"N, Lon 73° 2'15.01"E.
86.	National Waterway 86	*Shastri River/Jaigad:* 52 kms length of the river from to Sangmeshwar at Lat 17°11'15.83"N, Lon 73°33'2.57"E to confluence with Arabian Sea at Jaigad Lat 17°19'11.92"N, Lon 73°12'39.30"E.
87.	National Waterway 87	*Silabati River:* 26 kms length of the river from Barrage near Shimulia village at Lat 22°34'53.20"N, Lon 87°38'30.54"E to confluence of Dwarakeswar and Silai rivers at Pratappur Lat 22°40'16.94"N, Lon 87°46'42.57"E
88.	National Waterway 88	*Sone River:* 160 kms length of the river from Sone Barrage near Dehri at Lat 24°50'14.39"N, Lon 84° 8'2.79"E to confluence of Sone and Ganga rivers at Lat 25°42'15.20"N, Lon 84°52'2.07"E.
89.	National Waterway 89	*Subansiri River:* 111 kms length of the river from Gerukamukh Lat 27°27'3.14"N, Lon 94°15'16.12"E to Brahmaputra confluence at Lat 26°52'24.93"N, Lon 93°54'31.26"E.
90.	National Waterway 90	*Subarnrekha River:* 314 kms length of the river from Chandil Dam at Lat 22°58'29.39"N, Lon 86° 1'14.03"E to confluence with Bay of Bengal at Lat 21°33'28.75"N, Lon 87°22'58.60"E.
91.	National Waterway 91	*Sunderbans Waterway:* 201 kms length of the river from Namkhana Lat 21°45'45.60"N, Lon 88°13'5.84"E to Athra Banki Khal Lat 21°56'56.95"N, Lon 89° 5'32.44"E.

(1)	(2)	(3)
92.	National Waterway 92	*Sutlej River:* 240 kms length of the river from Nangal Dam at Lat 31°22'47.84"N, Lon 76°21'59.38"E to Harike Dam at Lat 31° 8'41.21"N, Lon 74°56'47.99"E.
93.	National Waterway 93	*Tamaraparani River:* 64 kms length of the river from Sulochana Mudalir bridge, Tirunelveli Lat 8°43'43.17"N, Lon 77°42'53.94"E to confluence with Bay of Bengal near Punnaikayal at Lat 8°38'24.90"N, Lon 78° 7'37.85"E.
94.	National Waterway 94	*Tapi River:* 436 kms length of the river from Hatnur Dam near Mangalwadi Lat 21° 4'21.99"N, Long 75°56'44.88"E to Gulf of Khambhat (Arabian Sea) at Lat 21° 2'15.51"N, Lon 72°39'29.63"E.
95.	National Waterway 95	Tizu and Zungki Rivers: 42 kms length of the river from Longmatra at Lat 25°46'11.98"N, Lon 94°44'35.04"E to Avanghku at Myanmar border Lat 25°35'2.94"N, Lon 94°53'6.12"E and in Zungki river from bridge at Lat 25°48'26.10"N, Lon 94°46'35.96"E to confluence of Zungki and Tizu rivers at Lat 25°46'58.03"N, Lon 94°45'20.51"E.
96.	National Waterway 96	*Tlwang (Dhaleswari River):* 86 kms length of the river from Khamrang near NH 54 Lat 23°55'21.50"N, Lon 92°39'8.15"E to Bridge on NH 154 at Gharmura Lat 24°17'18.92"N, Lon 92°30'59.51"E.
97.	National Waterway 97	*Tons River*: 123 kms length of the river from Bridge on State Highway No. 9 on MDR road at Lat 24°55'32.51"N, Lon 81°24'2.07"E to Ganga confluence at Sirsa Lat 25°16'31.82"N, Lon 82° 4'59.82"E.
98.	National Waterway 98	*Tungabhadra River:* 230 kms length of the river from Bridge on State Highway No. 29 near Chikka Jantakal village at Lat 15°24'33.39"N, Lon 76°35'12.62"E to confluence with river Krishna near village Murva Konda at Lat 15°57'20.28"N, Lon 78°14'29.60"E.
99.	National Waterway 99	*Ulhas River:* 45 kms length of the river from Bridge on State Highway No. 76 near Malegaon T. Waredi Lat 19° 2'38.20"N, Lon 73°19'53.79"E to Kalyan Lat 19°15'35.03"N, Lon 73° 9'27.77"E linking to Kalyan-Thane-Mumbai waterways.

(1)	(2)	(3)
100.	National Waterway 100	*Vaigai River:* 45 kms length of the river from Barrage near Anai Patti at Lat 10° 5'19.23"N, Lon 77°51'10.19"E to Viragnoor Dam at Lat 9°53'51.66"N, Lon 78°10'34.06"E.
101.	National Waterway 101	*Valpattnam River:* 39 kms length of the river from Bridge on Thalassery-Irikkur road at Irikkur Lat 11°59'26.65"N, Lon 75°32'48.94"E to confluence with Arabian Sea at Azheekkal Lat 11°56'36.26"N, Lon 75°17'46.01"E.
102.	National Waterway 102	*Varuna River:* 53 kms length of the river from Road bridge near Kuru at Lat 25°23'14.86"N, Lon 82°44'6.64"E to Ganga confluence at Saray Mohana, Varanasi Lat 25°19'45.45"N, Lon 83° 2'40.76"E.
103.	National Waterway 103	*Wainganga / Pranahita River:* 164 kms length of the river from Bridge near Chandapur village at Lat 20° 0'30.16"N, Lon 79°47'7.96"E to confluence of river Godavari at Kaleshwaram Lat 18°49'33.45"N, Lon 79°54'32.82"E.
104.	National Waterway 104	*West Coast Canal:* 160 kms length of the canal as extension of NW-3 towards north of Kottapuram -from Kottapuram Lat 10°11'38.32"N, Lon 76°12'4.39"E to Kozhikode Lat 11°13'38.83"N, Lon 75°46'43.90"E and 78 kms towards South of Kollam - from Kollam Lat 8°53'44.75"N, Lon 76°35'0.30"E to Kovalam Lat 8°24'11.20"N, Lon 76°58'19.41"E.
105.	National Waterway 105	*Yamuna River:* (1) 345 kms length of the river from Jagatpur (6kms upstream of Wazirabad Barrage) Delhi Lat 28°45'27.63"N, Lon 77°13'49.79"E to road bridge upstream of Tajmahal, Agra near Samogar Mustkil at Lat 27°10'49.47"N, Lon 78° 7'50.90"E; (2) 459 kms length of the river from confluence of Chambal and Yamuna rivers at Charakpura village Lat 26°29'29.89"N Lon 79°15'0.89"E to confluence of Yamuna and Ganga rivers at Sangam, Allahabad at Lat 25°25'24.45"N, Lon 81°53'20.16"E.
106.	National Waterway 106	*Zuari River:* 55 kms length of the river from Sanvardan Lat 15°13'57.87"N, Lon 74° 8'57.89"E to Marmugao Lat 15°25'54.89"N, Lon 73°48'13.20"E.

STATEMENT OF OBJECTS AND REASONS

In many countries, the inland water transport is recognised as fuel efficient, cost effective and environment friendly mode of transport, especially for bulk goods, hazardous goods and over dimensional cargos. It also reduces time, cost of transportation of goods and cargos, as well as congestion and accidents on highways. Yet, when compared to road and rail sectors, required investment has not been made by the Government so far on the preservation and development of inland waterways mode of transportation in the country. The inland waterways mode of transportation has immense potential for domestic cargo transportation as well as for cruise, tourism and passenger traffic. Its systematic development will open up progressive economic and transport opportunities in the country.

2. Five inland waterways, namely, the—

(*a*) Allahabad-Haldia Stretch of the Ganga Bhagirathi-Hooghly River;

(*b*) Sadiya-Dhubri Stretch of Brahmaputra River;

(*c*) Kollam-Kottapuram Stretch of West Coast Canal and Champakara and Udyogmandal Canals;

(*d*) Kakinada-Puducherry Stretch of Canals and the Kaluvelly Tank, Bhadrachalam-Rajahmundry Stretch of River Godavari and Wazirabad-Vijayawada Stretch of River Krishna; and

(*e*) Talcher-Dhamra Stretch of Rivers, Geonkhali-Charbatia Stretch of East Coast Canal, Charbatia-Dhamra Stretch of Matai River and Mahanadi Delta Rivers;

have been so far declared to be national waterways by Acts of Parliament.

3. The regulation and development of inland waterways for the purposes of shipping and navigation and matters related thereto are undertaken by the Inland Waterways Authority of India constituted under the provisions of the Inland Waterways Authority of India Act, 1985.

4. Since the inland waterways is lagging behind road and rail sectors in the country, the Central Government has evolved a policy for integrated development of inland waterways throughout the country and has accordingly identified 101 new inland waterways in addition to five existing national waterways to be declared as national waterways for the purposes of shipping and navigation by a standalone legislation in terms of Entry 24 of the Union List of the Seventh Schedule to the Constitution. The enactments by which the existing national waterways have been declared as national waterways are also proposed to be covered under the proposed legislation, namely, the National Waterways Bill, 2015, by repealing them with a suitable saving clause.

5. The extent of development, the prioritisation of inland waterways for development and related matters shall be finalised after carrying out necessary techno-economic feasibility studies through Inland Waterways Authority of India consequent upon enactment of the National Waterways Bill, 2015. Thereafter, these waterways will be developed by providing adequate infrastructure for safe, convenient and sustained shipping operations. The systematic development for navigation of these inland waterways shall open up the progressive economic and cost effective, fuel efficient and eco-freindly transport potential in the country.

6. The enactment of the proposed legislation will in no way impinge on the rights of the State Governments for usage of water, ownership of appurtenant land, minerals, metal, sand, etc., rather usher in development of transportation and tourism in States.

7. The Bill seeks to achieve the above objects.

NEW DELHI;
The 13*th April,* 2015.

NITIN GADKARI

ANNEXURE

EXTRACT FROM THE INLAND WATERWAYS AUTHORITY OF INDIA ACT, 1985

(82 OF 1985)

* * * * *

Definitions.

2. In this Act, unless the context otherwise requires,—

* * * * *

(*h*) "national waterway" means the inland waterway declared by section 2 of the National Waterway (Allahabad-Haldia Stretch of the Ganga-Bhagirathi-Hooghly River) Act, 1982, to be a national waterway.

49 of 1982.

Explanation.— If Parliament declares by law any other waterway to be a national waterway, then from the date on which such declaration takes effect, such other waterway—

(*i*) shall be deemed also to be a national waterway within the meaning of this clause; and

(*ii*) the provisions of this Act shall, with necessary modifications (including modification for construing any reference to the commencement of this Act as a reference to the date aforesaid), apply to such national waterway;

* * * * *

LOK SABHA

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BILL

to make provisions for existing national waterways and to provide for the declaration of certain inland waterways to be national waterways and also to provide for the regulation and development of the said waterways for the purposes of shipping and navigation and for matters connected therewith or incidental thereto.

(*Shri Nitin Gadkari, Minister of Road Transport & Highways and Shipping*)

GMGIPMRND—628LS(S3)—28.04.2015.

LOK SABHA

CORRIGENDUM

to

THE NATIONAL WATERWAYS BILL, 2015

[To be/As introduced in Lok Sabha]

1. Page 10, line 16,-

for "23°47'47.15" N, Long"

read "23°47'47.15" N, Lon".

NEW DELHI;

April 29, 2015
Vaisakha 9, 1937 (Saka)

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Contact Details of State Transport Commissioners

S.N.		Authority	Address	City	STD Code	Phone
1	Andhra Pradesh	The Transport Commissioner	Dr.B.R.Ambedkar Transport Bhawan,RTA Campus, Somajiguda,	Hyderabad-500082	40	23321283
2	Arunchal radesh	Secretary of Transport	"Transport Secretariat Govt. of Arunchal Pradesh"	Itanagar	360	2212457
3	Assam	"Transport Commissioner"	"Paribahan Bhawan, Jawahar Nagar, Khanapara"	Guwahati-22	361	2304110;2308525
4	Bihar	"Transport Commissioner"	"Vishwesaraiya Bhawan, Bailey Bhawan"	Patna	612	2546449
5	Chattisgarh	The Transport Commissioner	New Bus Terminal Complex, Pandari	Raipur	771	2582799/ 2582788/ 2221338
6	Goa	Secretary of Transport	"1st floor, Junta House, 18th June Road, Panaji"	GOA	832	"2225606, 2225724"
7	Gujrat	The Transport Commissioner	Block No.6, 2nd floor, Dr.Jivraj Mehta Bhawan, Old Sachivalaya	Gandhinagar	79	23251367
8	Haryana	The Transport Commissioner	30, Bays Building, Sector-17	Chandigarh	172	2784359
9	Himanchal Pradesh	The Transport Commissioner	"Directorate of Transport, Parivahan Bhawan, "	Shimla-171004	177	2803136;2808642
10	Jharkhand	The Transport Commissioner	Transport Bhawan	Ranchi	651	"2401706 9934345820"
11	Karnataka	The Transport Commissioner	"1st Floor, 'A' Block,TTMC Building, Shantinagar, Bangalore-560027"	Bangalore-560027	80	22214900
12	Kerala	The Transport Commissioner	"Motor Vehicles Department Trans Towers, Vazhuthacad,	Thiruvananthapuram	471	2333314; 8547639000
13	Madhya Pradesh	The Transport Commissioner	E7/446, Arera Colony	Bhopal	755	2424500
14	Maharasthra	The Transport Commissioner	3rd Floor, New Administrative Building, Near Dr.Ambedkar Garden, Government Colony, Bandra-East	Mumbai-400051	22	26516336
15	Meghalaya	Secretary of Transport	"Madanrting, Sawlad, Shillong - 793021"	Shillong-793021	364	2534617
16	Mizoram	Secretary of Transport	"State Trpt. Authority Mizoram Directorate Of Transport Bldg, Chaltlang Mst Transport Bldg Top Floor, Tuikual Aizawl, Aizawl H O"	Aizawl-796001	389	2318613
17	Nagaland	Secretary of Transport	"GOVERNMENT OF NAGALAND, Motor Vehicles Department, Transport Commissioner, Nagaland, Kohima-797 001"	Kohima-797001	370	2290409
18	Odisha	The Transport Commissioner	6th Floor, Rajaswa Bhawan	Cuttack-753002		
19	Rajasthan	The Transport Commissioner	"Transport Deporment Parivahan Bhawan, Sahkar Marg, Jaipur-302 005 (Rajasthan)"	Jaipur-302005	141	2740021; 5194600
20	Tamil Nadu	The Transport Commissioner	Ezhilagam, Chepauk,	Chennai	44	28588989
21	Telangana	The Transport Commissioner	Dr.B.R.Ambedkar Transport Bhawan, RTA Campus, Somajiguda,	Hyderabad-500082	40	23321282
22	Uttar Pradesh	The Transport Commissioner	Tehri Kothi, M.G.Marg	Lucknow-226001	522	2613978
23	Uttrakahnd	The Transport Commissioner	Kulhan, Sahasthradhara Road	Haridwar-248001	135	2711227
24	West Bengal	The Addl. Chief Secretary- Transport	Writer's Building	Kolkatta-700001	33	22625411

National Highway Authority of India
Project Implementation Units

S.N.	State	Location	Authority	Address	Phone
1	Andhra Pradesh	Anantapur	The Project Director, National Highway Authority of India,	House No.6-4-239, 3rd Cross, Maruthi Nagar Anantpur-515001	08554-275599
2	Andhra Pradesh	Hyderabad	The Project Director, National Highway Authority of India,	Dr. No.331/2RT, 2nd Floor, P. S. Nagar, Masab Tank, Hyderabad-500057	040-23372666
3	Andhra Pradesh	Nandyal	The Project Director, National Highway Authority of India,	D.No.25/684/150, 1st Floor, Near Indore Stadium, Padmavathi Nagar, Nandyal-518501, Kurnool District, Andhra Pradesh	08154-225089
4	Andhra Pradesh	Nellore	The Project Director, National Highway Authority of India,	Bypass Road Junction with old GNTRoad, Vedayapalem, Nellore-524004, Andhra Pradesh	0861-2307733
5	Andhra Pradesh	Nirmal	The Project Director, National Highway Authority of India,	#1-3-594, Road No. 6 Shastrynagar, Distt. Adilabad Nirmal-504106	08734-241365
6	Andhra Pradesh	Rajamundry	The Project Director, National Highway Authority of India,	D. No. 78-14-21, Shyamala Nagar Rajamundry-533103	0883-2431170
7	Andhra Pradesh	Vijayawada	The Project Director, National Highway Authority of India,	Flat No. 21, Teachers Colony, (Above SBH), Vijayawada-520008	0866-2483910
8	Andhra Pradesh	Vishakapatnam	The Project Director, National Highway Authority of India,	(GQ) NHAI Enclave, Km 2/8, Hanumanthavaka, Visakapatnam-530040	0891-2707600
9	Andhra Pradesh	Vishakapatnam	The Project Director, National Highway Authority of India,	(Port Connectivity),Sheela Nagar,BHPV (P.O.) ,Visakhapatnam-530012(A.P.)	0891-2707275
10	Assam	Bongaigaon	The Project Director, National Highway Authority of India,	Dolaigaon (Near Police Reserve) Bongaigaon-783380 Assam	03664-237493
11	Assam	Silchar	The Project Director, National Highway Authority of India,	H.No.328, 1st Floor, College Road, Ambicapatty, Silchar-788 004	03824-267213
12	Assam	Guwahati	The Project Director, National Highway Authority of India,	House No.1,1st Floor,Dilip Huzuri Path,Near Bageswari Mandir, Sorumotoria ,Dispur Guwahati-781006,Assam	0361-2233207
13	Assam	Nangaon	The Project Director, National Highway Authority of India,	Sankar Mission Road, Panigaon Ist Floor, Opposite to I.T.I. Nagaon Pin Code: 782003, Assam	03672-236701
14	Bihar	Begusarai	The Project Director, National Highway Authority of India,	At-Harpur, P.O.- Tilrath, Dist-Begusarai-851 122	06243-245144
15	Bihar	Muzaffarpur	The Project Director, National Highway Authority of India,	Sharma Sadan(3rd Floor),Opp D.A.V. School Khabra, Khabra NH-28,Muzaffarpur-843146	0621-2251934
16	Bihar	Patna	The Project Director, National Highway Authority of India,	D-63 Sri Krishna Puri, PATNA -800 001, Bihar	0612-2540184
17	Bihar	Darbhanga	The Project Director, National Highway Authority of India,	House of Mr. S.N. Mishra Diggi West, Professor's Colony Ward No. 10, Darbhanga (Bihar)-846004	06272-250194
18	Bihar	Purnia	The Project Director, National Highway Authority of India,	House of Shri. Sikkandar Singh, Sahiban Hata, Mahananda Colony, Near Janta Chowk , Purnia-85431	06454-243756
19	Bihar	Hajipur	The Project Director, National Highway Authority of India,	Sharma House, 2nd floor, Ramashish Chowk, Hajipur-844101	06224-274255
20	Bihar	Gaya	The Project Director, National Highway Authority of India,	House No. 70/244, West Jagjiwan Road,Opp.Judicila Quarters, Chanakyapuri Colony, Gaya-823001	
21	Bihar[70]/	Dhanbad	The Project Director, National Highway Authority of India,	Project Director - National Highways Authority of India, PIU Dhanbad, NHAI Complex, P.O. Bhitia, P.S. Govindpur, Distt. Dhanbad, Jharkhand	06540-283090
22	Chattisgarh	Raipur	The Project Director, National Highway Authority of India,	Project Director National Highways Authority of India House No.-A-7, VIP Estate Shankar Nagar, Raipur-492001, Chhattisgarh	0771-2282358
23	Goa	Goa	The Project Director, National Highway Authority of India,	Nr.Dr.Babasaheb Ambedkar Vocational Centre, Old Primary Health Centre, MPT, Headland, SADA, Goa-403804	0832-2521517
24	Gujarat	Gandhidham	The Project Director, National Highway Authority of India,	Z-6, Ground Floor, Near Divine Life Society Hospital (Sterling), Adipur, Dist-Kutch-370 205	0283-6260104
25	Gujarat	Ahmedabad	The Project Director, National Highway Authority of India,	Bunglow No,. 3A & 3B, Amul Building, Amrut Baug Society, Near Dena Bank, Vejalpur Road, Jivraj Park, Ahmedabad-380051	079-26821062
26	Gujarat	Rajkot	The Project Director, National Highway Authority of India,	301-303, Krishna-Con-Arch-I,Plot No.9, Nr.Kotecha Chowk, University Road, Rajkot-360007	0281-2585193

S.N.	State	Location	Authority	Address	Phone
27	Gujarat	Surat	The Project Director, National Highway Authority of India,	Laxmi Bunglow No.4, B/H. Big Bazar, Nr. S.D. Jain School, Vesu - Piplod Road, Surat-395007	0261-2221223
28	Haryana	Rohtak	The Project Director, National Highway Authority of India,	Project Director National Highways Authority of India 305 Vidyaniketan Road Ist Floor Model Town Rohtak-124001	01262-212010
29	Haryana	Ambala	The Project Director, National Highway Authority of India,	Project Director – CMU National Highways Authority of India 17L Model Town Ambala City – 134003	0171-2521361, 2520280
30	Haryana	Gurgaon	The Project Director, National Highway Authority of India,	Project Director Project Implementation Unit National Highways Authority of India, Dundahera, Delhi-Gurgoan Border Km.24 Mile Stone,NH-8,Gurgaon-122001	0124-2438056
31	Haryana	Faridabad	The Project Director, National Highway Authority of India,	6P, Sector-16A, Faridabad-121001	Telefax: 0129-2400900
32	Himanchal Pradesh	Shimla	The Project Director, National Highway Authority of India,	Kamna View Bhawan, Phase-III, Shimla-171009	0177-2673819
33	Jammu Kashmir	Srinagar	The Project Director, National Highway Authority of India,	Bashir Ahmad Parray, Opposite Jee Enn Sons, Airport Road, Parray Pora, Srinagar-190005	0194-2430728
34	Jammu Kashmir	Jammu	The Project Director, National Highway Authority of India,	Amar Villa House No.315;Sector No.1(1st floor) Channi, Himat Jammu-180015	0191-2473363
35	Jharkhand	Ranchi	The Project Director, National Highway Authority of India,	B-402, Road No. 4-C,Ashok Nagar, Ranchi-834002	0651-2245293
36	Karnataka	Dharwad	The Project Director, National Highway Authority of India,	2nd Cross, Sattur Colony Vidyagiri, Dharwad –580004	0836-2461244
37	Karnataka	Bangalore	The Project Director, National Highway Authority of India,	Survey No.13. Nagasandra Village, 14th Km. Bangalore-Tumkur Road, Hesaragatta, Bangalore - 73	080-28394383
38	Karnataka	Mangalore	The Project Director, National Highway Authority of India,	House No.7-35/10(4),Near Pumpwell,Mahaligeshwara Temple Raod,Kankanady,Mangalore-575002	0824-4254499
39	Karnataka	Chitradurga	The Project Director, National Highway Authority of India,	Project Director National Highways Authority of India Near J.M.I.T. Campus, NH-4 (Km 201) Chitradurga-577502	08194-223344
40	Karnataka	Hospet	The Project Director, National Highway Authority of India,	C-10,"Shree Nilayam" 1st Main,2nd Cross, Vivekanand Nagar, Nr.RTO office, Hospet-583203	08394-231565
41	Karnataka	Gulbarga	The Project Director, National Highway Authority of India,	Plot No. 65, Kothari Layout, Venkatesh Nagar, Gulbarga - 585103	08472 - 253756
42	Kerala	Palakkad	The Project Director, National Highway Authority of India,	No. 8/1187, Arumughan Colony,Chandranagar, Palakkad-678007	0491-2573790
43	Kerala	Kozhikode	The Project Director, National Highway Authority of India,	No. 2/2175-B, Krishna Kripa,Aishwarya Road, Civil Station(Post), Kozikhode-673020	0495-2376818
44	Kerala	Cochin	The Project Director, National Highway Authority of India,	Tharakans",1st Floor, Near ICCI Bank Kalamasseri Ernakulam, Pin No. 682 104	0484-2559416
45	Kerala	Thiruvananthapuram	The Project Director, National Highway Authority of India,	TC .29/1539/1 Rajasree, Perumthanni, Vallakadavu (Post), Thiruvananthapuram-695 008,	0471-2460924
46	Madhya Pradesh	Guna	The Project Director, National Highway Authority of India,	Plot No.1, Phulwari Colony, Near Millennium School, Guna (M.P)-473001	07542-268051
47	Madhya Pradesh	Gwalior	The Project Director, National Highway Authority of India,	House No. 13, Vivekanand Colony Saraswati Nagar University Road, Gwalior-474011 (MP)	0751-2233116
48	Madhya Pradesh	Indore	The Project Director, National Highway Authority of India,	15, Sampat Hills,Opp. Sahara City, Indore- Dewas Bypass Bicholi Mardana Indore(M.P)-452 016	0731-2901666
49	Madhya Pradesh	Sagar	The Project Director, National Highway Authority of India,	67, Shivaji Ward, Poddar Colony Sagar Madhya Pradesh-470002	07582-236412
50	Madhya Pradesh	Narsinghpur	The Project Director, National Highway Authority of India,	1st floor, Near Paras Industries Tilak Ward, BargiColony Road Narsinghpur(Madhya Pradesh) -487001	07792-230330
51	Madhya Pradesh	Shivpuri	The Project Director, National Highway Authority of India,	Narendra Nagar, Chhatri Road (Near Jain Atta Chakki), Shivpuri-473551	07492-223902
52	Madhya Pradesh	Bhopal	The Project Director, National Highway Authority of India,	Plot No. A # 43, Sakshi Bunglow, Trilanga,Shahpura, Bhopal-462039	0755-2902448
53	Madhya Pradesh	Jabalpur	The Project Director, National Highway Authority of India,	Near jain Multispecialty Dental Clinic,Plot no. 13BB, Ahimsa Chowk, Vilaynagar, Jabalpur-482002	0761-4047042

S.N.	State	Location	Authority	Address	Phone
54	Madhya Pradesh[405] / Maharashtra[13]	Chindwara	The Project Director, National Highway Authority of India,	House No-84, Beside Polythene Factory, Swarna Jayanti Nagar, Near Friends Colony, Khajri Road, Chhindwara- 480001	07162-238120
55	Maharashtra	Nashik	The Project Director, National Highway Authority of India,	"Subodh House", S. No. 911/2, Plot No. 4, Behind Toyota Showroom, Off. Mumbai Agra Highway, Nashik 422 009 (Maharashtra).	0253-2372800
56	Maharashtra	Nagpur	The Project Director, National Highway Authority of India,	Bungalow No.2, Shubankar Apartments Plot No.159, Ambazari Hill Top Area, Ram Nagar Nagpur – 440 010	0712-2249316
57	Maharashtra	Pune	The Project Director, National Highway Authority of India,	S. No. 134/1, BAIF Bhavan Campus Dr. Manibhai Desai Nagar Above Bank of India (Warje Br.) NH-4, Wajre, Pune 411052	020-25231745
58	Maharashtra	Solapur	The Project Director, National Highway Authority of India,	Plot No. 80, Old Santosh Nagar, In front of Devika Gas Agency. Jule Sholapur, -413003 (MH)	0217-2303379
59	Maharashtra	Dhule	The Project Director, National Highway Authority of India,	S. No. 10/2, Plot No.11, Mansaram Nagar, Near Circuit House, Sakri Road, Dhule-424002	02562-276276
60	Maharashtra	Amravati	The Project Director, National Highway Authority of India,	"Matruchhaya" Plot No.33, Raguvir Co-op Housing Society, Opp Bank of Maharashtra, Badnera Road, Sai Nagar, Amravati – 444 607 Tele./Fax. 0721 – 2510035	0721-2510035
61	Maharashtra	Panvel	The Project Director, National Highway Authority of India,	SURVEY NO. 63,'D' POINT ON NH-4B,CHINCHPADA KALAMBOLI BYPASS ROAD,PANVEL - 410 206	022-65140560
62	Maharashtra	Aurangabad	The Project Director, National Highway Authority of India,	B-23, Near Kamgar Chowk, N-3, CIDCO, Aurangabad-431003	0240-2481592
63	Meghalaya	Shilong	The Project Director, National Highway Authority of India,	PWD , Easter Circle Building Top Floor, Lower Lachumiere Shillong – 793003, (Meghalaya	0364-2505177
64	Odisha	Keonjhar	The Project Director, National Highway Authority of India,	Plot No. 19/419, Badedera, Mandua, Keonjhar - 758001. Odisha	06766-253295
65	Odisha	Bhubaneswar	The Project Director, National Highway Authority of India,	1st Floor, Setu Bhawan, Nayapalli Unit-VIII, Bhubaneswar-751012	0674-2392720
66	Odisha	Berhampur	The Project Director, National Highway Authority of India,	Surya Nivas, Sales Tax Square, Engineering School Road, Berhampur-760010-Odisha	0680-2291796
67	Odisha	Sambalpur	The Project Director, National Highway Authority of India,	Bhatra,Opp. Poddar Petrol Pump, Dhanupalli, Sambalpur, Odisha 768005	0663-2546066
68	Punjab	Chandigarh	The Project Director, National Highway Authority of India,	Bay No 35-38, Ground Floor, Sector -4, Panchkula	0172-2587446
69	Punjab	Jalandhar	The Project Director, National Highway Authority of India,	135, Guru Amardas Nagar, Near Verka Milk Plant, Jalandhar Bypass Jalandhar	0181-2603642
70	Rajasthan	Kota	The Project Director, National Highway Authority of India,	A 575, Talwandi KOTA (Rajasthan)-324005	0744-2433396
71	Rajasthan	Udaipur	The Project Director, National Highway Authority of India,	10-A, New Panchwati Udaipur- 313001	0294-2428094
72	Rajasthan	Bhilwara	The Project Director, National Highway Authority of India,	Project Director, PIU, Bhilwara,6-A-1, R.C. Vyas Colony, Bhilwara-311001(Raj.)	01482-230611
73	Rajasthan	Dausa	The Project Director, National Highway Authority of India,	87,Ganga Vihar Colony,Behind Rawat Palace Hotel Dausa-303303, Rajasthan	1427224918
74	Rajasthan	Chittorgarh	The Project Director, National Highway Authority of India,	59-B, Bapu Nagar, West Road No. 5, Senthi Chittorgarh, Raj-312001	01472-246474
75	Rajasthan	Jaipur	The Project Director, National Highway Authority of India,	156, Girnar Colony, Near Laxmi Marriage Garden, Vaisali Nagar, Jaipur	0141-4026465
76	Rajasthan	Reengus	The Project Director, National Highway Authority of India,	Sangeeta Travels, Ward No. 20, Near Toll Booth, NH-11, Reengus -332404,Rajasthan	01575-224090
77	Haryana	Hisar	The Project Director, National Highway Authority of India,	H.No. S-17, Near Mezbaan Hotel, Model Town, Hisar Haryana Pin 125005	01662-248273
78	Rajasthan	Pali	The Project Director, National Highway Authority of India,	27, Tagore Nagar, Near Circuit House, Pali (Raj.)	02932-263556
79	Rajasthan	Jodhpur	The Project Director, National Highway Authority of India,	148 UMAID HERITAGE Ratanada, Jodhpur-342006 (Rajasthan)	
80	Rajasthan	Ajmer	The Project Director, National Highway Authority of India,	Plot No. 111, Grah Nirman Sahakari Samiti Ltd., Adarsh Nagar, Ajmer, Rajasthan 305001	0145-2680571
81	Tamil Nadu	Krishangiri	The Project Director, National Highway Authority of India,	Door No.259/1, Salem Main Road,Near KAKC Petrol Bunk, Krishnagiri – 635 001,	04343-234250

S.N.	State	Location	Authority	Address	Phone
82	Tamil Nadu	Karaikudi	The Project Director, National Highway Authority of India,	No.1, Second Floor, Subramaniapuram,3rd Street, Karaikudi-630002	04565-230707
83	Tamil Nadu	Tirunelveli	The Project Director, National Highway Authority of India,	Plot No.A-21, Thomas Nilayam, St. Thomas Road, Thendral Nagar, Maharaja Nagar, P.O. - Tirunelveli- 627 011,	0462-2522591
84	Tamil Nadu	Karur	The Project Director, National Highway Authority of India,	No.7 Kamadhenu Nagar, Karur-639001	04324-223670
85	Tamil Nadu	Thanjavur	The Project Director, National Highway Authority of India,	No. 54,First Floor,Natarajapuram Colony,Medical College Road, Thanjavur-613004	04362-246473
86	Tamil Nadu	Salem	The Project Director, National Highway Authority of India,	19/2B, Junction Road , Salem-636004	0427-2444275
87	Tamil Nadu	Chennai	The Project Director, National Highway Authority of India,	No. 1/54 - 28, Butt Road, St.Thomas Mount,Near Kathipara Junction, chennai-600016	044-22331795
88	Tamil Nadu	Coimbatore	The Project Director, National Highway Authority of India,	Door No.9/9A, 4th Cross Street, Kothari Layout, B.R. Nagar, (Opp. Coimbatore Stock Exchange) ,Trichy Road, Coaimbatore-641005	0422-2324734
89	Tamil Nadu		The Project Director, National Highway Authority of India,	Door No. 13, Travellers Bungalow Road, Kamaraj Nagar, 1st Street, Valliyoor - 627 117, Tirunelveli District, Tamil Nadu.	04637-222985
90	Tamil Nadu	Villupuram	The Project Director, National Highway Authority of India,	10, Govindasamy Nagar,Behind Collectorate, Villupuram-605602	04146-251247
91	Tamil Nadu	Madurai	The Project Director, National Highway Authority of India,	No.83/1, SBI First Colony extension,Near Hotel Gowri Krishna.,Byepass Road,Madurai - 625016	0452-2387750
92	Tamil Nadu	Trichy	The Project Director, National Highway Authority of India,	New No.6, Old No. 44, 1st Floor, 3rd Main Raod, Ponnagar, Tiruchirappalli-620001, Tamil Nadu	0431-2482959
93	Uttar Pradesh	Moradabad	The Project Director, National Highway Authority of India,	3-C/446, Budhi Vihar , Behind Springfield College, Delhi Road, Moradabad-244001	0591-2480070
94	Uttar Pradesh	Agra	The Project Director, National Highway Authority of India,	A-208, Kamla Nagar Agra-282005	0562-2580274
95	Uttar Pradesh	Varanasi	The Project Director, National Highway Authority of India,	S-8/108 DIG Colony, Maqbool Alam Road, Varanasi –220 001	0542-2501003
96	Uttar Pradesh	Aligarh	The Project Director, National Highway Authority of India,	C 47 and 48, Dream City, Bal Jiwan Ghutti, GT Road, Salsor, Aligarh-202001	0571-2900697
97	Uttar Pradesh	Raibareilly	The Project Director, National Highway Authority of India,	House no. 784, Vishnu Nagar, Opp Satyam Hospital, Raebareilly (UP)-229001.	0535-2702526
98	Uttar Pradesh	Allahabad	The Project Director, National Highway Authority of India,	18-C/28A, Sarojini Naidu Marg, Civil Lines, Allahabad-211001	0532-2422035
99	Uttar Pradesh	Kanpur	The Project Director, National Highway Authority of India,	53, Basant Vihar, Naubasta, Kanpur-208021	0512-2630154
100	Uttar Pradesh	Lucknow	The Project Director, National Highway Authority of India,	1/73G, Vineet Khand, Gomti Nagar Lucknow – 226 010 (UP)	0522-2726167
101	Uttar Pradesh	Gorakhpur	The Project Director, National Highway Authority of India,	No-3/40 Bahar, Cluster-3, Sahara State, Gorakhpur-273010 (U.P.)	0551-2231040
102	Uttar Pradesh	Barielly	The Project Director, National Highway Authority of India,	26, Green Park, Beesalpur Road, Bareilly-243006(UP)	0581-2523752
103	Uttar Pradesh	Meerut	The Project Director, National Highway Authority of India,	B-88, European Estate Colony, Near Best Price, Kankarkheda,	0121-2959090
104	Uttar Pradesh	Ghaziabad	The Project Director, National Highway Authority of India,	R-7/6 Raj Nagar Ghaziabad,Distt- Ghaziabad(UP)-201002	0120-2822406
105	Uttar Pradesh	Jhansi	The Project Director, National Highway Authority of India,	Jhansi House No. 214/1, K. K. Puri, Near Shiv Temple,Jhansi 248003	0510-2450967
106	Uttrakhand	Dehradun	The Project Director, National Highway Authority of India,	House No-5, Lane-4, Sector-4, Teg Bahadur Road, Dehradun	0135-2669562
107	Uttrakhand	Rudrapur	The Project Director, National Highway Authority of India,	A-35, Green Park, Kashipur Road	-
108	West Bengal	Kolkata	The Project Director, National Highway Authority of India,	" White House", 119, Park Street, Block -A, 2nd floor, Kolkata-700017	033-22268131
109	West Bengal	Siliguri	The Project Director, National Highway Authority of India,	Sevoke Road, 2½ Mile, Jyotinagar Near Don Bosco School Siliguri 734001 (WB)	0353-2540564
110	West Bengal	Krishnagar	The Project Director, National Highway Authority of India,	Vill.+P.O. - Bhatjangla, Krishnagar, Dist. - Nadia, PIN-741101 (WB)	03472-271713
111	West Bengal	Durgapur	The Project Director, National Highway Authority of India,	NHAI Complex, Sector 2(A) Bidhan Nagar, Durgapur-713212	0343-2535766
112	West Bengal	Kharagpur	The Project Director, National Highway Authority of India,	NHAI Complex, Near Chaurangi, P.O. Inda, Kharagpur - 721305	03222-227682
113	West Bengal	Malda	The Project Director, National Highway Authority of India,	UCO Bank Building 2nd Floor Mangalbari (NH-34) Mangalbari Pin-732142 Malda	03512-260630

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S.N.	Location	Authority	Address	City	STD Code	Phone	Fax
1	Gandhinagar	Superintending Engineer, Department of Road Transport & Highways	Block No. 14, 4th Floor, New Sachivalaya	Gandhinagar-382010	79	23240091	23220705
2	Bhopal	Superintending Engineer, Department of Road Transport & Highways	1st Floor, D-Wing, Satpura Bhawan,	Bhopal-462004	755	2551329	2551329
3	Thiruvananthapuram	Superintending Engineer (Civil), Department of Road Transport & Highways	Public Office Building,	Thiruvananthapuram – 695033	471	2320879	2320991
4	Lucknow	Superintending Engineer (Civil), Department of Road Transport & Highways	NH Bhawan, Bio Tech Chowk, Ring Road, Vikas Nagar	Lucknow-226022	522	2322741	2321446
5	Jaipur	Superintending Engineer (Civil), Department of Road Transport & Highways	opp.D.C.M., Ajmer Road, P.O. Shyam Nagar,	Jaipur – 302019	141	2811883	2811776
6	Kolkata	Superintending Engineer (Civil), Department of Road Transport & Highways	Room No.106, Block-C (Ist Floor), Central Govt. Office Complex, C Wing DG Block,Salt Lake,	Kolkatta-700064	33	23586942	
7	Chandigarh	Superintending Engineer, Department of Road Transport & Highways	6th Floor, Kendriya Sadan, Sector-9A,	Chandigarh-160017	172	2740376	2740376
8	Bhubaneshwar	Superintending Engineer, Department of Road Transport & Highways	Plot No.184 in front of CRPF Stadium Baramunda,	Bhuvaneshwar-751003	674	2564260	2564260
9	Guwahati	Superintending Engineer(Civil), Department of Road Transport & Highways	Rajgarh Road, Chandmari	Guwahati-781003	361	2540552	2540552
10	Mumbai	Superintending Engineer, Department of Road Transport & Highways	95, New Admn. Building No.2, Ground Floor, PWD Compound, R.C.Marg, Chembur	Mumbai-400071	22	25294858	25294858
11	Patna	Superintending Engineer, Department of Road Transport & Highways	17, Aniket Cooperative Housing Society, IAS Colony,Colony, Kidwaipuri (S.K. Nagar),	Patna-800001	612	2260471	2260471
12	Bangalore	Superintending Engineer (Civil), D/o Road Transport & Highways,	PWD Office, Annexe Building, K.R. Circle,	Bangalore-560001	80	22217457	22212765
13	Dehradun	Office of Engineer Liaison Officer, C/o Chief Engineer (Level-I), D/O Road, transport & Highways	Uttaranchal PWD, Dehradun – 248001	Dehradun-248001	135	2531125	2531125
14	Hyderabad	Superintending Engineer, C/o Chief Engineer(NH) Building, D/O Road, Transport & Highways	2nd Floor, Quality Control Bldg.,Errum Manjil,	Hyderabad-500082	40	23393206	23393206
15	Chennai	Superintending Engineer, Department of Road Transport & Highways	C-1-A,Rajaji Bhawan, Besant Nagar,	Chennai-600090	44	24912115	24912115
16	Raipur	Superintending Engineer, Department of Road Transport & Highways	Pension Bada, NH campus	Raipur(Chattisgarh)-492001	771	2429786	2429786
17	Ranchi	Superintending Engineer, Department of Road Transport & Highways	New Area, Dutta Villa Road, Near TMC, Morabadi, House No.18F	Ranchi-834008	651	2403879	
18	Itanagar	Superintending Engineer, Department of Road Transport & Highways	1st Floor, Campus of CE(WZ) , NoWB,	Itanagar-791111 Arunachal Pradesh		9766321693	

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