

MINUTES OF THE 311TH MEETING OF EXPERT APPRAISAL COMMITTEE FOR PROJECTS RELATED TO COASTAL REGULATION ZONE HELD ON 2ND NOVEMBER, 2022

The 311th meeting of the Expert Appraisal Committee for projects related to Coastal Regulation Zone was held on 2nd November May 2022 at Teesta Hall, IPB, Ministry of Environment, Forest and Climate Change, New Delhi. The list of Members presents in the EAC (CRZ) is at **Annexure**.

The deliberations held and the decisions taken are as under:

1.0 OPENING REMARKS OF THE CHAIRMAN

At the outset, Dr. Deepak Arun Apte, Chairman, EAC (CRZ) welcomed the Members of the EAC and requested Dr. H. Kharkwal, the Member Secretary of the EAC to initiate the proceedings of the meeting with a brief account of the activities undertaken by the Ministry under CRZ Division.

2.0 CONFIRMATION OF THE MINUTES OF THE LAST MEETING

The Committee has noted that the Minutes of the 309th meeting held on 10th October 2022 are in order and confirmed the same with suggestions that in case any typographical / grammatical errors are noticed in due course, the same may be corrected suitably.

3.0 RECONSIDERATION OF PROPOSALS FOR CRZ CLEARANCE

Item No. 3.1

Proposal for out fitting jetty and floating dry dock with allied infrastructure along path finder inlet creek of Gulf of Kachchh lies between the two islands, Kalubhar Tapu and Narara Bet near DPT Jetty, Vadinar, District Devbhumi Dwarka, Gujarat by M/s Deendayal Port Trust-CRZ Clearance [IA/GJ/CRZ/253940/2022] [F.NO.11-11/2022-IA.III]

“The EAC noted that the Project Proponent has given undertaking that the data and information given in the application and enclosures are true to the best of his knowledge and belief and no information has been suppressed in the EIA/EMP report. If any part of the data/information submitted is found to be false / misleading at any stage, the project will be rejected and Environmental and or CRZ Clearance given, if any, will be revoked at the risk and cost of the project proponent.”

The proposal was earlier considered and deferred by the EAC in its meeting held on 23rd March 2022, 26th May 2022 and 6th July 2022. The Committee in its earlier meeting noted that the project proponent has not made available / circulated the EIA / EMP report to the Expert Member before in its meeting held on 23rd March 2022 and project was differed for next meeting. The proposal was reconsidered in its meeting held on 26th May 2022 and 6th July 2022 and EAC desired information / clarification on safety and risk assessment along

with modelling studies, construction methodology and safe guards for environment, details of other reception facilities in the vicinity of the proposed project, Solid waste management plan, Hazardous waste management plan, Oil / Ballast / waste water management plan, Transportation Management, compliance / commitment of GCZMA recommendations and commitment that non-vegetated mud flat area shall not be used for mangrove plantation etc. along with site visit by a Sub-Committee as project site adjacent to Ecologically Sensitive Areas. The project proponent has submitted documents as desired by EAC and Sub-Committee also visited the site on 17th October, 2022 and site visit report was placed before the Committee.

1. The project proponent and their consultant made a detailed presentation of salient features of the project; reply of additional information desired by EAC time to time, response of Sub-Committee report desired by EAC Members and informed that:

- (i). The proposal is for CRZ clearance to the project for out fitting jetty and floating dry dock with allied infrastructure along path finder inlet creek of Gulf of Kachchh, between Kalubhar Tapu and Narara Bet islands, near DPT Jetty, Vadinar, District Devbhumi Dwarka, Gujarat by M/s Deendayal Port Trust.
- (ii). Deendayal Port Trust's (DPT) Off-shore Oil Terminal (OOT) Vadinar facility is handling only crude through Single Buoy Mooring/Single Point Mooring (S.B.M./S.P.M.) through sub-marine pipeline.
- (iii). Deendayal Port Trust has already taken a step towards ship repairing by acquiring a Steel Floating Dry Dock (SFDD) in 1985-1986 which is being utilized optimally over the last 35 years at Deendayal Port at Kandla, Gujarat.
- (iv). The proposed project is listed as important project in Maritime India Vision 2030' & 'PM-Gati Shakti" of Prime Minister's Office 'National Monetization Plan' & National Asset Monetization' of Ministry of Ports, Shipping & Waterways, Govt. of India.
- (v). The development of ship repair facility at Vadinar, Gujarat, is to be done for considering boost in shipping industry of the country under National Interest and proposing out fitting jetty and floating dry dock with allied infrastructures at Vadinar, Devbhumi Dwarka District, Gujarat.
- (vi). All vessels, whether commercial or for defense purpose, during their service life have to undergo certain periodic maintenance and repair works.
- (vii). For undertaking underwater repair and maintenance as well as mandatory underwater inspections dry docking facilities and specialized manpower and workshops are essential.
- (viii). The proposed FDD location is situated near other two jetties i.e. one of Indian Coast Guard for defense and pollution control purpose and second of M/s. Nayara Energy Limited for loading of finished products. There are three SBMs available in the vicinity of proposed FDD for handling of crude oil from vessels [1 out of the 3 SBMs are operated by M/s Nayara Energy Limited while the remaining two are operated by M/s Indian Oil Corporation Limited (IOCL)].
- (ix). The out fitting Jetty will be 500 m in length 12 m in width, approach Trestle from the existing structure will be 120 m in length and 10 m width. The proposed Outfitting jetty will have 300 Nos of Piles, with 1.0 meter diameter each. Spacing between piles will

be 5 meter both transversely and longitudinally. Approach Trestles will have 48 numbers of pile of 1.0 meter diameter each. Spacing between piles will be 5 meter transversely and 5 meter longitudinally.

Structure	Zone	Length in m	Width in m	Number of piles	Foot print in m²
Outfitting Jetty	Subtidal	500	12	300 of 1 m diameter	235.5
Trestle	Subtidal	120	10	48 of 1 m diameter	37.68
Total Foot print Area					273.2

- (x). The proposed activity is in the CRZ-IV Area. Floating dry dock and outfitting jetty shall be located beyond the Eco sensitive zone of Marine National Park and Sanctuary.
- (xi). The total estimated raw water demand during construction phase: 50 KLD (through tankers) and operation phase: 6 KLD (1KLD for washing + 5KLD domestic) and water supply to Vadinar are tapped from Sihan Dam which is situated approx 17.66 km from the site.
- (xii). The power requirements meet under the Deendayal Port Trust and additional Power requirement for willbe 200 KVA during construction phase and 750 KVA for Crane operation and other repairing activity this can be sourced from PGVCL. The two DG sets of about 1000 KVA and one DG set of 50 KVA as standby arrangement.
- (xiii). The total Hazardous waste generation (per annum): Hazardous waste for incineration-167.13 ton, Land fillable Hazardous Waste except incinerator ash-565 ton, Used abrasive blasting material Land fillable Hazardous Waste-100 cubic meter, Non Hazardous Waste-6.65 Ton, Land fillable Non-Hazardous Waste (except incinerator ash)- 154.5 Ton. The Deendayal Port Trust took Primary membership to the nearest TSDF site for disposal of Hazardous wastes.
- (xiv). The estimated waste water generation during Construction phase is about 3.5 KLD and Operation phase about 5 KLD and will be treated in proposed ETP to be located DPT Colony at Vadinar.
- (xv). The water and material collected in the waste tanks is pumped by bilge pump into a bilge tank. The water and material is then treated by an oil water separator. Oily substances and other materials are separated from the water.
- (xvi). The nearest habitation is in Vadinar village (6.65 km) is the only habituated area near the project site.
- (xvii). Nearest Mangrove patches are located (>2 km) from the project site. Coral reefs of Narara Bet and Kalubhar Tappu are located far away from the project site.
- (xviii). The total approximate cost of the project is ₹262.98 Crores and out of totals 75 Lakhs for EMP cost i.e ETP-15 Lakh, TSDF- 2 Lakh and 53 Lakh for fire fighting.

- (xix). The PP Committed that due to proposed activity; there is no risk on jetty and surrounding projects and it did all necessary studies related to risk assessment and mitigation.
- (xx). The Gujarat Coastal Zone Management Authority (GCZMA) has recommended the proposal for CRZ clearance vide letter No. ENV-10-2021-122-T dated 11/02/2022.

2. **Deliberations in the EAC:**

The EAC deliberated on the proposal. The Committee noted that the proposed facility is coming adjacent to other oil terminals like M/s Nayara Energy and if any further development is proposed by the PP in future, the cumulative study need to be undertaken considering the location of the project site close to Ecologically Sensitive Areas and other oil terminal facilities. The EAC accepted the project based on the commitment made by PP, clarifications / information submitted and the response provided on the site visit report during the meeting.

The Committee also noted that the importance of the project, however, it appears at different stages the PP M/s Deendayal Port Trust was not serious about the project as no senior level officer participated during the first three meetings and desired information sought by the EAC had not been provided in time-bound manner.

The Committee after detailed deliberations and considering the submissions made by the PP and response provided on the site visit report recommended the proposal for CRZ Clearance, subject to the following conditions:

- (i). All construction shall be strictly in accordance with the provisions of the CRZ Notification, 2011, as amended from time to time.
- (ii). There shall not to be any mangrove destruction / damage due to proposed activities. As committed shall carryout mangrove plantation in 50 Ha. area however, the non-vegetated mud flat area shall not be used for mangrove plantation and must be maintained as it is and same has to performed in consultation of the Gujarat Forest Department.
- (iii). Non-vegetated mudflats are vital for migratory birds and needs to be identified within 10 km perimeter of the project in consultation with nationally reputed institute like Gujarat Institute of Desert Ecology (GUIDE) with long-term mudflat conservation and monitoring plan. This is essential considering several projects that are currently operational and proposed to be undertaken in near future. The PP will initiate the work within three months of grant of CRZ clearance and submit the six monthly progress reports to the regional office of MoEFCC.
- (iv). There should not any damage to nearby coral areas if any due to proposed activities.
- (v). No groundwater shall be extracted within the CRZ area to meet the water requirements during the construction and/or operation phase of the project.
- (vi). No construction shall be undertaken to disturb tidal creek, free flow of groundwater or natural course of water flow.

- (vii). No excavated material during the construction shall be dumped in water bodies or adjacent areas. The site shall be restored to its near original condition after completion of construction.
- (viii). Permanent labour camp, machinery and material storage shall not be set up in the CRZ area.
- (ix). Disposal of treated effluent into Sea shall strictly conform to the prescribed standards of CPCB / SPCB.
- (x). Any hazardous waste generated during construction phase, shall be disposed off as per applicable rules and norms with necessary approvals of the CPCB / SPCB.
- (xi). The disposal mechanism for the solid and liquid waste resulting from shipping repairs, breaking should be ensured with collection and disposal system from the floating dock.
- (xii). All the conditions stipulated by the Gujarat Coastal Zone Management Authority (GCZMA) have recommended the proposal for CRZ clearance *vide* letter No. ENV-10-2021-122-T dated 11/02/2022 and commitments made by the PP before the CZMA and EAC shall be followed in letter and spirit.
- (xiii). All necessary clearance from the concerned authority, as may be applicable should be obtained prior to commencement of project or activity.

Item No. 3.2

Proposed India Asia Xpress Submarine Cable System at Mumbai by M/s Reliance JioInfocomm Ltd
[IA/MH/CRZ/277284/2022] [F.NO.11/41/2022-IA.III]

“The EAC noted that the Project Proponent has given undertaking that the data and information given in the application and enclosures are true to the best of his knowledge and belief and no information has been suppressed in the EIA/EMP report. If any part of the data/information submitted is found to be false / misleading at any stage, the project will be rejected and Environmental and or CRZ Clearance given, if any, will be revoked at the risk and cost of the project proponent.”

1. The project proponent and their consultant made a detailed presentation of salient features of the project and informed that:

- (i). The proposal is for CRZ clearance to the project for India Asia Xpress Submarine Cable System at Mumbai by M/s Reliance JioInfocomm Ltd.
- (ii). India-Asia Xpress (IAX) is a sub-sea cable system in the Bay of Bengal and open seas linking the countries of Singapore, Malaysia, Thailand, Sri Lanka, and India.
- (iii). The India-Asia Xpress (IAX) Cable System consists of twelve cable landings in five countries with the main trunk from Tuas (Singapore) to Mumbai (India) and branches to Chennai, (India), Matara (Sri Lanka), Satun (Thailand), and Morib (Malaysia).
- (iv). The Total Length of project is 330.95 Km in CRZ upto 12 nautical miles from seaward side to LTL and LTL to CRZ area limit landward side.

- (v). Cable in Mumbai will land at Silver Beach and will be housed in beach manhole proposed to be located at Silver Beach, Near Riviera Apartments, Gandhigram Road Jukarwadi, (Landmark: Near Mukteshwar Temple) Andheri West Mumbai.
- (vi). The coordinates of the proposed BMH location is 19° 6'44.46"N 72°49'22.56"E. The dimensions of the proposed BMH is 3.6 m x 2 m x 2.1 m (L X B X D).
- (vii). The Target Burial Depth (below seabed) is 3 meters, Depth of Burial (maximum water depth) is 1500 meters, Route Length (segment 1.24) is 330.95 km, Cable Length (segment 1.24) is 333.92 km and Cable Landing Station is 19°08.04.26'N, 72°49.28.62'E
- (viii). Cable from BMH will be connected to the cable landing station located at 19°08.04.26'N, 72°49.28.62'E near the Versova Telephone Exchange building (out of CRZ area) Mumbai.
- (ix). Cable landing point at sea edge, BMH and cable route from landing point to BMH and from BMH towards cable landing station till 500 m from HTL will fall under CRZ area as defined under the CRZ Notification, 2011.
- (x). The cable route falls under CRZ II, CRZ IB and CRZ IVA area as per study conducted by Anna University. The proposed construction of BMH would take place in CRZ II area as per approved CZMP.
- (xi). The Shore landings comprise two aspects; the physical landing of the cable and the connection of the submarine cable to a terrestrial cable which then connects to an extant network. The connection of the marine cable to the terrestrial cable takes place at the Beach Manhole.
- (xii). For Beach Trenching: A typical technique for cable beach landing involves excavating a trench up to 2 m (6.6 ft) deep (subject to geophysical conditions) using equipment such as a backhoe.
- (xiii). The articulated pipe can be installed over cable segments. The pipe adds additional protection to the cable in the shallow water areas, especially in areas with rocky habitats and/or high surf zone activity and is applied (after cable landing) by the shore-end team/divers.
- (xiv). The proposed activity is only short-term activity, cable laying work and construction of BMH would only require 1-2 weeks' time.
- (xv). There is already in operation submarine cable system in the area i.e BHARTI AIRTEL
- (xvi). Project is permissible as per Para 4 (ii) d permissible activities of Laying of pipeline, conveying systems transmission line (d) Laying of pipelines, conveying systems, transmission line as per CRZ Notification 2011 and CRZ notification 2019.
- (xvii). Project Activity, during operation does not generate any emission, solid liquid or hazardous waste, toxicity and electromagnetic field that could have adverse impact on habitats.
- (xviii). The construction of BMH and Cable Laying would create negligible and only short-term impact on various environmental attributes like air, water, noise, soil, terrestrial ecology and marine ecology.
- (xix). There is no Eco Sensitive Area in immediate vicinity of the landing point and around the proposed BMH.
- (xx). The AIR, Water, Noise Soil are within the prescribed limits/acceptable ranges by the proposed activity.
- (xxi). The Environmental Management Plan has been prepared as part of EIA to eliminate or minimize the short-term impacts as well.
- (xxii). The total cost of the project is ₹34.7Crores.

- (xxiii). The Maharashtra Coastal Zone Management Authority has recommended the proposal for CRZ clearance *vide* its Letter No. CRZ 2021/CR 206/TC-4 dated 01/06/2022 and Letter No. CRZ 2021/CR 205/TC-4 dated 29/08/2022.

2. Deliberations in the EAC:

It was noted by the EAC that the Total Length of project is 330.95 Km in CRZ upto 12 nautical miles from seaward side to LTL and LTL to CRZ area limit landward side.

The Committee made a detailed deliberation on the proposal. The Committee observed that the project is important for network connectivity of India with other parts of the Asia. The Committee suggested that BMH locations shall avoid the eroding areas, which would ultimately lead to destruction of facilities. The Committee was informed that the CRZ Notification, 2019 is applicable in the Mumbai Suburban district. The project proponent informed that the proposal was submitted to MCZMA in the month of June 2021, at that time CZMP 2019 maps were not published and proposal was submitted based on the CRZ Notification, 2011. The Committee opined that as per the guidelines issued by the Ministry for consideration of such projects in the interim period the instant project can be considered.

The Committee after detailed deliberations and considering the submissions made by the project proponent recommended the proposal for CRZ Clearance, subject to the following conditions:

- (i). All construction shall be strictly in accordance with the provisions of the CRZ Notification, 2011, as amended from time to time.
- (ii). Cable laying and associated facilities shall not hinder the fishing activity in the area and necessary precautions and awareness shall be carried out.
- (iii). No groundwater shall be extracted within the CRZ area to meet the water requirements during the construction and/or operation phase of the project.
- (iv). Any temporary physical infrastructure setup and excavated material, if any, during underground electrical cabling shall not be dumped in water bodies or adjacent areas and the site shall be restored to its original condition after completion of construction of work.
- (v). Permanent labour camp, machinery and material storage shall not be set up in the CRZ area.
- (vi). All the conditions stipulated by the Maharashtra Coastal Zone Management Authority for CRZ clearance *vide* its letter No. CRZ 2021/CR 206/TC-4 dated 01/06/2022 & Letter No. CRZ 2021/CR 205/TC-4 dated 29/08/2022 and commitments made by the PP before the CZMA and EAC shall be followed in letter and spirit.
- (vii). All necessary clearance from the concerned authorities, as may be applicable should be obtained prior to commencement of project or activity.

Item No. 3.3

Proposed India Europe Xpress Submarine Cable System at Mumbai by M/s Reliance JioInfocomm Ltd.

[IA/MH/CRZ/279422/2022] [F.NO.11/42/2022-IA.III]

***“The EAC noted that the Project Proponent has given undertaking that the data and information given in the application and enclosures are true to the best of his knowledge and belief and no information has been suppressed in the EIA/EMP report. If any part of the data/information submitted is found to be false / misleading at any stage, the project will be rejected and Environmental and or CRZ Clearance given, if any, will be revoked at the risk and cost of the project proponent.*”**

1. The project proponent and their consultant made a detailed presentation of salient features of the project and informed that:

- (i) The proposal is for CRZ clearance to the project for India Europe Xpress Submarine Cable System and Construction of Beach Manhole at Versova at Mumbai, Maharashtra by M/s Reliance JioInfocomm Ltd.
- (ii) The India-Europe-Xpress (IEX) a sub-sea cable system in the Arabian sea and open seas will connect Mumbai to Europe, with landings in the Middle East (Oman, Djibouti, Saudi Arabia, and Egypt) as well as through the Mediterranean Sea with landings in France, Italy, and Greece further expanding to US Coast (East).
- (iii) The Total Length of project is 351.27 Km in CRZ upto 12 nautical miles from seaward side to LTL and LTL to CRZ area limit landward side.
- (iv) Cable in Mumbai will land at Versova Beach and will be housed in beach manhole proposed to be located at Versova Beach Mumbai.
- (v) The coordinates of the proposed BMH location are 19° 07.49.98' N, 72°48.48.06' E. The dimensions of the proposed BMH size are 3.6 m x 2 m x 2.1 m (L X B X D).
- (vi) Cable from BMH will be connected to the cable landing station located at 19°08.04.26'N, 72°49.28.62'E near the Versova Telephone Exchange building (out of CRZ area) Mumbai
- (vii) The Target Burial Depth (below seabed) is 3 meters, Depth of Burial (maximum water depth) is 1500 meters, Route Length (segment 1.24) is 351.274 km, Cable Length (segment 1.24) is 354.449 km and Cable Landing Station is 19°08.04.26'N, 72°49.28.62'E
- (viii) Cable landing point at sea edge, BMH and cable route from landing point to BMH and from BMH towards cable landing station till 500 m from HTL will fall under CRZ area as defined under the CRZ Notification, 2019.
- (ix) The cable route falls under CRZ II, CRZ III (NDZ within CRZ II), CRZ IB and CRZ IVA area as per study conducted by Anna University. The proposed construction of BMH would take place in CRZ II area as per approved CZMP 2019.
- (x) The Shore landings comprise two aspects; the physical landing of the cable and the connection of the submarine cable to a terrestrial cable which then connects to an extant network. The connection of the marine cable to the terrestrial cable takes place at the Beach Manhole.
- (xi) For Beach Trenching: A typical technique for cable beach landing involves excavating a trench up to 2 m (6.6 ft) deep (subject to geophysical conditions) using equipment such as a backhoe.

- (xii) The articulated pipe can be installed over cable segments. The pipe adds additional protection to the cable in the shallow water areas, especially in areas with rocky habitats and/or high surf zone activity and is applied (after cable landing) by the shore-end team/divers.
- (xiii) The proposed activity is only short-term activity, cable laying work and construction of BMH would only require 1-2 weeks' time.
- (xiv) There is already in operation submarine cable system in the area i.e BHARTI AIRTEL.
- (xv) Project is permissible as per Para 4 (ii) d permissible activities of Laying of pipeline, conveying systems transmission line (d) Laying of pipelines, conveying systems, transmission line as per CRZ Notification 2011 and CRZ notification 2019.
- (xvi) Project Activity, during operation does not generate any emission, solid liquid or hazardous waste, toxicity and electromagnetic field that could have adverse impact on habitats.
- (xvii) The construction of BMH and Cable Laying would create negligible and only short-term impact on various environmental attributes like air, water, noise, soil, terrestrial ecology and marine ecology.
- (xviii) There is no Eco Sensitive Area in immediate vicinity of the landing point and around the proposed BMH.
- (xix) The AIR, Water, Noise Soil are within the prescribed limits/acceptable ranges by the proposed activity.
- (xx) The Environmental Management Plan has been prepared as part of EIA to eliminate or minimize the short-term impacts as well.
- (xxi) The total cost of the project is ₹39.23 Crores.
- (xxii) The Maharashtra Coastal Zone Management Authority has recommended the proposal for CRZ clearance *vide* its Letter No. CRZ 2021/CR 206/TC-4 dated 01/06/2022 and Letter No. CRZ 2021/CR 205/TC-4 dated 29/08/2022.

2. Deliberations in the EAC:

It was noted by the EAC that the Total Length of project is 351.27 Km in CRZ upto 12 nautical miles from seaward side to LTL and LTL to CRZ area limit landward side.

The Committee made a detailed deliberation on the proposal. The Committee observed that the project is important for network connectivity of India with other parts of the Europe. The Committee suggested that BMH locations shall avoid the eroding areas, which would ultimately lead to destruction of facilities. The Committee was considered the proposal as per the CRZ Notification, 2019 is applicable in the Mumbai Suburban district.

The Committee after detailed deliberations and considering the submissions made by the project proponent recommended the proposal for CRZ Clearance, subject to the following conditions:

- (i). All construction shall be strictly in accordance with the provisions of the CRZ Notification, 2019, as amended from time to time.
- (ii). Cable laying and associated facilities shall not hinder the fishing activity in the area and necessary precautions and awareness shall be carried out.

- (iii). No groundwater shall be extracted within the CRZ area to meet the water requirements during the construction and/or operation phase of the project.
- (iv). Any temporary physical infrastructure setup and excavated material, if any, during underground electrical cabling shall not be dumped in water bodies or adjacent areas and the site shall be restored to its original condition after completion of construction of work.
- (v). Permanent labour camp, machinery and material storage shall not be set up in the CRZ area.
- (vi). All the conditions stipulated by the Maharashtra Coastal Zone Management Authority for CRZ clearance *vide* its letter No. CRZ 2021/CR/204/TC 4 dated 10/06/2022 & and Letter No. CRZ 2021/CR 205/TC-4 dated 29/08/2022 and commitments made by the PP before the CZMA and EAC shall be followed in letter and spirit.
- (vii). All necessary clearance from the concerned authority, as may be applicable should be obtained prior to commencement of project or activity.

4.0. Any other item with the permission of the Chair.

The meeting ended with a Vote of Thanks to the Chair.

Annexure

List of the Expert Appraisal Committee (CRZ) Members participated during Meeting held on 2nd November 2022.

S. No.	Name of Members	Designation
1.	Dr. Deepak Arun Apte	Chairman
2.	Prof. Mukesh Khare	Member
3.	Dr. M.V. Ramana Murthy	Member
4.	Shri M.S. Negi	Member
5.	Shri S. Jeyakrishnan	Member
6.	Prof. V.K. Jain	Member
7.	Prof. A.K. Pachauri	Member
8.	Shri Sham Wagh	Member
9.	Dr. Niraj Sharma	Member
10.	Shri P.K. Mishra	Member
11.	Dr. H. Kharkwal	Member Secretary
12.	Dr. Nobi E. P	MoEFCC
