



राष्ट्रीय स्वच्छ गंगा मिशन National Mission for Clean Ganga

F. No. T-12/2017-18/268/NMCG/Vol.II

Dated: 16th August 2019

To,

The Registrar,
National Green Tribunal (Principal Bench)
New Delhi – 110 001

Sub: Submission of written note on behalf of the National Mission for Clean Ganga (NMCG) as per the liberty granted by the Hon'ble National Green Tribunal vide order dated 07th August, 2019 in the matter of O.A. No. 200 of 2014- M.C. Mehta Vs Union of India & Ors.

Sir,

Please find enclosed herewith written note on behalf of NMCG as per the liberty granted by the Hon'ble National Green Tribunal vide order dated 07th August, 2019 in the matter of O.A. No. 200 of 2014- M.C. Mehta Vs Union of India & Ors. The same may kindly be placed before the Hon'ble Tribunal.

Encl.: As above

Yours faithfully,

(D. P. Mathuria) 16.8.2018

Executive Director (Technical)

एन.एम.सी.जी., (जल संसाधन, नदी विकास एवं गंगा संरक्षण मंत्रालय, भारत सरकार के अन्तर्गत निर्बंधित सोसायटी)

प्रथम तल, मेजर ध्यानचंद नेशनल स्टेडियम, इंडिया गेट, नई दिल्ली – 110024

NMCG, (A Registered Society under Ministry of Water Resources, River Development & Ganga Rejuvenation, Govt. of India)

First Floor, Major Dhyan Chand National Stadium, India Gate, New Delhi-110002

Ph : 011- 23072900, 23072901

Note on behalf of the National Mission for Clean Ganga as per the liberty granted by the Hon'ble National Green Tribunal vide order dated 07th August, 2019 in the matter of O.A. No. 200 of 2014 - M.C. Mehta Vs Union of India and others before the Hon'ble Tribunal.

1. That pursuant to the directions dated 29th May, 2019, issued by the Hon'ble Tribunal, the oral submissions were made by the respective parties and this Hon'ble Tribunal was further pleased to grant the liberty to the parties to submit a Written Note, if any, within one week.

2. That pursuant to the aforesaid liberty granted by this Hon'ble Tribunal, the present note is being submitted on behalf of the National Mission for Clean Ganga (NMCG).

3. That the present matter was earlier taken up for hearing on 29th May 2019 and the Hon'ble Tribunal was pleased to issue various directions to different parties in the matter for ensuring that the directions of this Hon'ble Tribunal dated 10.12.2015 and 13.7.2017 with regard to prevention and control of pollution in river Ganga are duly complied with.

4. That as per the order of the Hon'ble Tribunal dated 29th May 2019, compliances were mainly expected on the points mentioned below.

- i. Submission of action taken report in respect of progress on parameters of reduction of pollution load, improvement of water quality and further road

map and also identifying the persons accountable and stating the action taken for the past lapses

- ii. Report on status of demarcation of flood plains.
- iii. Report on status of implementation of Minimum Environment Flow in river Ganga up to Unnao
- iv. Report on status of 86 drains and sewerage projects (Haridwar d/s to Unnao in Uttar Pradesh)
- v. Report on status of sewerage infrastructure projects in Ganga basin (D/s of Unnao to Ganga Sagar)
- vi. Statement of the steps taken under the NMCG's Authority notification dated 07.10.2016

5. That with regard to point no. 4 (S No i), an **Action Taken Report** was submitted by the NMCG vide letter no. T-12/2017-18/268/NMCG/Vol.II dated 1st August, 2019 addressed to Registrar, National Green Tribunal (Principal Bench) and was e-mailed on 2nd August, 2019 at id rg.ngt@nic.in.

6. That with regard to the Flood Plain Zoning, to be identified by longitude and latitude, as was directed by this Hon'ble Tribunal to be identified by longitude and latitude, a report of the team on ground truth verification of the flood plain zoning was submitted along with the affidavit submitted by the NMCG on 5th August, 2019. The recommendations are contained in para 5 of the said report, enclosed as **Annexure-I** to the affidavit dated 05 August, 2019. Further that in terms of directions of NGT dated 13.7.2019, a Special Committee under Chairman, Central Water Commission had

submitted an interim report on demarcation of flood plains up to Unnao to Hon'ble NGT. It was suggested during the 4th meeting of Special Committee (attended by Justice Arun Tandon, Chairman of Monitoring Committee of NGT) that before finalization of the report, model results of report may further be verified on ground by the Government of Uttar Pradesh. Accordingly, a team of officials from Central Water Commission(CWC), National Institute of Hydrology (NIH), Ganga Flood Control Commission (GFCC), Irrigation & Water Resource Department of Uttar Pradesh and Irrigation department of Uttarakhand carried out field visit of the stretches in 3 phases (Phase-I- Haridwar to Bijnore barrage, phase-2- Kanpur to Kannauj, phase-3- Garhmukteshwar to Narora). The report of this Committee has now been submitted to the Special Committee for further refining the floodplain zone.

7. That with regard to Minimum Environment Flow, a Status report on the implementation of Minimum Environment Flows in river Ganga (up to Unnao) – July 2019, prepared by Central Water Commission, was submitted as **Annexure-II**, along with the affidavit dated 05th August, 2019 submitted by the NMCG. The conclusions are mentioned in para 7 of the said report. Most of the projects are regularly providing the flow data on hourly basis except Tehri, Bhimgoda and Kanpur Barrage. Data has also started coming from Kanpur Barrage and data from Tehri and Bhimgoda projects are being received regularly on daily basis. This is being closely monitored and the project authorities have been asked to provide data in desired format on regular basis. As per the data supplied by the project authorities, the following projects are not meeting the mandated e-flow requirement for most of the period:

a. Maneri Bhali, Phase 2

b. Vishnuprayag HEP

c. Srinagar HEP

Further, Maneri Bhali, Phase 1 and Pashulok Barrage are in partial compliance as on certain occasions, the outflows were below the mandated e-flow requirement.

8. That regarding tapping of drains and other remedial measures for prevention and control of pollution of river Ganga and its monitoring in Segment-B Phase-I (Haridwar d/s to Unnao in UP), it is submitted that there are 86 identified drains. The status of interventions for these 86 drains and summary of sewerage projects from Haridwar d/s to Unnao in UP was enclosed as **Annexure-III** to the affidavit dated 05 August 2019 submitted by the NMCG. The brief details are as under in Table I and II.

Table I

Details in respect of 86 drains

Total no. of drains	:	86
Drains tapped/work completed	:	20
Drains partially tapped/ work in progress	:	33
Untapped/work to be started	:	23
Untapped/land not available for STP	:	2
No tapping required (drains only to be monitored)	:	6
Untapped/project details not available	:	2

Table II

Details of 72 sewerage projects (Haridwar d/s to Unnao)

Projects	No. of Projects	Completed	Ongoing	Under Tendering
NMCG	18	5	7	6
AMRUT	4	2	1	1
Total	22	7	8	7

Status of sewerage infrastructure projects d/s of Unnao to Ganga Sagar as on 30.07.2019 are as under in **Table III**:

Table III

Status of Sewerage infrastructure projects (d/s Unnao to Gangasagar)

S.No.	State	Total No. of Projects	No. of Completed Projects	No. of Ongoing Projects	No. of Projects Under Tendering/ Tender under evaluation	Tender to be floated
1.	UP	23	10	8	5	-
2.	Bihar	28	-	19	8	1
3.	Jharkhand	2	1	1	-	-
4.	West Bengal	22	3	7	12	-

9. That a statement of the steps taken by the NMCG in pursuance to the authority notification dated 07.10.2016 has been given as **Annexure-V to the affidavit submitted by NMCG on 5th August, 2019**. In the said statement, the actionable points and the status of various actions taken thereon till June 2019 in pursuance to the provisions of the above notification have been given in brief. This explains the diverse sets of activities initiated for pollution abatement and river rejuvenation. The steps taken for execution of projects for prevention, control and abatement of pollution in river Ganga have been described which includes the industrial pollution. The directions issued to the polluting industries, monitoring of grossly polluting industries, common effluent treatment plants and other measures taken in areas such as such as Solid Waste Management, construction and renovation of ghats, improving amenities and sanitation at Ghats, activating District Ganga Committees and holding regular meetings, sensitizing the State Authorities for taking action for prevention, control and abatement of pollution have been mentioned.

10. That NMCG respectfully submits that on all the aforesaid issues, the compliance was reported to the Hon'ble Tribunal vide **Action Taken Report** submitted on 2 August, 2019 vide e-mail rg.ngt@nic.in and also through the affidavit dated 5th August 2019 filed by the NMCG.

11. That for the consideration of this Hon'ble Tribunal, a self contained Note is being submitted on the issues in the matter, as follows.

'*Namami Gange*' was taken up as an integrated Ganga Conservation Mission for Ganga and its tributaries with an integrated approach covering the pollution abatement aspects as well as steps for river rejuvenation. As far as pollution abatement is concerned, '*Namami Gange*' programme has taken up comprehensive interventions for tackling different sources of pollution for improvement of water quality. The mission was given status of a central sector scheme with an intention of providing adequate financial support to the states for expediting sanction and execution of required projects by avoiding delays on account of release of state share. Learning from past, due importance was also given for Operation and Maintenance of infrastructure being taken up and the mission introduced long-term (15-years) Operation and Maintenance of Sewerage Infrastructure as part of the project cost. A policy decision was taken at cabinet level in 2016 to introduce Hybrid Annuity Mode under PPP in Municipal waste water sector to further improve the sustainability of these interventions and develop performance based long term contracts. This was subsequently also combined with "*One-City-One-Operator*" approach in major cities for improving governance.

Several institutional measures were also been taken to streamline the processes and empower the agencies implementing the Ganga Rejuvenation program. These were taken with aim to streamline the processes for rationalizing and expediting the process of project preparation, sanction and implementation. Notification of National Mission for Clean Ganga as an Authority under Environment (Protection) Act, 1986 on 7th October, 2016 and developing response structure, for the first time up to the district level brought the long term perspective as well as a more comprehensive range of activities under *Namami Gange Programme*. An example of its impact on the

performance could be seen from the fact that the process of sanctioning of required sewerage projects could be taken up at a much rapid pace after this. In fact, regular meetings of the Executive Committee of NMCG has been conducted from March 2017 after getting some of the DPRs prepared and evaluated by reputed third party institutions including IITs, NITs etc. So far, 23 meetings have been conducted from March 2017 onwards, sanctioning various projects. As far as Sewerage infrastructure projects are concerned, a total of 74 projects at the cost of Rs. 14, 210 Crore have been sanctioned since March 2017 for creating treatment capacity of 2820 MLD and 918 Kms of sewer network as against the total 150 sewerage projects sanctioned for Rs. 23,131 crore. Hence, over last two and half years, substantial progress has been made.

The scaling up of the interventions for pollution abatement facilitated by much larger and assured budgetary support enabled this mission to take up sewerage projects along Ganga Towns and also important towns on tributaries. The **Table-IV** indicates the scaling up of efforts, much needed to overtake the pressure on river due to growing urbanization unlike in past where annual budget was not found adequate to plan at this comprehensive level. This has also helped in complying with the directions of Hon'ble tribunal in implementation of the action plans. The pace of project implementation has also been gathering momentum which could be seen from the trend of expenditure as given below in **Table-V**.

**Table IV: Statement showing Statewise Sewerage Infrastructure
Projects**

State	No. of Sewerage Projects prior to 2014	No. of Sewerage Projects after 2014 and upto July 2019	Total
Uttarakhand	10	24	34
UP	10	40	50
Bihar	1	27	28
Jharkhand	1	1	2
West Bengal	4	18	22
Delhi	0	11	11
Himachal Pradesh	0	1	1
Haryana	0	2	2
Total	26	124	150

Table V: Statement showing financial progress of National Mission for Clean Ganga

Year	Expenditure (Rs. In Cr)
2011-12	53.44
2012-13	135.25
2013-14	266.20
2014-15	170.99
2015-16	602.60
2016-17	1062.81
2017-18	1625.11
2018-19	2626.54
2019-20 (upto July)	762

12. The NMCG is continuously monitoring the projects through interaction with the State Governments and its concerned Authorities/ Agencies at the level of the Director General, NMCG and other senior officials. The review of the progress of the projects is also undertaken at the level of Secretary and the Hon'ble Minister of Jal Shakti with the Chief Secretaries and at the Ministerial level meetings with the State Governments. Monitoring of the compliances made is also reviewed in meetings taken by the Supervisory Committee under the Chairmanship of the Secretary, Department of Water Resource, River Development and Ganga Rejuvenation. The bottle necks and the difficulties in the implementation and execution of the projects are periodically sorted out. As a result of monitoring, the time involved in grounding the projects after its

sanction has reduced considerably as against average time involved in execution of infrastructure projects elsewhere in the country which varies between 30 to 36 months after signing of contract on an average.

As is known, the sewerage infrastructure projects involve construction of Sewage Treatment Plants (STP) for treatment of sewage and laying of conveyance system for carriage of municipal sewerage to the STP from the city. The conveyance system can comprise of either a sewer network or alternatively interception of drains and diversion of sewage to the STP. Under *Namami Gange Programme*, mostly interception and diversion schemes are being sanctioned on drains for conveyance of sewage as per the approved framework of the programme. This is with an intention to arrest the polluted flow to enter the river at the earliest. In addition, sewerage networks, which usually takes much longer time to implement on account of involvement of open as well as trenchless digging in narrow lanes, shifting/ relocation of utilities, permissions from authorities for cutting the road etc, have also been sanctioned for important towns like Prayagraj, Patna, Kanpur, part of Varanasi, Garh, Anupshahar, Narora, Kannauj, Rampur etc.

13. Under the *Namami Gange programme*, the projects are being conceptualized, sanctioned, tendered and implemented through different stages. Attempt has been made by NMCG to do hand holding of state and executing agencies at different stages by close interaction, developing and sharing model templates and standard guidelines etc.

- i. **Planning:** The main objective is to prevent untreated wastewater of drains from joining the river by intercepting the drains that have outfalls in the Ganga, divert them through sewers to STPs for treatment and allow only treated sewage to be discharged into the river Ganga. To achieve this, identification of the main towns and drains discharging the wastewater to River Ganga was carried out by NMCG. Thereafter, Condition Assessment and Feasibility studies have been carried out to analyze the sewage treatment gap in major Ganga towns. The quantity of sewage gap along with the characteristic and pollution load was also assessed. Average time involved in completing this exercise varied up to 6 months.
- ii. **Preparation of DPR:** DPR is prepared by the Executing Agencies for projects in these towns to define the scope of work and its estimated cost. NMCG has been hand holding the State's Executing Agencies for preparation of DPRs and also issued guidelines to ensure uniformity in approach and also optimize the time involved in DPR preparation. Training and workshops were also organized for capacity building.
- iii. **Sanction of Projects:** The projects are sanctioned by NMCG for implementation either under DBOT Mode or HAM PPP Mode by State Executing Agency viz., Uttarakhand Pey Jal Nigam, UP Jal Nigam, Bihar Urban Infrastructure Development Corporation (BUIDCo), Jharkhand Urban Infrastructure Development Corporation JUIDCo, Kolkatta Municipal Development Authority (KMDA), Kolkata Municipal Corporation (KMC). Project sanction, in terms of Authorities notification involves techno-economic review of DPRs using technical expertise of NMCG, its Project management Consultants

and independent Third Party Appraising (TPA) agency which usually consisted of IITs, NITs, CSIR institutes etc. Preparation of DPR is an important exercise which is city and site specific involving detailed survey, drain-flow assessment, working out the need for pumping, pollution load assessment, and design of different components based upon the raw sewage quantity, treated effluent quality, condition assessment of existing assets and cost estimation etc. Typically 6 to 8 months time is involved for DPR finalization and project sanction.

Upto July'2017, 81 sewerage projects were sanctioned out of which 14 projects were completed, 36 projects were under progress and 31 were under tendering. From July'2017 to-date NMCG has sanctioned 69 sewerage infrastructure projects for creating an additional sewage treatment capacity of 2574 MLD. Thus a total of 150 sewerage infrastructure projects have been sanctioned till date to create/ rehabilitate 4844.31 MLD sewage treatment capacities at a cost of Rs. 23,131 Crore along Ganga and its tributaries.

- iv. **Procurement:** After Sanctioning of the project, the State executing agency prepares the Bid Document for the project. The projects are tendered for implementation under DBOT or HAM-PPP mode in terms of approved *Namami Gange programme*. NMCG has been hand holding the State executing agencies in preparation and review of the Bid Documents. NMCG has issued "**Model Bidding Document**" for preparation of Bid Document. In case of HAM project, NMCG has been supporting with appointment of transaction advisors who develop bid document, Concessionaire Agreement and provides professional assistance till signing of Concessionaire Agreements. NMCG regularly monitors

the tendering process with the view to reduce the delay in awarding of contract after the sanction of the project. Specific advisories have also been issued to State authorities from Ministry of Jal Shakti and NMCG for reducing delay and expediting decision on tenders. In certain cases, for undue delay and deviations in bid documents, action on defaulting officials has also been recommended.

The time involved beyond issue of tenders and signing of contract varies up to 4-5 months in case of DBOT mode of implementation depending upon response received against the bid notice. This period is more in cases of HAM-PPP mode of implementation. The increase in time to start work under HAM projects, however, is compensated by better controls during the execution as all the requisite permissions are obtained prior to declaration of start dates and leads to considerable overall saving in completion time of project. The increased time is because the prospective Concessionaire has to ensure financial closure before the Concessionaire Agreement is signed and effective dates for start of works, after meeting condition precedents and obtaining all NOCs, is announced. It is relevant to mention that the HAM-PPP based project implementation mode has been taken up under *Namami Gange Programme* for the first time in waste water treatment sector. Therefore, NMCG has also organized 4 Investor Conference for the prospective developers to appreciate the concept and generate confidence building with the prospective developers and to operationalize the HAM-mode concept in the execution of projects.

- v. **Implementation and commissioning of the project:** The implementation of infrastructure sewerage projects usually takes approximately 24-30 months

depending upon scope of work. However, in sewer network projects, the implementation duration is longer going beyond 36 months. Project Engineers have also been provided for by NMCG in case of HAM projects.

14. That due to certain difficulties in projects such as non -availability of land, time taken in finalization of tenders, inability of Concessionaire to execute the project after award leading to re-bidding and shift in the funding process of the projects from DBOT to HAM-PPP mode, there has been delay in some of the projects. Gradually the contractors and the Executing Agencies have realized the benefits of the HAM funding process and as such the projects execution have taken more traction. It is also submitted that there was no specific directions from Hon'ble tribunal for timelines in the execution of the Action Plan for phase II, III and IV. NMCG, however, has continued to assist the State governments to identify, conceptualize and sanction the required projects in these phases also. These projects are under implementation or tendering process as brought out in para 8 above.

15. That it is submitted that as a result of review of the projects, there has been substantial improvement in the progress of completion of projects. The improvement in the water quality have also shown encouraging results which reflect that the execution of projects has started showing results. That it is submitted for consideration of this Hon'ble Tribunal that NMCG shall continue to coordinate and monitor pending projects. The NMCG further undertake that project wise monitoring, scrutiny shall be undertaken to ascertain whether the delay is attributable to any Agency or person and appropriate steps will be taken in this regard.

16. Strategy for industrial effluent management is to support construction of common effluent treatment plants – major project being 20 MLD CETP at Jajmau for tannery cluster; improvement of process technology of the industry and strict enforcement of discharge norms by engaging third party agencies and closely regulating them through different methods including introduction of online effluent quality monitoring system.

17. This Mission is not limiting its efforts to only pollution abatement measures but is taking an integrated approach for river rejuvenation. Steps have also been taken towards improvement of flow (Aviral Dhara) and also enhancing people-river connects by improving riverfronts in terms of approach, amenities and better sanitation.

18. As an important step towards the objective of Aviral Dhara (quantity of water), **E-flow** has been notified for river Ganga – starting from all the head streams of river Ganga up to Haridwar in Uttarakhand and from Haridwar to Unnao in Uttar Pradesh. A mechanism for monitoring of e-flow regime has also been put in place with the help of Central Water Commission, who are inspecting individual hydroelectric projects and barrages and submitting quarterly reports to NMCG.

19. **Wetland conservation:** Wetland conservation is an integral component of 'Namami Gange'. NMCG has, accordingly, been interacting with experts and stakeholders such as: State Wetland Conservation Authorities, Wetland Division of MoEF&CC and Wetland International India. Recently, a project has been taken up based on the proposal from U.P. Wetland Authority for development of detailed briefs and integrated management plans for 101 wetlands situated in 27 Ganga districts in

U.P. up to 5 Kms. on either side of river. Other State wetland conservation authorities have also been asked to take necessary action.

Urban Wetlands: With the help of School of Planning & Architecture, New Delhi a model toolkit is under development for integrated management and rejuvenation of urban wetlands with the case study of Bhagalpur. This is also being coordinated with the Urban Development Departments of States.

20. **Afforestation and Biodiversity Conservation:** Scientific afforestation has been taken up by getting prepared a model DPR through Forest Research Institute, Dehradun – which emphasizes plantation of native species systematically by focusing upon natural river scape, agri-river scape and urban river scape. Plantation programme has been taken up with the help of State Forest Departments and attempt is also being made to engage other stakeholders and making it a peoples' programme. This initiative under *Namami Gange Programme* has been duly recognized and the Ministry of Environment, Forests and Climate Change has asked the Indian Council of Forest Research and Education to prepare DPR for rejuvenation of Major rivers in the country through forestry intervention. Medicinal plants are also being taken up through Ministry of AYUSH as well as directly by NMCG through States. Biodiversity Conservation has been taken up through Wildlife Institute of India with scientific baseline preparation, species and habitat improvement measures and developing community engagement through Ganga Praharis.

21. **Rejuvenation of Springs and Water bodies:** Survey of India, Dehradun have been requested to take up mapping of the springs in Uttarakhand for taking up rejuvenation programme with the help of Central Groundwater Board and State authorities. Rejuvenation of water bodies is an important part of improving the flow of river Ganga. All District Ganga Committees have been requested to take up Inventorisation and rejuvenation of traditional water bodies.

22. **Waste Water Reuse:** The reuse and recycling of waste water is also an important component of Ganga River Basin Management Plan as well as 'Namami Gange' mission. Several initiatives have been taken up through encouraging projects for use of treated waste water from STPs for industrial use (Mathura Refinery), use in thermal power stations, railways and also for agriculture and horticulture. Some specific examples are:-

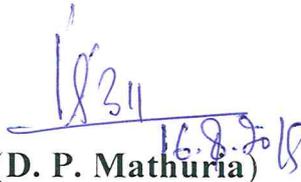
a) Reuse and recycling of waste water has been promoted in industrial units along river Ganga.:

- Zero black liquor discharge achieved in paper and pulp industries. Estimated reduction in the fresh water consumption and effluent generation are about 45-50% as compared to 2012.
- Zero liquid discharge achieved in molasses based distillery.
- Effluent generation reduced from 400 to 200 litres per tonne of cane crushed

b) Further, in collaboration with various Ministries/ organizations reuse of treated waste water from the Sewerage Treatment Plants is being promoted.

- 20 MLD waste water from Mathura STP is being utilized by Mathura Refinery.
- Ministry of Power has notified a tariff policy wherein treated waste water from STPs located within 50km radius shall be utilised by Power Plants for non-potable purposes.
- Treated waste water from STPs is also being encouraged to be utilised for irrigation. State of Bihar is drafting a policy for reuse of waste water from STPs for irrigation.

23. **Ganga Gram and Sustainable Agriculture:** Through Department of Drinking Water and sanitation, the 4465 villages along Ganga have been made ODF and now the work on solid & liquid waste management, afforestation, organic farming etc. are also being encouraged in these villages. Sustainable agriculture is crucial for Ganga Rejuvenation as maximum abstraction of water from river takes place for agriculture which has low water use efficiency. Similarly, agricultural runoff is also a non-point source of pollution. Hence, improving water-use Efficiency as well as promotion of organic farming along Ganga is being taken as priority along with the Ministry of Agriculture and Farmers' Welfare.


(D. P. Mathuria)

Executive Director - Technical
National Mission for Clean Ganga