



# भारतीय अन्तर्देशीय जलमार्ग प्राधिकरण

( पोत परिवहन मंत्रालय, भारत सरकार )

मुख्यालय : ए-13, सेक्टर-1, नौएडा-201 301, (उ० प्र०)

## INLAND WATERWAYS AUTHORITY OF INDIA

(Ministry of Shipping, Govt. of India)

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No. IWAI/HQ/NTCPWC/IIT-M/2017-18

Dated: 01.01.2020

To,

The Principal Scientist,  
National Technology Centre for Ports,  
Waterways and Coasts (NTCPWC),  
Indian Institute of Technology–Madras,  
Chennai – 600 036.

(Kind Attn.: Dr. Kumaran Raju)

Sub: Setting up of National Centre for ports, Waterways and coasts (NTCPWC) at Indian Institute of Technology–Madras (IIT-M)–Forwarding of approved Minutes of the 4<sup>th</sup> oversight committee meeting held at Ministry of Shipping, Transport Bhavan, New Delhi on 05.11.2019 – Reg.

Ref: Your e-mail communication dated 16.12.2019 enclosing the draft Minutes of 4<sup>th</sup> oversight committee meeting.

Sir,

Reference to the e-mail communication cited above on the subject, I am directed to forward a copy of the approved Minutes of the 4<sup>th</sup> oversight committee meeting held Ministry of Shipping, Transport Bhavan, New Delhi on 05.11.2019 for further necessary action. This issues with the approval of the Chairperson of the oversight committee of NTCPWC vide diary no.919/Ch, dated 27.12.2019.

Your faithfully,

(S. V. K. Reddy)

Chief Engineer (Tech.)

Encl.: As above.

Copy to: 1. PPS to the Chairperson, IWAI, Noida.  
2. PS to the Member (Tech.), IWAI, Noida.



छंजपवदंस ज्मबीदवसवहल ब्दजतम वित च्वतजेएँजमतूले ंदक ब्वेजे ; छज्बुदु  
INDIAN INSTITUTE OF TECHNOLOGY MADRAS  
CHENNAI – 600 036

**MINUTES OF 4<sup>th</sup> OVERSIGHT COMMITTEE MEETING**

**HELD ON**

**05-11- 2019**

**02: 30 PM – 04:30 PM**



**MINUTES OF THE 4<sup>th</sup> OVERSIGHT COMMITTEE MEETING, NATIONAL TECHNOLOGY  
CENTRE FOR PORTS, WATERWAYS AND COASTS (NTCPWC)**

Date: 5<sup>th</sup> November, 2019

Time: 02:30 – 04:30 PM

Venue: Ministry of Shipping, Transport Bhavan, Delhi - 110001

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**Oversight Committee**

1	Dr. Amita Prasad IAS, Chairman, IWAI	Chairperson
2	Mr. K.K.Agarwal, Joint Secretary, Sagarmala, MoSH	Member
3.	Mr Vineet Kumar, Chairman, Kolkata Port Trust	Member
3	Prof.K.Murali Professor, IIT Madras	Member secretary

<b>S.No.</b>	<b>Name</b>	<b>Invitees</b>
1	D. K. Rai, Director, Sagarmala, MoSH	Invitee
2	Mr.Sharada Prasad, Advisor, Sagarmala, MoSH	Invitee
3	Mr.Ashutosh Singh, Consultant, Sagarmala, Ministry of Shipping	Invitee
4	Mr. Venu Prasad, Chief Engineer, Chennai Port Trust	Invitee
5	Mr. S. Madhubavi, Chief Manager P&T, Jawaharlal Nehru Port Trust	Invitee

The meeting of the oversight committee commenced with Prof.K.Murali, welcoming Chairperson & members.

**1. Confirmation of the Minutes of the 3rd Oversight committee meeting held on 08.07.2019.**

There were no further comments and 3<sup>rd</sup> Oversight committee minutes was confirmed.

**2.0 Discussion on Agenda points**

Prof Murali gave a quick overview of the various Agenda items that were discussed during the meeting.

**2.1 Development of Office and Research space**

1. Under the development of office and research space, the operations of the 360-degree simulator fully operational from 28<sup>th</sup> October was presented to the committee. He also added the details of the training and the type of studies that can be carried out in the simulator. He further added that the

simulator will be run by NTCPWC with the technical support from ARI as part of collaboration agreement. In addition, the collaborative contract allows flexibility to include custom port models (in addition to all major port models as well as three inland waterways models), ship models and custom tools in ARI software application. The inauguration of the 360 Degree simulator is planned sometime in December 2019 and it will be inaugurated by the Honorable Minister for Shipping.

2. The status of the dedicated office space (Port building) and the wave basin being constructed now at Discovery campus located at Thaiyur was demonstrated with Photographs taken during the foundation structural works. Prof Murali briefed to the committee that the completion of the construction work will be expected to be complete by March 2020. Prof Murali explained the details of the campus and the capacity of the wave basin that can handle both wave generation and capacity to build multiple large physical models. The committee expressed that the next oversight committee meeting can be conducted in the Port centre building.
3. The development of Field Research Lab was fully completed, and the dedicated High-Performance Computational Facility was procured as part of the central procurement of IIT Madras computational facility. The facility will be dedicated to NTCPWC and if Idle it will be used by other labs of IIT Madras. Oversight committee appreciated and welcome the approach of effective use of the resources.

## **2.2 Progress of Research Projects activities**

The progress of all the 11 research projects were provided and it all follows the planned time schedule. Henceforth committee wanted to have the progress presented in terms of the current status with reference to the Date of completion and the percentage of work completed so far. The status report of each of the project in prescribed format is enclosed (Annexure – II).

## **2.3 Financial Status**

Prof Murali briefed on the financial status by providing the details on funds utilization for the first year and the funds received from agencies for the second year. He also clarified on the status of the Utilization Certificate that are being provided to some of the Ports and the receipt of funds for the second year.

## **2.4 Details on New and Innovative projects ongoing and proposed for Ports and Waterways**

Prof Murali explained the list of the new projects developed under NTCPWC. Since the progress and the status of those projects were already reviewed by committee headed by Joint Secretary Ports and Joint Secretary Sagarmala the recommendation from the committee was considered. The progress of the projects is satisfactory.

## **2.5 Update on Meetings, Conference & Workshops conducted**

Prof Murali briefed on the various meetings and workshops that were conducted for the past six months as well as the planned workshops.

## **2.6 Overseas cooperation**

Under the Overseas cooperation Prof Murali explained the initiatives of the cooperation with Wuhan University, Republic of China, IHC – Netherlands, INSEC-TEC, University of Porto, Portugal

and also the discussion with University of Melbourne for centralized marine data repository. Chairman suggested to consider mobility-based training programs in order to have exposure to working systems.

### **3.0 Any Other Items with the permission of Chairperson**

The following topics were discussed as part of the oversight meeting:

1. The monitoring Key Performance Indicators should be also part of agenda and need to be continuously updated for the review of the committee.
2. To explore maritime technology collaboration with Vietnam and with Bangladesh due to ongoing waterways work.
3. NTCPWC need to start catering to minor ports too and hence data from all minor ports should also need to be considered.
4. In addition to provide giving training to pilots how simulator can be used for night berthing of ships. E.g. How can simulator be used for night berthing at Haldia oil jetty?
5. A quarterly newsletter may be considered for all work done by NTCPWC for information of all stakeholders

The meeting ended with vote of thanks by Prof Murali.

**Encl: Annexure – I**  
**Annexure - II**

## ANNEXURE - I

NTPWC Oversight Committee meeting on 5.11.2019

Sl.No.	Name & Designation	Organization	Phone/Mobile No.	E-mail address	Signature
1	Ashwini Prasad	Secretary, NTPWC	979930525	prasad@nic.in	
2	Dr. D. Kumar Reddy	NTPWC	9840689924	dkr@nic.in	
3	Prof. K. Murali	NTPWC		murali@nic.in	
4	S.V. MADHURAVI	CH/PIID JIPT	8291998025	cmppd@jipost.gov.in	
5	A. Venkatesh Prasad	CE/CHPT	9003003703	ce@chennaiport.gov.in	
6	S. K. Gangwar	member (ex-officio) IWAI, Noida	9650676666	nt.iwai@nic.in	
7	V. MURUGESAN	Dy. Director IWAI, Noida	946049765	murugesanv72003@nic.in	
8	SHARDA Prasad	Adminr, Seagram, Noida	9968306419	shardaprasad1481@gmail.com	
9	Vinit Kumar	Chairman, Uoyt	9073963001	ivinit@hotmail.com	
10	D K Rai	Dir SM	9511984253	dkraie@nic.in	

**ANNEXURE - II**  
**STATUS TRACKING OF PROJECTS – MINISTRY OF SHIPPING**

Percentage of Share Port/IWAI	Port (100%)
Name of the project	<b>1.Development of a customizable 3D numerical Hydrodynamics and siltation tool.</b>  <b>PI: Prof. K. Murali, DEPARTMENT OF OCEAN ENGINEERING</b>
Date of request made	March 2018
Sanctioned amount	₹63,51,600
Proposed date of completion	March 2021
Current status	40 % of work is done. <ul style="list-style-type: none"> <li>- 3D numerical hydrodynamic model customized with tide, river discharge and wind stress.</li> <li>- Bathymetry and Tide data has been collected in major ports</li> </ul>
Final date of completion	March 2021
NTCPWC remarks, if any	
Agency remarks, if any	



Percentage of Share Port/IWAI	Ports (50%)/IWAI (50%)
Name of the project	<b>2.Inlet dynamics and Shoal processes- A complete numerical, laboratory and field study</b> <b>PI: Prof. V. Sundar, DEPARTMENT OF OCEAN ENGINEERING</b> <b>Co-PI: Prof. K. Murali, DEPARTMENT OF OCEAN ENGINEERING</b>
Date of request made	March 2018
Sanctioned amount	₹63,51,600
Proposed date of completion	March 2021
Current status	40% of work is done – Completed field measurement and compared with WAM (simulated data) and ECMWF (available data) - Performed the siltation study for seasonal/monthly changes at proposed area of study and verified result with field measurement data. - Karaikal and Paradip shoreline changes using DSAS (Digital Shoreline Analysis System) tool in the vicinity of tidal inlets is assessed to understand the sensitivity of littoral sediment movement.
Final date of completion	March 2021
NTCPWC remarks, if any	
Agency remarks, if any	

Percentage of Share Port/IWAI	Ports (100%)
Name of the project	<b>3.Development of Autonomous Surface Vehicles (ASVs) for mapping marine environments and water quality</b> <b>PI: Dr. Prabhu Rajagopal, Department of Mechanical Engg.</b>
Date of request made	Mar-2018
Sanctioned amount	₹1,92,51,600
Proposed date of completion	NA
Current status	50 % of work is done. <ul style="list-style-type: none"> <li>- Design of Autonomous Submersible Vehicle completed.</li> <li>- Sensors acquired. (Sidescan SONAR, Altimeter and Doppler Velocity Log)</li> <li>- Fabrication of first prototype completed.</li> <li>- Control system design developed.</li> <li>- Obstacle and guidance system design developed.</li> </ul>
Final date of completion	June - 2021
NTCPWC remarks, if any	
Agency remarks, if any	

Percentage of Share Port/IWAI	IWAI (100%)
Name of the project	<b>4.Assessment tool for assessing the impact of Ship/Boat Wake waves on the banks and protection measures for Inland National Waterways</b> <b>PI: Dr. V. Sriram, DEPARTMENT OF OCEAN ENGINEERING</b> <b>Co-PI: Prof. K. Murali &amp; Prof. V. Sundar, DEPARTMENT OF OCEAN ENGINEERING</b>
Date of request made	March 2018
Sanctioned amount	₹69,51,600.00
Proposed date of completion	March 2021
Current status	Percentage of work completed: 45%.  Some of the notable work done : <ol style="list-style-type: none"> <li>1. Preliminary Field survey was conducted from 14/06/2019 to 23/06/2019 in Uluberia (Howrah).</li> <li>2. Development of Numerical Model is in progress.</li> <li>3. Procurement of H-ADCP is completed.</li> <li>4. Preliminary estimate of the bank erosion for a critical region in inland waterway 1 is done.</li> </ol>
Final date of completion	March 2021
NTCPWC remarks, if any	
Agency remarks, if any	

Percentage of Share Port/IWAI	Port (50%)/IWAI (50%)
Name of the project	<b>5.Demonstration of Drag flow Dredger for Silt Trap and Shoal Dredging</b> <b>PI: Dr. R. Sundaravadivelu,</b> <b>DEPATMENT OF OCEAN ENGINEERING</b> <b>Co-PI: Prof. K. Murali, DEPATMENT OF OCEAN ENGINEERING</b>
Date of request made	March 2018
Sanctioned amount	₹5,41,27,040
Proposed date of completion	NA
Current status	60% Completed
Final date of completion	March 2021
NTCPWC remarks, if any	
Agency remarks, if any	

Percentage of Share Port/IWAI	Ports (50%)/IWAI (50%)
Name of the project	<b>6.Impact of Navigation on Flow and Sediment Transport at River Confluences: An Experimental Study</b> <b>PI: Dr. Venu Chandra, DEPARTMENT OF CIVIL ENGINEERING</b> <b>Co-PI: Prof. B. S. Murty, DEPARTMENT OF CIVIL ENGINEERING</b>
Date of request made	March 2018
Sanctioned amount	₹38,51,600
Proposed date of completion	March 2021
Current status	Percentage of work completed: 20% 1. Preliminary Field investigation was conducted on Hoogly river, Uluberia (NW-1)  2. Flume construction is completed  3. Procurement of flow meter is completed
Final date of completion	March 2021
NTCPWC remarks, if any	
Agency remarks, if any	

Percentage of Share Port/IWAI	<b>Ports (100%)</b>
Name of the project	<b>7.New Concepts of Pile Supported Breakwater with Berthing Facility PI: Dr. Sannasiraj, DEPARTMENT OF OCEAN ENGINEERING Co-PI: Prof. V. Sundar, DEPARTMENT OF OCEAN ENGINEERING</b>
Date of request made	March 2018
Sanctioned amount	₹ 59,11,600.
Proposed date of completion	11/03/2021
Current status	40% (Instruments procured, Models fabricated, Experiments under Progress)
Final date of completion	March 2021
NTCPWC remarks, if any	
Agency remarks, if any	

Percentage of Share Port/IWAI	<b>Ports (50%)/IWAI (50%)</b>
Name of the project	<b>8. Controllability of Ships in Harbour and Navigational Channel</b> <b>PI: Dr. P. Krishnankutty, DEPARTMENT OF OCEAN ENGINEERING</b>
Date of request made	March 2018
Sanctioned amount	₹1,13,51,600
Proposed date of completion	March 2021
Current status	50% <ul style="list-style-type: none"> <li>• Ship-Ship hydrodynamic interactions: CFD analysis to be carried out for varying depths, lateral distance of separation and different speeds for encounter and passing vessel.</li> <li>• Ship Maneuvering: CFD studies for more cases to be performed</li> </ul>
Final date of completion	March 2021
NTCPWC remarks, if any	
Agency remarks, if any	

Percentage of Share Port/IWAI	Ports (50%)/IWAI (50%)
Name of the project	<b>9. Technology Development and Demonstration of Micro Bubble Drag Reduction (MBDR) and Maneuvering of Vessels in inland Water Transportation. PI: Dr. R. Vijay Kumar, DEPARTMENT OF OCEAN ENGINEERING</b>
Date of request made	March 2018
Sanctioned amount	₹1,00,31,600
Proposed date of completion	March 2021
Current status	30% complete Model fabrication, Model modification without micro bubble injections in towing tank has been completed. Resistance prediction with micro bubble injection and numerical work in deep water case has been completed. The model experiments and numerical work on shallow water cases will be commenced shortly.
Final date of completion	
NTCPWC remarks, if any	
Agency remarks, if any	



Percentage of Share Port/IWAI	IWAI (100%)
Name of the project	<b>10.Hydrodynamic Analysis of Multiple Ship Interactions in narrow Channels and Confined Waters</b> <b>PI: Dr. P. Ananthakrishnan, DEPARTMENT OF OCEAN ENGINEERING</b>
Date of request made	March 2018
Sanctioned amount	₹42,31,600.00
Proposed date of completion	NA
Current status	40% Theoretical formulation and boundary-integral algorithm development are complete. Coding is in progress. Extension of the algorithm to include nonlinear wave effects is also underway.
Final date of completion	March 2021
NTCPWC remarks, if any	
Agency remarks, if any	

Percentage of Share Port/IWAI	Ports (50%)/IWAI (50%)
Name of the project	<b>11.Comprehensive study of the maintenance dredging requirements of all major Ports and natural waterways and strategies and technical solutions to reduce the cost in short and long term.</b>  <b>PI: Prof. K. Murali DEPARTMENT OF OCEAN ENGINEERING</b>
Date of request made	March 2018
Sanctioned amount	₹167,71,600
Proposed date of completion	March 2021
Current status	40% Complete
Final date of completion	March 2021
NTCPWC remarks, if any	
Agency remarks, if any	

