

MINUTES OF THE 233rd MEETING OF THE EXPERT APPRAISAL COMMITTEE FOR PROJECTS RELATED TO COASTAL REGULATION ZONE HELD ON 28th APRIL, 2020 THROUGH VIDEO CONFERENCING DUE TO COVID-19 PANDEMIC.

The 233rd Meeting of the Expert Appraisal Committee for projects related to Coastal Regulation Zone was held on 28.04.2020 through Video Conferencing. The members present are:

1.	Dr. Deepak Arun Apte	-	Chairman
2.	Dr. Anil Kumar Singh	-	Member
3.	Dr. M.V Ramana Murthy	-	Member
4.	Dr. V. K. Jain	-	Member
5.	Shri. Prabhakar Singh	-	Member
6.	Dr. Rajesh Shah	-	Member
7.	Shri Rajesh Debroy	-	Member
8.	Dr. Manoranjan Hota	-	Member
9.	Shri. N.K. Verma	-	Member
10.	Shri. W. Bharat Singh	-	Member Secretary

Dr. Anuradha Shukla, Ms. Bindhu Manghat and Shri Sanjay Singh were absent.

In attendance: Dr.Saranya.P, Joint Director, MoEFCC. The deliberations held and the decisions taken are as under:

2.0 CONFIRMATION OF THE MINUTES OF THE LAST MEETING.

The Committee having noted that the Minutes of the 231st meeting are in order, 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 CONSIDERATION OF PROPOSALS:

FRESH PROPOSALS

3.1 Proposal for construction of 3 Nos. all weather helipad at Sagar Island in the District of south 24 Parganas, under PWD, Government of West Bengal by M/s Diamond Harbour Highway Division [IA/WB/CRZ/143367/2020] [F.No.11-18/2020-IA.III] - CRZ Clearance- reg.

The proposal of M/s Diamond Harbour Highway Division is for construction of 3 Nos. all weather helipad at Sagar Island in the district of south 24 Parganas, by PWD, Government of West Bengal. The project proponent made a presentation and provided the following information:

- (i) The proposed project site is located at Sagar Island in South 24 Parganas district in West Bengal. Sagar Island is still not connected with the mainland through road ways. Only the waterways and limited helicopter service during fair weather connect this island with the main land.

- (ii) Presently at Sagar Island, there are 3 existing helipads with double layer brick soling. The helipads are located at low lying areas with an average embankment height of 1.35 m above the helipad level. Hence these can only provide service in fair weather conditions.
- (iii) The present proposal involves the following:
- Construction/renovation of 03 nos of helipads at an elevated level to promote all weather service.
 - Elevating the entire area to level (FRL) of Road no. 05.
 - Construction of office-cum- Crew rest room adjacent to the Helipads
 - Developing all weather road connectivity between Helipads and Road no 5
 - Addition of Green Zone and beautification for enhancement of Biodiversity of the surroundings

Particular	Location Point	Latitude (N)	Longitude (E)
Sagar Island Helipad Area	Sl. No.	Latitude	Longitude
	1.	21°38'33.33"N	88°04'14.83"E
	2.	21°38'30.69"N	88°04'13.13"E
	3.	21°38'29.25"N	88°04'14.49"E
	4.	21°38'28.89"N	88°04'14.75"E
	5.	21°38'28.52"N	88°04'14.97"E
	6.	21°38'27.71"N	88°04'15.28"E
	7.	21°38'27.10"N	88°04'15.21"E
	8.	21°38'26.22"N	88°04'14.99"E
	9.	21°38'25.76"N	88°04'16.46"E
	10.	21°38'25.66"N	88°04'17.25"E
	11.	21°38'27.08"N	88°04'18.50"E
	12.	21°38'28.38"N	88°04'19.99"E
	13.	21°38'29.48"N	88°04'19.09"E
	14.	21°38'30.01"N	88°04'19.38"E
	15.	21°38'30.94"N	88°04'18.34"E
	16.	21°38'30.36"N	88°04'17.78"E
		H1	21°38'27.10"N
	H2	21°38'29.94"N	88°04'15.06"E
	H3	21°38'31.58"N	88°04'15.21"E
	G	21°38'29.03"N	88°04'17.81"E
	H	21°38'29.29"N	88°04'18.32"E

- (iv) Total land area is 23282.936 sq.m. Area of each helipad (paved area) will be 706.8 sqm and thus total Helipad area paved will be 2120.40 sq.m. Paver Block road area will be 436.5 x 3.75 i.e 1636.87 sq.m. Office cum crew rest room area will be 103 sq.m. Green area and others (soft area): 19422.69 sqm.
- (v) The project site falls within CRZ II area as mentioned in the CRZ map provided by IESWM. The rest portion of the project site lies beyond the CRZ area. In between the creek and the project site there is an earthen bund constructed by Gangasagar Bakkhali Development Authority.
- (vi) The water requirement for the proposed project is as under: -

S.No	Description	Water Consumption in m ³ /day	Waste water generation and its management
1	Domestic	0.5	0.3 KLD domestic wastewater generated is being/will be disposed through septic tank followed by soak pit.
2	Water Sprinkling and Gardening	1.5	-
	Total	2	

- (vii) Solid Waste Management:
- During construction, waste like debris, concrete etc. will be generated.
 - Municipal solid waste generated from labour camp of 24 kg/day shall be disposed of at MSW disposal sites in the vicinity.
 - Solid waste generated during operation phase will be collected and disposed off to MSW site.
- (viii) Total power requirement during construction phase as well as operational phase will be sourced from WBSEDCL.
- (ix) The employment potential during the construction phase will be average 50 workers per day. Approximate 10 numbers of persons shall be employed during operational phase.
- (x) Total cost of proposed project is Rs. 5.07 Cr.
- (xi) West Bengal Coastal Zone Management Authority has recommended the above proposal for clearance vide their letter No. 306-EN/T-II-4/07/2019 dated 11th February, 2020.

2. The Committee noted that submission of the State Government about the project has high importance considering that it has to cater to the needs of the local people for essential supplies and emergency services including disaster management and evacuation, as there is no road network between the Sagar Island and the mainland. The Committee however noted that the proposed site seems close to large mangrove patches and a low lying area and a bird sanctuary viz. Chintamani Kar Bird Sanctuary (formerly named as Narendrapur Wildlife Sanctuary) exists at about 8 kms or so from the area, which is home to several migratory birds. That this bird sanctuary is locally known as 'Kayaler Bagan' and was originally notified as a sanctuary in 1982 but could only be converted to one after the acquisition of land by the Government of West Bengal. The Committee observed that the proposal primarily warrants a bird hazard risk assessment study, which the project proponent need to have been mindful of. The Committee therefore decided that the project proponent shall carry out the same through reputed institutes like SACON, WII, etc. and submit for the views of the Committee. The Committee further observed that there are large secondary data on avian fauna of the region already available and the project proponent may collate and make an assessment of risk to the helicopter sorties due to birds based on the secondary data but supplemented by one season (three months) data during migratory period.

3. The Committee also noted that CRZ map (1: 4000 scale) made available does not seem to appropriately demarcate the CRZ features as per the extant norms of the CRZ regulations. The Committee therefore desired that a revised CRZ map (1: 4000) scale clearly indicating the HTL, LTL, ESAs, Sand Dunes, the road proposed to be constructed (its origin from the Helipads and the CRZ delineation) etc. shall be redrawn and submitted to the Ministry.

4. The Committee desired that a marine part of the EIA studies carried out need supplementation on the likely impact of the proposed project on the flora and fauna including mangrove conservation study. It was also desired that appropriate financial allocation as per the Office Memorandum issued by the Ministry, dated 01.05.2018, on CER, for activities specific to marine and coastal biodiversity conservation to be undertaken under CER shall be earmarked and detailed plan of action contemplated shall be submitted to the Ministry.

5. The Committee was informed that some naval facilities are located along the coast of Sagar island and therefore it was decided that the project proponent shall submit necessary clearance from the competent authority as may be applicable. Based on the deliberations held, the Committee observed that the proposal is premature for recommendation for CRZ clearance in its present form and desired documents/information on the following:

- (i) Revised CRZ map (1: 4000) scale clearly indicating the HTL, LTL, ESAs, Sand Dunes, the road proposed to be constructed (its origin from the Helipads and the CRZ delineation) along with existing constructions etc. shall be redrawn and submitted.
- (ii) A detailed bird hazard study to helicopter sorties shall be carried out by any nationally reputed institutes like SACON, WII, etc. based on secondary data available at these institutes and supplemented by one season (three months) data during migratory period.
- (iii) A report on safety/mitigation measures to be adopted during natural disaster such as floods/storm surge/ sea erosion shall be submitted.
- (iv) Supplementary marine EIA studies indicating likely impact of the proposed project on the flora and fauna including mangrove conservation study.
- (v) Information on need for obtaining prior permission from Ministry of Defence or concerned competent authority for the proposed project in Sagar Island.
- (vi) Appropriate financial allocation as per the Office Memorandum issued by the Ministry, dated 01.05.2018, on CER, for activities to be undertaken specific to marine and coastal biodiversity conservation under CER shall be earmarked and detailed plan of action contemplated shall be submitted to the Ministry

Accordingly, the proposal was deferred for reconsideration once the above information/documents/actions are received by the Ministry.

3.2 Proposal for development of Marina at MbPT Mumbai by M/s Mumbai Port Trust - CRZ Clearance - reg.

[IA/MH/CRZ/140376/2020] [F.No.11-19/2020-IA.III]

The proposal of M/s Mumbai Port Trust is for development of Marina at MbPT Mumbai. The project proponent made a presentation and provided the following information:

- (i) Mumbai Marina is proposed at Princess Dock by re-storing water bodies by re-excavation of existing part basin, for providing sheltered yacht berthing and marina ancillaries.
- (ii) The entire project site falls under CRZ-II, CRZ-1(B) and CRZ-IV areas as per approved CZMP 2011.
- (iii) The Mumbai Marina covers 8.02 Hectare of land area, which includes Marina Basin (5.20 ha); Marina Ancillary Center (1.00 Ha); Walkway (0.84 ha) and Yacht repair and maintenance (0.98 ha)

- (iv) The project envisages state of Art technology on handling of Yachts and its management including handling of Utilities like Bunker Water, waste and power supply.
- (v) Excavated earth will be used in development of low lying area in same marine vicinity within port premises/port limits.
- (vi) Average 60 KLD Water is estimated to be consumed. Water will be organized by the Concessionaire. During operation phase, 57 KL per peak day will be required and organized by the Concessionaire from MCGM. Gardening & Landscaping will be carried out from Rain water storage tank.
- (vii) Likely employment of 500-600 direct + sizable indirect employment shall be generated.
- (viii) Total cost of proposed project is Rs. 364.84 crores.
- (ix) Maharashtra Coastal Zone Management Authority has recommended the above proposal for clearance vide their letter No. CRZ 2018/CR 365/TC 4 dated 6th December, 2019.

2. The project proponent also informed that due to de-industrialization in Mumbai region, there is a general decline in all kinds of port activities at the Mumbai Port. Even as the new cargo mix was changed the focus of port operation from on-shore to off-shore, the rise of the new Jawaharlal Nehru Port Trust (JNPT) across the bay from about 1987 has resulted in the diversion of almost the entire container cargo segment to the new “container port” with draught depth of 11.5 m, and well established road and rail connections to the hinterland. The large parcels of land along the Eastern Waterfront that have become redundant for port purpose can be put to good use for meeting the urban development needs of the city. Hence, the Masterplan carried out from the MbPT proposes the development of a great part of the Mumbai Port in an urban waterfront. In this context, the Mumbai Marine has been located at the Prince’s Dock.

3. The Committee noted that the Ministry had accorded composite EC+ CRZ clearance for reclamation of container yard Offshore Container Terminal (OCT) vide its letter No. 10-18/2005-IA.III, dated 15th June, 2006 to Mumbai Port Trust (MbPT), which was subsequently extended vide letter dated 7th January, 2014. The Committee also took note that as per information provided the reclamation work was started and completed in the year 2015-16 with few pockets not fully reclaimed. The Committee was informed that the project of offshore container terminal has been shelved and the said reclaimed area is proposed to be excavated and the excavated earth (about 5.6 lakh cum) will be sent and utilised for Jawahar Dweep reclamation for which they have a valid clearance and is under progress. However, Committee also desired to know the impact of such reclamation on near shore areas for migratory birds and roosting sites if any, with focus on whether such reclamation and subsequent impact (both positive and negative) on migratory birds will affect Navi Mumbai International Airport air safety.

4. The Committee noted that the area has a representation from an NGO has been received, which contain few valid concerns and therefore the project proponent shall provide its written response as may be admissible in their case. The Committee observed that as indicated in the representation received, information on avian fauna (migratory birds) in the region may be submitted for perusal of the Committee.

5. The Committee also noted that the project envisages establishment of yacht repair facility including handling of bunker water and therefore oil spills and management of waste oil and other hazardous materials should find elaborate details in the EIA report. The Committee was of the opinion that the project proponent need to be mindful of the increase in

traffic volume due to the recreational facility now envisaged and details on the same need to be presented.

6. The detailed design of marina such as its water spread area, navigational requirements and impact during floods/storm surge should be submitted.

7. In view of the above and considering that such details as noted above could not be forthcoming from the project proponent during the course of the video conferencing presentation, the Committee decided that these details can be submitted and a view can be taken at a later stage. Accordingly, the proposal was deferred for reconsideration at a later stage.

3.3 Proposal for setting up a Sea Water Reverse Osmosis Plant of 5 MLD capacity at Thoothukudi, Tamil Nadu by M/s V.O. Chidambaranar Port Trust [IA/TN/CRZ/136080/2020] [F.No.11-20/2020-IA.III] - CRZ clearance- reg.

The proposal of M/s V.O. Chidambaranar Port Trust is for setting up a Sea Water Reverse Osmosis Plant of 5 MLD capacity at Thoothukudi, Tamil Nadu. The project proponent made a presentation and provided the following information:

- (i) The V.O.Chidambaranar Port Trust was declared as a Major Port by the Government of India in July, 1974. The Port has two operational wings viz. Zone 'A' comprising the new port and Zone 'B' constituting the old anchorage port, situated about 9 km away from the new port.
- (ii) Presently required water supply is received from Valavallan and Mangalakurichi plants through TWAD Board. Expected quantity of water received from both the plant is 2 MLD. During the water scarcity period, V.O.C Port Trust could not supply the water requirement in the township as well as for other user of the port.
- (iii) Port has planted about 6,000 trees in and around Port Township in the past few years. Added to this port also proposed sprinkling system in the harbour area around the coal stock yard. In addition to that additional container terminals and modification to the existing berths are proposed.
- (iv) With the above activities the requirement of the potable water is more than 2 MLD. In addition, Coast Guard has proposed new residential complex with sports amenities for which additional water requirements of 0.3 MLD is to be supplied. Navy has also proposed to develop officers residential complex with all indoor facilities and this would require 1.5 MLD of water supply. Considering the water demand for potable usage, VOC Port Trust proposes to set up 5 MLD desalination plant.
- (v) The proposed project involves laying of seawater intake pipeline (1.25 kms) with intake head (passing through CRZ-IV, CRZ-IB and CRZ-II), Marine outfall pipeline (1.05 kms) with diffuser ports (will also pass through CRZ-IV, CRZ-IB and CRZ-II) and construction of desalination plant and associated facilities (CRZ II)
- (vi) The location of intake and outfall are at 78°10' 48.34" E, 8°44' 27.86" N and 78°10' 45.57" E, 8°44' 37.23" N respectively.
- (vii) The total sea water drawn will be 14.14 MLD and that the brine discharge will be 9.14 MLD.
- (viii) The total project area is about 1.26 ha and the project site is about 7.5 km away from Gulf of Mannar Marine National Park.
- (ix) An STP of 1000 KLD capacity with biological treatment shall be used and treated water of 200 KLD shall be reused for gardening.
- (x) Solid waste of about 1000 kg will be generated and shall be disposed by co-composting.

- (xi) The total cost of the project will be Rs. 88.11 crores.
- (xii) The Tamil Nadu Coastal Zone Management Authority has recommended the above proposal for clearance vide their letter No. 20975/EC.3/2019-1, dated 6th December, 2019.

2. The Committee noted that 70 % of the salt production from Tamil Nadu is from Tuticorin district alone. It was also observed that several proposals for desalination plants by different state government agencies have been received in the past and it is high time a comprehensive cumulative analysis/strategy for handling brine by these plants are formulated. *The Committee therefore decided that NIOT, Chennai may be requested to take up such a study and make appropriate recommendations for other measures of brine handling and management, including the quantum of safe limits of brine disposal in the sea, in the region. The Committee agreed that the Ministry may formally request the Ministry of Earth Sciences/NIOT in this regard.*

3. The Committee further observed that since the study report by NIOT as stated above may take some time, in the meantime, a small sub-committee comprising of EAC (CRZ) members viz. Dr. Deepak Apte, Shri Rajesh Shah, Dr. M.V. Ramamurthy, Dr. V.K. Jain, Shri N.K. Verma, Dr. M. Hota and Shri Prabhakar Singh may assist the Committee in making an interim report of strategy to be adopted for desalination plants at large. It was also decided that Dr. Balachandran of BNHS who is specialized on saltpans and migratory waterbirds may be requested to assist in framing the interim report.

4. In so far as the present proposal is concerned, the Committee observed that since there is a possibility of an efficient brine handling as the quantity is very small, the proposal can be considered for CRZ recommendation. However, as informed by the project proponent it shall be ensured that bird lagoons may be developed in the 700 acres or so of land available within the Port Trust and brine from the desalination plant shall be discharged into the lagoon for use by the salt pans, which can benefit as habitats for migratory birds feeding. The discharges to the sea shall only be for the period the salt pans cannot function and for the balance quantity for which the lagoon cannot accommodate and which is unavoidable.

5. Based on the deliberations held the Committee recommended the project for CRZ clearance subject to the following conditions:

- i) No storage reservoir for sea water shall be permitted and only pipelines conveyance system shall be installed.
- ii) No groundwater shall be extracted in the CRZ areas to meet with the water requirements during the construction and/or operation phase of the project.
- iii) No excavated material during the construction shall be dumped in water bodies or adjacent areas.
- iv) The project proponent shall ensure that the temporary structures installed for laying of pipe lines are removed within one months of accomplishment of the work.
- v) As committed, drinking water for nearby villages shall be supplied as part of its CSR activities.
- vi) The project proponent shall explore the feasibility of supplying brine water to authorized salt pan agencies instead of discharging into sea or arrange to facilitate setting up of a salt manufacturing unit in the area. The project proponent shall explore setting up of salt pans for migratory birds as they use the salt pans as habitats for feeding and roosting. The project proponent can set an example of a sound conservation effort if a successful model

for brine use as suggested above can be implemented. The Committee advised to take assistance of Bombay Natural History Society (BNHS) in developing the suitable bird habitat.

- vii) As per the Ministry's Office Memorandum F. No. 22-65/2017-IA.III dated 1st May, 2018, and proposed by the project proponent, an amount of Rs.1.76 crores i.e @2% of project Cost shall be earmarked under Corporate Environment Responsibility (CER) for the activities such as support to local government, schools, sanitation and health including construction of public toilets in the surrounding villages, as per need based assessment carried out. The activities proposed under CER shall be restricted to the affected area around the project. The monitoring report shall be submitted to the regional office as a part of half yearly compliance report, and to the District Collector. It should be posted on the website of the project proponent.

3.4 Proposal for construction of Malabar ocean front resort & spa at Kasaragod, Kerala by M/s Delwan Projects Private Limited - CRZ Clearance- reg.

[IA/KL/CRZ/113971/2019] [F.No.11-21/2020-IA.III]

The Committee observed that requisite papers/documents in respect of the proposal have not been received and therefore the question for appraisal of the project does not arise. Accordingly, the proposal was deferred and it was decided that the same can be taken up in the next meeting provided all requisite papers/documents are received in time by the members.

3.5 Proposal for mining of heavy minerals at IREL NK Block IV having an area of 40,566 Ha, in Alappad and Panmana Villages, in Karunagapally Taluk, in Kollam District, Kerala by M/s IREL (India) Ltd. -CRZ Clearance

[IA/KL/CRZ/115285/2019] [F.No.11-36/2019-IA.III]

The proposal of M/s IREL (India) Ltd. was earlier considered in the 226th and 229th meetings held on 23.10.2019 & 27.01.2020 respectively, but was deferred due to few shortcomings in the proposal. The project proponent in the said meetings had made a presentation and had provided the following information to the Committee:

- (i) IREL is having a capacity to produce 2 lakh tons of Ilmenite and associated minerals per annum but, due to shortage of raw sand, IREL currently is able to supply less than 50% of its capacity.
- (ii) IREL has been granted renewal of lease for mining of heavy mineral sand at NK Block IV (Panmana and Karunagapally) in Kollam district, having a lease area of 40.566 ha vide G.O (MS) No 22/2005/ID, dated 22/02/2005, which was valid upto 2010. Subsequently the period of lease was extended till 28.02.2020 vide G.O (MS) No. 32/2006/ID, dated 15.03.2006 issued by the Government of Kerala.
- (iii) The plot lies between Latitude 09°02' 15.8" to 09°02' 16.8" & Longitude 76°30' 31.9" to 76°30' 34.0" (Toposheet No.58 C/8, C/12, D/9). A village road connects the Block IV to Karunagapally junction situated in NH 66 at a distance of 4km from the northern end of the block. The site office is located adjacent to the Southern side of site in block IV EE and it is located at a distance of 5.47Km from NH66. The nearest railway station is Karunagapally is situated at a distance of 6Km from the block.
- (iv) IREL (India) Limited and Kerala Minerals and Metals Ltd (KMML) are the only two major industries in this area. The area is barren land with sandy soil with isolated non-yielding coconut plantation. No rare or endangered species were observed during our terrestrial and ecological survey.

- (v) The present proposal of IREL is for mining capacity 8,36,732 TPA, which includes 87000 TPA from replineshable source as recommended by NCESS and maximum inland mining in the area is 7,49,732 MT. The mining plan for the plot covering this lease area was approved by Atomic Minerals Directorate (AMD) vide AMD Approval No. AMD/MRG/IREL – CHAVARA/MP/102.77Ha, dated 17.09.2019.
- (vi) The balance reserves of minable area as on 01-04-2019, in the inland area based on prospecting by AMD is around 27.31 lakh MT The average depth of the deposit is 7.7m and the average grade is 43.39%.
- (vii) The Lease area consists of CRZ I(A), CRZ I(B), CRZ III, CRZ IV. The seasonal beach and other intertidal zones are in CRZ IB. Mangrove vegetations are present as small isolated patches on the banks of backwater/canal and these belong to CRZ IA. As these rare minerals are available only in the CRZ area, mining of these minerals are permitted within the Coastal Regulation Zone notification under the section 3(x)(iii)(c), 4(ii)(g), para 8 I (ii) (h) of the CRZ notification, 2011 as amended in 2017.
- (viii) As per the mine plan the total area of this block (NK Block IV) under this lease is about 40.566 Ha of which 18.21 Ha is for inland mining and 2 Ha for beach washing minable. This available land includes seawall, statutory barrier, sensitive locations like temple (Kochochira Sree Sankaranarayana temple, St. Sebastian Church, Sri Yogeeswara Temple), school (Pandarathuruth LP School) etc.
- (ix) The proposed method of mining will be: (a) Inland mining by using dredger / Tipper HEMM combination; and (b) Beach wash collection. In the inter-tidal area only manual mining will be carried out.

(a) *Inland mining by using dredger / Tipper HEMM combination*

- The beach sands inland deposits in CRZ-III area will be mined by open cast method mining by using dredger/Tipper HEMM combination (7,49,732 tonnes).
- No development work is required here. There is no over burden.
- The equipment used for dredging is cutter suction dredge. The dredge has a working length of 30 meters and width of 14 m and can dredge upto a depth of 8 mts. The unit contains a concentrator plant where the separation is through physical process and no chemicals are used. The semi mechanized mining includes simultaneous refilling of mined area using tailings from concentration plant.
- In some areas of NK Block IV, mining operation cannot be carried out by dredging because of restricted/ small extent of land. For operation of dredge, continuous availability of land having an extent of 4 to 5 Ha is required. Since the area is thickly populated and land acquisition is a big challenge, wherever sufficient land is not available, surface mining by deploying excavators is done up to a depth of 8 meter and the excavated material is collected and transported to the plant.
- Surface mining usually renders the land unsuitable for other uses unless it is restored or rehabilitated. The simultaneous refilling of the mine in progression with mining. After the recovery of HM concentrates the reject sand is used for refiling the mined out area. As the back filling is integrated into the mining process, the excavated land will be subsequently reclaimed and the ground surface of the reclaimed land will be brought back to the contours matching with the surrounding topography. No temple or any sensitive locations will be disturbed. The reclamation will improve the overall landscape considerably. in

a phased manner by green belt development and ponds for water conservation and ground water recharge, to improve the water quality / quantity. It will also be a sustainable source for water, availing infiltration of water where ever feasible.

(b) Beach wash collection

- Beach washing will be limited to *87,000 tons per year* as recommended by National Earth Science Studies (NCESS). The minerals mined by beach washing collection are replenished by the sea. Hence this reserve is not depleted.
 - Beach washing from the Beach front is collected manually and heaped near the beach. The heaped sand is loaded and then transported to the plant at the site.
 - The sand collected from the mining using Tipper- HEMM combination and by the beach wash collection is transported to mini separation plant at the site and the upgraded mineral sand is transported to the stockyard of the Mineral separation plant located at Chavara which is at a distance of 18 km from the project site.
 - The families residing in the ML area are ready to vacate provided they are given suitable compensation. The R & R scheme has been formulated after tripartite discussion between district administration, affected people and project authorities. The scheme has been approved by district authorities.
 - As a measure of coastal protection, constructing a groyene field of 4 nos. over a length of 700 meters in the southern end of the lease area.
 - In this project there is no scope for development of green belt as the it is proposed to return back the land to owners after mining. However, coconut plantation will be setup in the refilled land before giving it back to the land owners.
 - Another positive outcome of the proposed activity is that the mining out of sand and separation of HM concentrates eventually contributes to a reduction in the overall level of radiation in the environment which is a relief to the inhabitants in the area.
 - Post project monitoring system will be setup, which will ensure that the mitigation measures planned by way of environmental protection, function effectively during the entire period of mining and reclamation. These include (1) Meteorological Observatory (2) periodic topography survey (3) Measures for coastal protection & it's monitoring (4) Water resource management (5) Socio economic development (6) Green belt development (7) Occupational health and biological monitoring (8) Radiation exposure monitoring (9) Organizational set up and staff requirement for post project monitoring .In addition to this a separate environmental monitoring committee (EMC) is recommended comprising senior officers, external experts and representative of the Alappad, Panmana panchayat to ensure implementation of recommendations as per the EMP.
- (x) The total cost of the project will be Rs. 15 crores including an amount of Rs.180.50 lakhs will be required for post project monitoring initially which include capital and recurring expenditure. The recurring expenditure will be about Rs.131.50 lakh /year.
- (xi) Kerala Coastal Zone Management Authority has recommended the above proposal for clearance vide their letter No. 2424/A1/2019/KCZMA, dated 15.07.2019.

2. The Committee in the said 229th meeting had desired for the following information /documents for its examination before the proposal is recommended for clearance from CRZ perspective:

- i) *An updated report by a reputed agency like NCESS, based on atleast one season data of erosion and accretion upto 5 km upstream and downstream of the project site and beach nourishment strategy after mining in inter-tidal and non-intertidal CRZ areas.*
- ii) *A sound mitigation measures for control of erosion arising due to mining along the beaches shall be framed.*

3. On submission of the above, the matter was again placed for reconsideration. The Committee noted that the report submitted by the NCESS observed continued erosion in the study areas and stated that a preliminary study carried out based on data collected for a short duration of one month during March, 2019 is not sufficient to arrive at a recommended mining quantity on a long term basis. The Committee also noted that NCESS in its letter dated 20.02.2020 had stated that a detailed study which includes field observations and site specific hydro dynamic data covering at least one erosion- accretion cycle is essential for arriving at sustainable mining volumes.

4. *The Committee decided that the information re-submitted by the project proponent is still not sufficient to examine the impact of the proposed mining of heavy minerals and at NK Block IV (Panmana and Karunagapally) and make appropriate recommendations thereof. The Committee therefore decided that as suggested in the last meeting held on 27.01.2020, a detail report by a reputed agency like NCESS, based on atleast one season data of erosion and accretion upto 5 km upstream and downstream of the project site and beach nourishment strategy after mining in inter-tidal and non-intertidal CRZ areas, supplemented by a sound mitigation measures for control of erosion arising due to mining along the beaches shall be framed and submitted early for making appropriate recommendation. Accordingly, the proposal was deferred for reconsideration at a later stage.*

3.6 Proposal for setting up SWRO Desalination Plant of 60 MLD Capacity at Kuthiraimozhi Village, Kadaladi Taluk, District Ramanathapuram by M/s Tamil Nadu Water and Drainage Board - CRZ Clearance - reg.
[IA/TN/CRZ/134194/2019] [F.No.11-7/2020-IA.III]

The proposal of M/s Tamil Nadu Water and Drainage Board was earlier considered in the 231st meeting held on 26.02.2020, wherein, the project proponent made a presentation and had provided the following information to the Committee:

- (i) The project proposal is for setting up of a 60 MLD SWRO Desalination Plant at Kuthiraimozhi village, in Kadaladi Taluk, in Ramanathapuram district of Tamil Nadu.
- (ii) The project site is located at Latitude 09°07'28.35" N and Longitude: 78°26'30.77" E.
- (iii) The proposed location of desalination plant is in CRZ-III. The intake and outfall points traverses through CRZ-III, CRZ-1B, CRZ- IVA.
- (iv) Total brine of 94.52 MLD will be generated.
- (v) Sea water will be drawn from sea by gravity piping system. The intake flow is 154.8 MLD and the system is designed for 180.24MLD (Demand 70MLD), 10% additional capacity considering biological growth. Hence intake pipe shall be designed for flow of 199.364 MLD. Intake and outfall details are given in table below:

Intake flow	154.8 MLD
Backwash & sludge in DMF	10.836 MLD
Feed to UF system	143.964 MLD
UF Filtrate	132.447 MLD
UF Losses	11.517 MLD
RO Feed	132.447 MLD
RO permeate	60.926 MLD
RO permeate per train	20.31MLD
Brine Outfall Rate	94.52 MLD

- (vi) The intake flow will be 154.8 MLD and the system is designed for 180.24 MLD (Demand 70 MLD). 10% additional capacity considering biological growth. Hence intake pipe will be designed for flow of 199.364MLD.
- (vii) The intake conduit will be a 1500 mm (internal diameter) pipe and sea water will be drawn at 2700 m from the shore.
- (viii) The intake conduit will have a SS screen of 100mm. The screen will be of 3.9m diameter, 1.5m high starting above seafloor, 6.3 m depth of water. The Screen velocity is of 0.14 m/s.
- (ix) The distance between the intake and outfall point will be 1200 m.
- (x) The total estimated power requirement will be 234 MW. The power supply arrangement for the desalination plant is based on provision of one number 110 kV feeder from a substation available nearby to be procured and operated by TANGEDCO. The major area for power demand is R.O treatment plant.
- (xi) During construction phase about 18 kg/day (40%) organic solid waste and 27 kg/day (60%) inorganic solid waste will be generated.
- (xii) During operational phase about 11.2 kg/day (40%) organic solid waste and 16.8 kg/day (60 %) inorganic solid waste will be generated.
- (xiii) The employment likely to be generated during construction phase will be about 100 Nos and operation phase will be 63 persons.
- (xiv) The total cost of the project is about Rs. 670 cr.
- (xv) The Tamil Nadu Coastal Zone Management Authority has recommended the above proposal for clearance vide their letter No. 80/EC.3/2017-1, dated 10th January, 2017.

2. The Committee in the said 231st meeting had noted that the proposed project site is within the eco-sensitive zone of Gulf of Mannar Marine National Park and at approximately only about 25 m away from its boundary. The Committee had therefore desired to understand the compelling reason for location of the site at such a sensitive area and decided that the location should be shifted elsewhere. The Committee had also noted that the justification cited by the project proponent on financial arrangement, approval of the state government etc. and therefore the need to set up the plant here itself was unacceptable. The Committee had observed that fishermen are dependent on the Gulf of Mannar for their livelihood and the release of brine certainly will impact not only on fish catch but also the reefs, seaweeds, seagrass and the overall ecosystem of the area.

3. The Committee had also noted that no detail marine EIA study have been carried out and the EIA report submitted carries no information on the impact due to the proposed project on the marine ecosystem including flora, fauna and coral reefs etc. The Committee further noted that the project did not have brine dispersion model result which is important to understand the fate and dispersion of the brine discharge from the desalination plant.

4. The Committee had further taken note that another proposal of a desalination plant by M/s Tamil Nadu Water and Drainage Board (*Item No.3.2*) of 60 MLD is proposed at Alanthalai, the site of which seem fine. The Committee, therefore, suggested that M/s Tamil Nadu Water and Drainage Board may explore the possibility of scaling up the capacity of the desalination plant at Alanthalai for 120 MLD such that the water demand at for the intended recipients can be met by the scaled up plant at Alanthalai. Alternatively, the Committee suggested that in case the project proponent desires to retain this site, the project proponent shall explore the possibility of 100% reuse of the brine water by giving it to authorized salt-pan agencies instead of discharging into sea or setting up of a salt industry/allied facilities which can consume all brine generated.

5. Finally, the Committee in the said 231st meeting had decided that the proposal is premature for appraisal in its present form and decided as follows:

- i) The proposed project site shall be shifted elsewhere, at an appropriate distance away from the Gulf of Mannar Marine National Park followed by studies as mentioned below submitted. Alternatively, the project proponent shall explore the possibility of 100% reuse of the brine water by giving it to authorized salt-pan agencies instead of discharging into sea or setting up of a salt industry/allied facilities which can consume all brine generated in case the project proponent desires to retain the same site.
- ii) A detailed Marine EIA report including data on the existing marine flora and fauna, of water quality and likely impact on marine ecosystem downstream of the discharge point shall be submitted.
- iii) Brine dispersion model studies for the proposed outfall location shall be submitted.
- iv) Appropriate financial allocation as per the Office Memorandum issued by the Ministry, dated 01.05.2018, on CER, for activities to be undertaken under CER shall be earmarked and detailed plan of action shall be submitted.

Accordingly, the proposal was deferred in the 231st meeting held in February, 2020 for reconsideration at a later stage once the above information/documents/actions are submitted.

6. On submission of the above documents, the matter was again placed for reconsideration. The Committee was informed that instead of Conventional Sea Water Reverse Osmosis Plant, Counter Flow Reverse Osmosis (CFRO) Plant is now proposed. In CFRO Plant the recovery rate will be 64% as against 45% for conventional Plant. Hence the quantum of Brine will be reduced. (98.42 MLD will be reduced to 42 MLD). Use of chemicals reduced. Concentration of brine will be enriched from 65000 mg/l to 94000 mg/l. which will be aid for manufacturing salt at lesser cost.

7. The Committee noted that the revised proposal requires intake flow of 139 MLD instead of 154.8 MLD. The Committee also noted that the intake and brine disposal point has been shifted away from Eco Sensitive Area and revised locations are as under: -

	Latitude	Longitude
Site location	09 ⁰ 07' 8.27" N	78 ⁰ 25' 28.73" E
Intake location	09 ⁰ 06' 13.01" N	78 ⁰ 25' 25.53" E
Outfall location	09 ⁰ 06' 22" N	78 ⁰ 25' 11" E

8. The Committee was informed that the proposal has been revised and now it is proposed to create a series of artificial lagoons filled with brine from the desalination plant and

accordingly drastically reduce the brine disposal to the sea. It was stated that these artificial lagoons are proposed for 1m shallow depth to collect the brine from the desalination plant and the surplus flow is proposed to be utilized either by Tamil Nadu Salt Corporation Limited where the Government of Tamil Nadu is having more than 1250 acres of Salt Pans and producing 150000 Tons/year of salt or it will be used by the Private Salt pan owners at Periasamy Puram 10 km nearer to the proposed Desalination plant. It was stated that brine discharge will reduce from 94.52 MLD to 42 MLD with the new technology proposed. It was further stated that the brine discharge into the sea will be only for two months when the salt pans are non-operational and for the remaining 10 months it will be stored in the lagoons or other applications.

9. The Committee appreciated the project proponent for coming out with good model with reduced brine discharge by way of creating artificial lagoons using the brine, which will help as foraging grounds for migratory birds. *The Committee however desired that the project proponent shall explore the possibility of zero brine discharge from the desalination plant and develop a model strategy / technology for the same. The Committee also decided that the project proponent shall develop the plant as a model plant for others to follow suit.*

10. Based on the deliberations held and information provided the Committee recommended the project for CRZ clearance subject to the following conditions:

- i) The project proponent shall develop the plant as a model plant for brine disposal and as an example for others to follow suit.
- ii) No groundwater shall be extracted to meet with the water requirements during the construction and/or operation phase of the project.
- iii) No excavated material during the construction shall be dumped in water bodies or adjacent areas.
- iv) The project proponent shall ensure that the temporary structures installed for laying of pipe lines are removed within one months of accomplishment of the work.
- v) As committed, drinking water for nearby villages shall be supplied as part of its CSR activities.
- vi) The project proponent shall explore the possibility for Zero brine discharge from the desalination plant and develop a model strategy / technology for the same. Compliance to this shall be ensured within a period not exceeding two years after the plant is fully operational.
- vii) Committee advised to take assistance of BNHS, who has vast experience in the subject for developing the suitable bird habitat within salt pans and artificial lagoons and monitor it for five years to make a systematic documentation of bird fauna using this setup so that it can be replicated in other Desalination units across country.
- viii) Brine discharge to the sea during the two months the salt pans are non-operational shall not exceed 42 MLD.
- ix) Porous concrete blocks shall be utilised as anchorage as may be applicable as these promotes growth of artificial coral reefs within few years of its installation.
- x) As proposed by the project proponent, an amount of Rs.10.05 crores i.e @ 1.5% of project Cost shall be earmarked under Corporate Environment Responsibility (CER) for the activities to strengthen bird habitat and migratory bird conservation. The activities proposed under CER shall be restricted to the affected area around the project. The monitoring report shall be submitted to the regional office as a part of half yearly compliance report, and to the District Collector. It should be posted on the website of the project proponent.

3.7 Discussion on Development of 4400 MW Solar Power Park at Dholera Special Investment Region, near Gulf of Khambhat, in Ahmedabad District by Dholera Special Investment Regional Development Authority (DSIRDA)

[F.No.11-7/2019-IA.III]

The proposal for development of 4400 MW Solar Power Park at Dholera Special Investment Region, near Gulf of Khambhat, in Ahmedabad District was considered by the Expert Appraisal Committee (CRZ) in its 207th meeting held on 25th January, 2019.

2. The Committee in the aforesaid 207th meeting decided that the project can be considered for 1000 MW in the intertidal areas close of HTL that are lightly inundated. The Committee also decided that a site visit shall be undertaken by a Sub-Committee comprising of: (i) Dr. Deepak Apte, Chairman of the Committee; (ii) Dr. V.K. Jain, Member of the Committee; (iii) representative of the Ministry of Environment, Forest and Climate Change; and (iv) representative of Gujarat Ecology Commission. The Committee further desired for the following report of the studies viz. erosion modelling and study for the next 30 years' period, specific model in respect of sea level rise and risks and viability of the entire project capacity in this context; and impact on migratory birds.

3. The Ministry had accordingly accorded the CRZ clearance for phase –I (1000 MW) solar power park at Dholera special investment region vide its letter F.No. 11-7/2019-IA III dated 26th February, 2019.

4. The Government of Gujarat has now requested to grant approval for additional 3400 MW so that the initial bidding process for selection of solar park can be undertaken by Solar Energy Corporation of India (SECI), implementing agency of MNRE. The request was placed for consideration of the Committee.

5. *The Committee noted that the studies/reports desired by the Committee in its earlier meeting held on 25th January, 2019 are yet to be submitted and the recommendation made while agreeing to the 1000 MW was very explicit. The Committee also observed that not only has its earlier observations made in 207th Meeting held on 25.01.2019 fulfilled, the status of compliance of the specific recommendation made in the CRZ clearance letter dated 26.02.2019, some of which are applicable as on today viz. conditions nos. (i), (ii) and (vi), are also not available. The Committee therefore decided that it would be premature and would be perfunctory to proceed further and appraise/recommend inclusion of the remaining 3400 MW at this stage. The Committee therefore declined to consider the request furnished by the Gujarat Government and reiterated that upon receipt of the documents/ reports desired earlier and findings of the site visit of the Sub-Committee, further consideration for addition of remaining capacity (3400 MW) of Solar Power parks can be considered. Accordingly, the proposal was deferred for reconsideration at a later stage once the above information/documents/actions are submitted.*

3.8 Discussion on Water Villas Eco Tourism projects initiated under Island Development Agency by SPORTS / Lakshadweep Tourism Development Corporation Ltd - CRZ Clearance - reg.

The proposal for development of Water Villas Eco Tourism projects initiated under Island Development Agency by SPORTS / Lakshadweep Tourism Development Corporation

Ltd was considered by the Expert Appraisal Committee (CRZ) in its 231st meeting held on 26th February, 2020, wherein the Committee desired to undertake site visit during March 19-23, 2020 to Suheli and Kadmat Islands by a Sub-Committee comprising of Chairman, EAC Dr. Deepak Apte; Dr. V.K. Jain, Member (EAC); Shri Prabhakar Singh, Member (EAC) and representative of the Ministry.

2. In wake of the COVID-19 crisis and travel advisories by the Government of India, the site visit to Kadmat and Suheli Islands as decided in the 231st meeting held on 26.02.2020 could not be undertaken. The Committee decided that the site visits to Suheli and Kadmat Islands may be undertaken at the earliest once the restrictions are revoked by the Government of India. The Committee also deliberated about the representation against the water villa proposal received from the Village Dweep Panchayat of Minicoy Island. It was decided that the project proponent, the UT administration and forest department are requested to provide its written response.

4.0 Any other item with the permission of the Chair.

There being no agenda item left, the meeting ended with a vote of thanks to the Chair.
