BEFORE THE NATIONAL GREEN TRIBUNAL

PRINCIPAL BENCH, NEW DELHI

ORIGINAL APPLICATION No. 426 OF 2018

IN THE MATTER OF:

Mohammed Nayeem Pasha & Anr .... Applicant(s)

Versus

The State of Telangana & Ors .... Respondent(s)

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Place: **Hyderabad**

Date: **15-09-2020.**

REPORT OF THE TELANGANA STATE POLLUTION CONTROL BOARD (R4) IN COMPLIANCE OF THE ORDER DATED 22-06-2020 IN ORIGINAL APPLICATION No. 426 OF 2018 FILED BY MOHD. NAYEEM PASHA & ANOTHER.

It is to submit that the Hon'ble NGT vide Order dated 22.06.2020 has directed the State of Telangana to submit a compliance report on the steps taken for treatment of untreated sewage joining the River Musi.

The Hyderabad Metropolitan Water Supply and Sewerage Board (HMWS&SB) vide letter dated 10.09.2020 **(Annexure-I)** submitted status report of STPs operational in and around River Musi and Action Taken on suggestions made by CPCB.

Further, the Hyderabad Metropolitan Development Authority (HMDA) vide letter dated 31.08.2020 **(Annexure-II)** submitted compliance report for enhancement of existing treatment capacity of STPs presently under the control of HMDA namely

a. Augmentation of 5 MLD STP at Rangadhamuni Lake.
b. Augmentation of 20 MLD STP at Khairtabad.
c. Augmentation of 30 MLD STP at KIMS Hospital.

I. Compliance status on the suggestions made by CPCB in its status report dated 28.06.2019 filed before Hon'ble NGT:

The point wise actions initiated on the suggestions of CPCB furnished by the HMWS&SB and HMDA are submitted as follows: -

1. HMWSSB & HMDA shall enhance the existing treatment capacity to treat the 100% of sewage generated in the city.

HMWS&SB informed as follows: -

- HMWSSB has engaged M/s Shah Technical Consultants, Mumbai for preparation of Comprehensive Sewerage Master Plan. As per the Master Plan submitted by the consultants the total sewage generated upto ORR for the year 2018 is about 1782 MLD and projected sewage generation for the prospective year 2036 is 2815 MLD. The present installed treatment capacity of existing STPs is 772 MLD. As per CSMP, it is proposed 62 Nos of STPs with a capacity of 2057 MLD for 2036 requirement.

- Out of 62 STPs of CSMP, the prioritized 31 STPs proposals are formulated into three packages under HAM Model and submitted to the Government, vide Lr.No.211 & 212 dated 19.08.2020 as below.

i) It is proposed to take up 8 STPs with a capacity of 402.5MLD at an estimate cost of Rs.1230.21 Crores including O&M for 15 years as Package-1.

ii) It is proposed to take up 6 STPs with a capacity of 480.5MLD at an estimate cost of Rs.1355.13 Crores including O&M for 15 years as Package-2.

iii) It is proposed to take up 17 STPs with a capacity of 376.5MLD at an estimate cost of Rs.1280.87 Crores including O&M for 15 years as Package-3.

- Approval received from the Government for construction of 17 STPs with a capacity of 376.5 MLD at a cost of Rs. 1280.87 Crores including O&M for 15 years, under Hussain Sagar Lake Catchment. The tenders will be invited in September-2020 with a construction period of 2 years.

HMWSSB informed that approval received from the Government of Telangana vide GO Rt. No. 374 dt: 11.09.2020 for construction of 17 STPs with a capacity of 376.5 MLD. A copy of the GO Rt No. 374 is enclosed as **Annexure-III**. The total cost of the project including O&M is 1280.87 Crores. The detailed project report along with site locations are ready. It is proposed on Hybrid Annuity Mode (HAM) model wherein 40% of the cost is to be borne by the State Government and the balance will be met by the concessionaire agency. The administrative sanction towards the 40% of Government share i.e., 512.35 crores to be provided in two years i.e., Rs.256.175 Crores each from Hyderabad Urban Agglomeration budget.

HMDA has informed that they have initiated the following measures for enhancement of the existing treatment capacity of the STPs presently under control of HMDA to treat 100% of the sewage generated. The augmentation details are as under

a. Augmentation of 5 MLD at Rangadhamini Lake:

- As per the Technical report 5 MLD can be augmented to 10 MLD capacities with additional tertiary treatment facility treatment of 10 MLD Ultra Filtration.
- Few additional constructions required for intake system like pumping stations.
- The said capacity increase can be done using the existing civil structures for major components like aeration system by using MBBR technology.
- Construction of 10 MLD Ultra Filtration to be added .
- The proposed technology is proven and implemented across INDIA to meet the CPCB guidelines/existing Discharge parameters.

- M/s Aquatech has proposed the complete project on Hybrid Annuity model (HAM) for implementation of the total project along with 15-20 yrs of O&M.

b. Augmentation of 20 MLD at Khairtabad:

- As per the Technical report 20 MLD can be augmented to 40 MLD capacities with additional tertiary treatment facility treatment of 20 MLD Ultra Filtration.
- Few additional constructions required for intake system like pumping stations.
- The said capacity increase can be done using the existing civil structures for major components like aeration system by using MBBR technology.
- Construction of additional treatment of 20 MLD Ultra Filtration to be added to the existing CMF unit.
- The proposed technology is proven and implemented across INDIA to meet the CPCB guidelines/existing Discharge parameters.
- M/s Aquatech has proposed the complete project on Hybrid Annuity model (HAM) for implementation of the total project along with 15-20 yrs of O&M.

c. Augmentation of 30 MLD at KIMS Hospital:

- As per the Technical report 30 MLD can be augmented to 60 MLD capacities with additional tertiary treatment facility treatment of 60 MLD Ultra Filtration.
- Few additional constructions required for intake system like pumping stations.
- The said capacity increase can be done using the existing civil structures for major components like aeration system by using MBBR technology.
- Construction of 60 MLD Ultra Filtration units to be added.
- The proposed technology is proven and implemented across INDIA to meet the CPCB gridlines/existing Discharge parameters.
- M/s Aquatech has proposed the complete project on Hybrid Annuity model (HAM) for implementation of the total project along with 15-20 yrs of O&M.

2. HMWSSB & HMDA shall prepare an time bound action plan for collection and treatment of 100% sewage generated in the city.

HMWS&SB informed as follows:-

- The jurisdiction of HMWSSB comprises of Core city which has 90 % Sewerage network and with an area 172.92 Sq.Kms, Peripheral circle with in GHMC administrative area of 483 SqKms has around 50% - 60% of Sewerage network. The extended area beyond GHMC boundary and within ORR(service area of HMWSSB) with an area of 795 Sq.Kms is not totally

developed it comprises of 190 villages and 6 Municipal bodies. This area has almost negligible sewerage network.

- To develop the 100% sewer collection system, the Sewer Network Project for collection, diversion and conveyance of sewage flows to the proposed STPs as per the Sewerage Master Plan covering the peripheral circles & core city are formulated in four packages for a total length of 2676.15 Km at a cost of Rs.4783.78 Crores. Accordingly, the Sewer Network Project proposals are submitted to the Government for sanction, as below.

  1. **Package-1:** Sewer Network Project for Uppal, Kapra, Malkajgiri, Alwal & Serilingampally Circles of total 759.41 Km length at a cost of Rs.1271.80 Cr.

  2. **Package-2:** Sewer Network Project for Rajendranagar & L.B.Nagar Circles of total 643.86 Km length at a cost of Rs.1219.99 Cr.

  3. **Package-3:** Sewer Network Project for Kukatpally & Quthubullapur Circles of total 832.51 Km length at a cost of Rs.1231.04 Cr.

  4. **Package-4:** Sewer Network Project for Core City (Zone-I to VI and Cantonment) of total 444.23 Km length at a cost of Rs.1060.95 Cr.

3. Seventeen STPs shall obtain consent for operation from Telangana State Pollution Control Board (TSPCB)

HMWS&SB informed that, out of 20 STPs, being maintained by HMWSSB, 4 STPs already have CFO for operation. For 5 STPs CFO will be obtained in September-2020. Balance CFOs will be obtained in October 2020.

4. All STPs should ensure 100% treatment of designed capacity and operated scientifically to ensure compliance to discharge norms.

HMWS&SB informed as follows:-

- HMWSSB is maintaining 20 STPs with a capacity of 714 MLD, which is being operated with full capacity with a variation of 5% during maintenance of the units or power breakdowns.

- The maintenance of all the STPs is entrusted to single MoM agency through tender process for a period of 5 years with a view to ensure maintenance of the STPs professionally with technically qualified personnel.

- HMWSSB has engaged the services of Environment Protection Training and Research Institute (EPTRI), a Government organization as 3rd party for evaluation of effluent parameters.

- Further the effluent samples are also evaluated by TSPCB and HMWSSB officials every quarter at all the STPs. A Third Party consultant was engaged for performance evaluation of all STPs.

5. All STPs should install flow measuring devices at inlet and outlet and maintain the log records.

HMWS&SB informed that proposals are prepared for Supply, Installation and Maintenance of Flow measuring devices for all the STPs. Tenders will be invited and the installation of flow meters will be completed by end of Nov'2020.

6. All STPs should install OCEMS in compliance to NGT order in the matter O.A.No.593 of 2017 Paryavarn Suraksha Samiti Vs. Uol.

HMWS&SB informed that proposals are prepared for Supply, Installation and Maintenance of OCEMS systems for all the STPs. Tenders will be invited and the installation of OCEMS will be completed by end of Nov'2020.

7. HMWSSB shall prepare action plan for utilization of treated sewage and utilize the treated sewage to the maximum extent instead of discharging into River Musi.

HMWS&SB informed as follows: -

- HMWSSB at present is supplying treated waste water to Gardens being maintained by Forest Department and Shilparamam.

- The treated waste water from STP at Khairatabad is being supplied to Raj Bhavan through a pipe line for the purpose of gardening.

- Request are received from Golf Course at Boulder Hills for supply of 200 KLD of treated waste water from Nankramguda STP for which pipe line will be laid with the funds deposited by them.

- Dr.Reddy Labs have also establishing an RO Plant of 400 KLD capacity at Khajakunta STP for utilization of treated waste water in their plants.

- HMWSSB has engaged a consultant for identification of potential users / bulk consumers for reuse of treated waste water from STPs in Hyderabad

Urban Agglomeration (HUA) area. The consultant will conduct demand survey for use of treated waste water by construction industry, Industries, Horticulture Dept., GHMC and HMDA for their uses. It is also proposed to make it mandatory for use of treated waste water for non-consumptive purposes by the above users.

8. Most of the STPs are operated by untrained officials. HMWSSB shall ensure capacity building programmes to all STP operators on scientific operation and maintenance of STPs.

HMWS&SB informed that the maintenances of the STPs is entrusted to exclusive Circles and Divisions headed by Chief General Managers(Engg.) and General Managers(Engg.) and assisted by DGM(E)s and Managers(E) who are qualified Engineers. Further, they are being given training in STP operations and also capacity building from time to time. Further the operators of the STPs are also given the training on scientific maintenance of the STPs.

9. Telangana State Pollution Control Board shall ensure the compliance of all STPs to operate with valid consents, installation of OCEMs and utilization of treated sewage."

HMWS&SB informed that out of 20 STPs, being maintained by HMWSSB, 4 STPs already have CFO for operation. HMWS&SB informed that for 5 STPs, CFO will be obtained in September-2020. Balance CFOs will be obtained in October 2020.

HMWS&SB informed that, the supply and fixing of OCEMS will be completed by the end of November-2020. Regarding utilization of treated waste water HMWSSB is perusing with various organization and bulk users to utilize the treated waste water in lieu of bore water / protected water for non-domestic purposes. A Consultant is appointed for conducting demand survey and identification of potential users of treated waste water.

The status of functioning of STPs are monitored on monthly basis by the Telangana State Pollution Control Board and the STPs are complying the standards. The copy of the analysis results are placed as **Annexure-IV**.

II. **Status on the directions at para 7 of Hon'ble NGT Order dated 29.11.2019 (uploaded on 06.12.2019) in OA No. 673/2018:**

The HMWS&SB informed that the Government has approved the project for construction of 17 STPs with a capacity of 376.5 MLD including O&M of 15

years, at an estimated cost of 1280.87 Crores in the 1st phase. Tenders will be invited in September-2020 and will be completed in 2 years period. Construction of the balance 14 STPs with a capacity of 883 MLD will be taken up in 2nd phase which are under sanction at Government level.

HMWSSB further informed that they have taken up feacal sludge treatment plants and other interim measures to reduce the pollution loads on water bodies.

a. **Phyto remediation:** Work order was issued to M/s.NEERI, Hyderabad for preparation of DPR for in-situ remediation of drains leading to River Musi. The proposal for Rs.528.30 Crores for taking up in-situ remediation of 1174 MLD sewage at Rs.45 Lakh per MLD. 27 drains are identified on River Musi. NEERI has submitted DPR for one drain i.e., Kokapet drain, for which phyto remediation work has already started. Preparation of DPR for the balance 4 drains is in progress by NEERI and it will be completed in 3 months.

b. **Fecal Sludge Treatment as interim measure (FST):** In peripheral areas of the city where there are no STPs and sewerage coverage, to prevent water pollution, Fecal Sludge Treatment is taken up. The septage from households is carried through septic tanks and brought to FSSM and FST Plants and treated there to reduce BOD of septage. So far, 85 Septic Tanks are enlisted and with this treatment the Fecal sludge that would eventually end up in water pollution gets treated, the septic tank workers are provided training for co-treatment and also safety measures. They are provided with safety equipment for desludging of septage.

Co-Treatment (at Existing STPs): The HMWSSB has informed that they have taken up Fecal Sludge and Septage Management (FSSM) and so far constructed 6 co-treatment facilities at the existing STPs for treatment of Fecal Sludge with a capacity of 60 KLD. So far, 22 million liters of septage has been treated at these co-treatment facilities, thereby preventing the pollution of lakes to that extent. 4 more co-treatment facilities with a capacity of 70 KLD are in progress which will be completed in 4 months.

Fecal Sludge Treatment Plant (FSTP) (at proposed STPs): HMWSSB has informed that they have taken up construction of 1 standalone FSTP of 40 KLD capacity at the site of one proposed STP, which is under construction and will be completed within 3 months. 5 more FSTPs will be taken up and will be completed in another 5 months. With these FSTPs, septage in areas where there are no STPs will get treated to lake water standards.

It is to submit that Government of Telangana vide GO Rt No. 374 dt: 11.09.2020, accorded administrative sanction towards the 40% of Government share i.e., 512.35 crores against an estimate of Rs. 1280.87 Crores for construction of 17 STPs with a capacity of 376.5 MLD on Hybrid Annuity Mode (HAM).

HMWSSB has taken up other interim measures, which include phyto remediation, FSTP and others to reduce the BOD load are under implementation. To ensure the 100% utilization efficiency the maintenance of all the STPs is entrusted to single MoM agency through tender process for a period of 5 years with a view to ensure maintenance of the STPs professionally with technically qualified personnel.

Sd/-
MEMBER SECRETARY
TELANGANA STATE POLLUTION CONTROL BOARD
HYDERABAD.

// T.C.F.B.O //

K Reddy

SENIOR ENVIRONMENTAL ENGINEER
LEGAL, TSPCB, HEAD OFFICE, HYD.

ANNEXURE-I (9)

M.Dana Kishore, IAS,
Managing Director

www.hyderabadwater.gov.in
Metro Customer Care Tel: 155313

Hyderabad Metropolitan Water Supply and Sewerage Board
1st Floor, "Administrative Building"
Khairatabad, Hyderabad-500 004, Telangana, INDIA.
Tel: Off:+91-40-23442844/66512000
Fax +91-40-23442855

Lr.No:HMWSSB/MD/NGT OA No.426/STPs-ATR/2020-21/ 247 dt:10-09-2020

To
The Member Secretary,
T.S.Pollution Control Board,
A-3, Paryavaran Bhavan, Sanath Nagar Rd,
Sanath Nagar Industrial Estate,
Sanath Nagar, Hyderabad, Telangana 500018

MEMBER SECRETARY
11 SEP 2020
T.S.P.C.B. HYD.

Madam,

Sub: HMWSSB - Hon'ble NGT O.A.No.426/2018 dated 06.12.2019 – Status Report of Sewerage Treatment Plants (STPs) operational in and around River Musi – Action Taken by HMWSSB on the suggestions made by CPCB – Submission of report - Reg.

Ref:
1. Hon'ble NGT Order Dated:06.12.2019 in O.A.No.426/2018 filed by Sri.Mohd Nayeem Pasha and another.
2. Hon'ble NGT Order Dated:22.06.2020 in O.A.No.426/2018, uploaded on 29.06.2020
3. DO Lr.No.18/NGT-New Delhi/TSPCB/Legal/2018-300, dt: 07.09.2020 from Member Secretary, TSPCB to MD, HMWSSB.

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With reference to the subject and DO letter 3rd cited, the action taken report on suggestions made by Hon'ble NGT with reference to Status of Sewerage Treatment Plants (STPs) operation in and around River Musi with point wise replies to the suggestions made is as below.

1. *HMWSSB & HMDA shall enhance the existing treatment capacity to treat the 100% of sewage generated in the city.*

HMWSSB has engaged M/s Shah Technical Consultants, Mumbai for preparation of Comprehensive Sewerage Master Plan. As per the Master Plan submitted by the consultants the total sewage generated upto ORR for the year 2018 is about 1782 MLD and projected sewage generation for the prospective year 2036 is 2815 MLD. The present installed treatment capacity of existing STPs is 772 MLD. As per CSMP, it is proposed 62 Nos of STPs with a capacity of 2057 MLD for 2036 requirement.

Out of 62 STPs, the prioritized 31 STPs proposals are formulated into three packages under HAM Model and submitted to the Government, vide Lr.No.211 & 212 dated:19.08.2020 as below.

i) It is proposed to take up 8 STPs with a capacity of 402.5MLD at an estimate cost of Rs.1230.21 Crores including O&M for 15 years as Package-1.
ii) It is proposed to take up 6 STPs with a capacity of 480.5MLD at an estimate cost of Rs.1355.13 Crores including O&M for 15 years as Package-2.
iii) It is proposed to take up 17 STPs with a capacity of 376.5MLD at an estimate cost of Rs.1280.87 Crores including O&M for 15 years as Package-3.

Approval received from the Government for construction of 17 STPs with a capacity of 376.5 MLD at a cost of Rs. 1280.87 Crores including O&M for 15 years, under Hussain Sagar Lake Catchment. The tenders will be invited in September-2020 with a construction period of 2 years.

2. *HMWSSB & HMDA shall prepare an time bound action plan for collection and treatment of 100% sewage generated in the city.*

The jurisdiction of HMWSSB comprises of Core city which has 90 % Sewerage network and with an area 172.92 Sq.Kms, Peripheral circle with in GHMC administrative area of 483 SqKms has around 50% - 60% of Sewerage network. The extended area beyond GHMC boundary and within ORR(service area of HMWSSB) with an area of 795 Sq.Kms is not totally developed it comprises of 190 villages and 6 Municipal bodies. This area has almost negligible sewerage network.

To develop the 100% sewer collection system, the Sewer Network Project for collection, diversion and conveyance of sewage flows to the proposed STPs as per the Sewerage Master Plan covering the peripheral circles & core city are formulated in four packages for a total length of 2676.15 Km at a cost of Rs.4783.78 Crores. Accordingly, the Sewer Network Project proposals are submitted to the Government for sanction, as below.

1. Package-1: Sewer Network Project for Uppal, Kapra, Malkajgiri, Alwal & Serilingampally Circles of total 759.41 Km length at a cost of Rs.1271.80 Cr.
2. Package-2: Sewer Network Project for Rajendranagar & L.B.Nagar Circles of total 643.86 Km length at a cost of Rs.1219.99 Cr.
3. Package-3: Sewer Network Project for Kukatpally & Quthubullapur Circles of total 832.51 Km length at a cost of Rs.1231.04 Cr.
4. Package-4: Sewer Network Project for Core City (Zone-I to VI and Cantonment) of total 444.23 Km length at a cost of Rs.1060.95 Cr.

3. *Seventeen STPs shall obtain consent for operation from Telangana State Pollution Control Board(TSPCB)*

Out of 20 STPs, being maintained by HMWSSB, 4 STPs already have CFO for operation. For 5 STPs CFO will be obtained in September-2020. Balance CFOs will be obtained in October 2020.

4. *All STPs should ensure 100% treatment of designed capacity and operated scientifically to ensure compliance to discharge norms.*

HMWSSB is maintaining 20 STPs with a capacity of 714 MLD, which is being operated with full capacity with a variation of 5% during maintenance of the units or power breakdowns. The maintenance of all the STPs is entrusted to single MoM agency through tender process for a period of 5 years with a view to ensure maintenance of the STPs professionally with technically qualified personnel. HMWSSB has engaged the services of EPTRI, a Government organization as 3rd party for evaluation of effluent parameters. Further the effluent samples are also evaluated by TSPCB and HMWSSB officials every quarter at all the STPs. A Third Party consultant was engaged for performance evaluation of all STPs.

5. *All STPs should install flow measuring devices at inlet and outlet and maintain the log records.*

Proposals are prepared for Supply, Installation and Maintenance of Flow measuring devices for all the STPs. Tenders will be invited and the installation of flow meters will be completed by end of Nov'2020.

6. *All STPs should install OCEMS in compliance to NGT order in the matter O.A.No.593 of 2017 Paryavarn Suraksha Samiti Vs. UoI.*

   Proposals are prepared for Supply, Installation and Maintenance of OCEMS systems for all the STPs. Tenders will be invited and the installation of OCEMS will be completed by end of Nov'2020.

7. *HMWSSB shall prepare action plan for utilization of treated sewage and utilize the treated sewage to the maximum extent instead of discharging into River Musi.*

   HMWSSB at present is supplying treated waste water to Gardens being maintained by Forest Department and Shilparamam. The treated waste water from STP at Khairatabad is being supplied to Raj Bhavan through a pipe line for the purpose of gardening. Request received from Golf Course at Boulder Hills for supply of 200 KLD of treated waste water from Nankramguda STP for which pipe line will be laid with the funds deposited by them. Further, Dr.Reddy Labs have also establishing an RO Plant of 400 KLD capacity at Khajakunta STP for utilization of treated waste water in their plants.

   HMWSSB has engaged a consultant for identification of potential users / bulk consumers for reuse of treated waste water from STPs in Hyderabad Urban Agglomeration (HUA) area. The consultant will conduct demand survey for use of treated waste water by construction industry, Industries, Horticulture Dept., GHMC and HMDA for their uses. It is also proposed to make it mandatory for use of treated waste water for non-consumptive purposes by the above users.

8. *Most if the STPs are operated by untrained officials. HMWSSB shall ensure capacity building programmes to all STP operators on scientific operation and maintenance of STPs.*

   The maintenances of the STPs is entrusted to exclusive Circles and Divisions headed by Chief General Managers(Engg.) and General Managers(Engg.) and assisted by DGM(E)s and Managers(E) who are qualified Engineers. Further, they are being given training in STP operations and also capacity building from time to time. Further the operators of the STPs are also given the training on scientific maintenance of the STPs.

9. *Telangana State Pollution Control Board shall ensure the compliance of all STPs to operate with valid consents, installation of OCEMs and utilization of treated sewage."*

   Out of 20 STPs, being maintained by HMWSSB, 4 STPs already have CFO for operation. Payment fee for CFO of 5 STPs is received from TSPCB and it will be paid by end of September-2020. Intimation of payment fee for the balance STPs is to be received from TSPCB and it will be paid by the end of October-2020. With regard to OCEMS the supply and fixing will be completed by the end of November-2020. Regarding utilization of treated waste water HMWSSB is perusing with various organization and bulk users to utilize the treated waste water in lieu of bore water / protected water for non domestic purposes. A consultant is appointed for conducting demand survey and identification of potential users of treated waste water.

Further with regard to the compliance report on directions of para (7) of Hon'ble NGT Order in O.A No.673/2018 dated: 29.11.2019 (uploaded on 06.12.2019), it is to submit that the Government has approved the project for construction of 17 STPs with a capacity of 376.5MLD including O&M of 15 years, at an estimated cost of 1280.87 Crores in the 1st phase. Tenders will be invited in September-2020 and will be completed in 2 years period.

Construction of the balance 14 STPs with a capacity of 883 MLD will be taken up in 2nd phase which are under sanction at Government level. HMWSSB has taken up feacal sludge treatment plants in a big way, as informed in the status report, to reduce the pollution loads on water bodies as an interim measure till completion of the STPs.

As Phase-1 proposals are in tender stage and Phase-2 proposals are with Government for sanction and as an interim measure FSTPs are taken up to reduce pollution loads, we may request the Hon'ble NGT not to impose the penalties.

Yours faithfully,

10/9/20

Managing Director
H.M.W.S. & S.B.

(13)

HYDERABAD METROPOLITAN WATER SUPPLY AND SEWERGE BOARD

Hon'ble NGT orders in O.A.No.673/2018 - Abatement of Pollution in the 351 polluted river stretches identified by CPCB

Status as on August -2020

Sl. No.	Achievement / progress of HMWSSB	Remarks
1	Total No of STPs proposed as per CSMP are 62 Nos for a capacity of 2057 MLD and proposals for 31 STPs for a capacity of 1259.50 MLD submitted to Government at a cost of Rs.3866.21 Cr seeking administrative sanction. Project implementation proposed under HAM model contracts. The chronology of STP proposals submitted by HMWSSB is as below. **Upto 30th June'2020:** **Musi & Nakkavagu stretches pertains to HMWSSB:** HMWSSB / MAUD has submitted the pre-feasibility reports of sewerage master plan costing Rs.15,884 Crores to NMCG / NRCD, GOI during Jan'2020. Further, 5 detailed project reports (DPRs) for priority segments at a cost of Rs.4237 crores were also submitted to the NMCG / NRCD, Ministry of Jal Shakti, GOI for financial assistance and technical appraisal was made during Feb'2020. The NMCG / NRCD, GOI during appraisal advised to take-up the 5 DPRs proposals under Hybrid Annuity Mode (HAM) contract for implementation with 60% investment by the agency and 40% by State Govt. / ULB. The cost of 5 DPRs is Rs.4237 Crores and the bidders investment at 60% will be Rs.2542.20 Crores and Government share at 40% will be Rs.1694.80 Crores. Administrative approval sought for 5 DPRs at a cost of 4237 Cr during Mar'2020. Further, during review meetings it was proposed to address the sewerage system in the peripheral circles as the developments are enormously increased and urgent need to create the sewerage system along with STPs. The proposal submitted by M/s.Shah Technical Consultants, Mumbai are revised as per Comprehensive Sewerage Master Plan and revised DPRs are being formulated for STPs and Sewer Network for the GHMC area and beyond upto ORR. Accordingly, the consultants have proposed 31 STPs in GHMC area and 31 STPs in ORR area totaling 62 STPs at a capacity of 2057.50 MLD. **1st July'2020 to till date:** Subsequently, as per Government level review meetings during July'2020, HMWSSB resubmitted the proposals to the Government to construct 31 STPs at a capacity of 1259 MLD to cover all the lakes within the GHMC in 3 packages at a cost of Rs.3866.21 Cr in Aug'2020. The Project Financing to the projects at Government level is under finalization. The project period for implementation is 2 years for commissioning of STPs. **Nakkavagu Catchment:** In the Nakkavagu Catchment, consultants have proposed 12 STPs at a capacity of 367.50MLD. Out of which, 2 STPs of 27 MLD capacity are falling within the GHMC area for which proposals are submitted to the Government in Aug'2020. The proposals for the balance 10 STPs of 340.50 MLD Capacity are under submission to the Government.	The STPs will be completed in 2 years period after administrative sanction with required funding and award of works.
2	As per Comprehensive Sewerage Master Plan (CSMP) submitted by M/s.Shah Technical Consultatns, Mumbai, the sewage generation is projected for Hyderabad Urban Agglomeration (HUA) upto ORR limits for year 2021 – 1950 MLD, for 2036 – 2815 MLD and for 2051 – 3716 MLD. The capacity of existing 25 STPs is 772 MLD as against the present	----

Sl. No.	Achievement / progress of HMWSSB	Remarks
	sewage flows of 1850 MLD which accounts to 42% of treatment. For bridging the gap, STPs proposals are submitted for sanction as stated supra. As an interim measure, HMWSSB is adopting Fecal Sludge Treatment (FSTP) with co-treatment at existing STPs and stand alone FSTPs. Further, HMWSSB has awarded in-stitu remediation work at the drains of the Lakes to NEERI.	
3	HMWSSB has engaged agency for MoM of STPs under HMWSSB for a period of 5 years with two STP Circles and 4 STP Divisions. The performance of STPs is being monitored on monthly basis by EPTRI and TSPCB. In addition to in house Quality Control Wing, a Third Party agency has been engaged for performance evaluation of STPs.	----
4	**Fecal Sludge Treatment as interim measure (FST):** In peripheral areas of the city where there are no STPs and sewerage coverage, to prevent lake pollution and in order to implement directions of Hon'ble NGT, Fecal Sludge Treatment is taken up to prevent pollution of lakes. The septage from households is carried through septic tanks and brought to FSSM and FST Plants and treated there to reduce BOD of septage. So far, 85 Septic Tanks are enlisted and with this treatment the Fecal sludge that would eventually end up in lake pollution gets treated, the septic tank workers are provided training for co-treatment and also safety measures. They are provided with safety equipment for desludging of septage. **Co-Treatment (at Existing STPs)**: The HMWSSB has taken up Fecal Sludge and Septage Management (FSSM) and so far constructed 6 co-treatment facilities at the existing STPs for treatment of Fecal Sludge with a capacity of 60 KLD. So far, 22 million liters of septage has been treated at these co-treatment facilities, thereby preventing the pollution of lakes to that extent. 4 more co-treatment facilities with a capacity of 70 KLD are in progress which will be completed in 4 months. **Fecal Sludge Treatment Plant (FSTP) (at proposed STPs):** HMWSSB has taken up construction of 1 standalone FSTP of 40 KLD capacity at the site of one proposed STP, which is under construction and will be completed within 3 months. 5 more FSTPs will be taken up and will be completed in another 5 months. With these FSTPs, septage in areas where there are no STPs will get treated to lake water standards.	----
5	As per Comprehensive Sewerage Master Plan (CSMP) submitted by M/s.Shah Technical Consultants, Mumbai, the sewage generation is projected for Hyderabad Urban Agglomeration (HUA) upto ORR limits for year 2021 – 1950 MLD, for 2036 – 2815 MLD and for 2051 – 3716 MLD. The capacity of existing 25 STPs is 772 MLD as against the present sewage flows of 1850 MLD which accounts to 42% of treatment. The STPs are proposed for prospective year 2036 and sewer network is proposed for ultimate year 2051. HMWSSB has proposed 62 STPs with a capacity of 2057.50 MLD for the sewage flows of year 2036 duly retaining existing STPs capacity. Regarding 25 existing STPs performance, it is to report that, 3 STPs are maintained by HMDA, 2 STPs are maintained by GHMC and 20 STPs under HMWSSB. Out of this 20 STPs, 2 STPs are under trial run and remaining 18 STPs are fully functional and monthly monitored by EPTRI and TSPCB. As per inventorisation of STPs in Telangana prepared by TSPCB in May'2020 it was mentioned that out of 23 STPs, 2 STPs are in maintenance; they are STP at Pragathinagar and STP at Krishnakanth Park being which are being maintained by GHMC. The STPs under HMWSSB are fully functional & in operation. Further to report that,	----

Sl. No.	Achievement / progress of HMWSSB	Remarks
	HMWSSB is in the process of installing OCEMS for all STPs and also installation of flow meters both at inlet and outlets of STPs. This will be completed in 3 months period.	
6	**Musi & Nakkavagu stretches pertains to HMWSSB:** As per Government level review meetings during July'2020, HMWSSB resubmitted the proposals to the Government to construct 31 STPs at a capacity of 1259 MLD to cover all the lakes within the GHMC in 3 packages at a cost of Rs.3866.21 Cr in Aug'2020. The Project Financing to the projects at Government level is under finalization. The project period for implementation is 2 years for commissioning of STPs. **Nakkavagu Catchment**: In the Nakkavagu Catchment, consultants have proposed 12 STPs at a capacity of 367.50MLD. Out of which, 2 STPs of 27 MLD capacity are falling within the GHMC area for which proposals are submitted to the Government in Aug'2020. The proposals for the balance 10 STPs of 340.50 MLD Capacity are under submission to the Government.	----
7	In order to prevent sewage pollution through Nalas in the core area of Hyderabad, HMWSSB has developed 18 I&Ds on 16 Nalas under NRCD Phase-I during 2004-08. Due to rapid urbanization and city expansion upto ORR i.e Hyderabad Urban Agglomeration (HUA), the additional sewage flows are flows through nalas into river Musi. In this regard, HMWSSB has prepared the Sewerage Master Plan and is in the process of implementing the proposals in phase wise.	----
8	It is proposed to take up 31 STPs with a capacity of 1259.50 MLD at an estimated cost of Rs.3866.21 Crores including O&M for 15 years. The proposed STP locations and capacities are; Ambar Cheruvu, Pragathi Nagar–37 MLD, Chinna Maisamma Cheruvu–14.5 MLD, Nalla Cheruvu, Kukatpally–15.0 MLD, Khajakunta–22MLD, Yellammakunta Lake, Jaya Nagar–13.5 MLD, Fathe Nagar–100 MLD, Vennelagadda–5 MLD, Gayatri Nagar, Chintal–5 MLD, Fox Sagar Lake–14 MLD, Shivalaya Nagar Cheruvu–14 MLD, Pariki Cheruvu, Kandri Gutta–28 MLD, Miyapur Patel Cheruvu–7 MLD, Gangaram Cheruvu–20 MLD, Mullakathuva Cheruvu–33.5 MLD, Kamuni Cheruvu–20 MLD, Durgam Cheruvu–7 MLD, Khajaguda–21 MLD, New Alwal Lake-15.5 MLD, R K Puram Lake, Mukkiddi Cheruvu–5.5 MLD, Banda Cheruvu–15 MLD, Rama Cheruvu – 30 MLD, Kapra Lake–20 MLD, Peddacheruvu–17.5 MLD, Amberpet–212.5 MLD, Nallacheruvu–86.5 MLD, Miralam-I–11.5MLD, Miralam-II–30 MLD, Kokapet–15 MLD, Bapughat STP at Attapur–48 MLD, Ibrahim Cheruvu–56MLD, Nagole–320 MLD. The project proposals are submitted to the Government and under process of sanction under various modes of financing at Government level.	Government has approved project for Construction of 17 STPs with a capacity of 376.5 MLD including 15 years O&M at a cost of Rs.1280.87Crores in 1st phase, the 17 STPs are as below: Ambar Cheruvu, Pragathi Nagar–37 MLD, Chinna Maisamma Cheruvu–14.5 MLD, Nalla Cheruvu, Kukatpally–15.0 MLD, Khajakunta–22MLD, Yellammakunta Lake, Jaya Nagar–13.5 MLD, Fathe Nagar–100 MLD, Vennelagadda–5 MLD, Gayatri Nagar, Chintal–5 MLD, Fox Sagar Lake–14 MLD, Shivalaya Nagar Cheruvu–14 MLD, Pariki Cheruvu, Kandri Gutta–28 MLD, Miyapur Patel Cheruvu–7 MLD, Gangaram Cheruvu–20 MLD, Mullakathuva Cheruvu–33.5 MLD, Kamuni Cheruvu–20 MLD, Durgam Cheruvu–7 MLD, Khajaguda–21 MLD,

ANNEXURE – NGT OA No.673 of 2018 –Priority-I & Priority-II River Stretches Pertaining to HMWSSB

Sl. No	Name of the HOD	NGT OA Number & Date	Observation/ Orders of the NGT (Point Wise)	Status of the issue (Point Wise)	Remarks
1.	MD, HMWSSB	NGT OA No.673 of 2018 Dt:29.11.2019 (Uploaded on 06.12.2019)	Priority –I: River Musi Priority –II: Nakkavagu **Directions:** 1. 100 % treatment of sewage with atleast to the extent of In-situ remediation of the drains which are pollution the river stretches & commencement of setting up of STPs by 31.03.2020 *If this is not done, States are liable to pay a compensation of Rs.5 Lakhs per month per drain for default in In-situ remediation and Rs.5 Lakhs per STP for default in commencement of setting up of STP.* 2. 100% treatment of sewage may be ensured and completion of setting up STPs and their commissioning by 31.03.2021 . *In case of default, compensation will be liable to be paid at Rs.10 Lakhs per month per STP as NGT order cited above.*	1. In respect of interim measure of 100% sewage treatment by In-Situ Bio-Remediation at nalas, as per NEERI report, 7 drains from the GHMC area are joining river Musi causing pollution for which, HMWSSB requested the NEERI to submit the DPRs for implementation. Accordingly, NEERI has submitted one DPR for one drain on 16.03.2020 for which work order was issued by HMWSSB at Kokapet. However, further work could not be taken up by NEERI due to Lockdown situation. The immediate funds required for providing 5 MLD plants at 7 drains by NEERI is Rs.15.75 Crores, to be sanctioned by the State Government. Based on budget estimate of NEERI, the Government was requested to provide budget for 100% In-situ Remediation of treatment of sewage (about 1174 MLD flowing through 185 drains to water bodies amounting Rs.528.30 Crores at Rs.45 Lakhs per MLD (HMWSSB's request letter dt:11.3.2020). 2. **Setting up of STPs & its commissioning** **Musi (DPR-1 to 4) & Nakkavagu Stretch (DPR-5):** **DPR-1** for setting up of STPs on North of Musi (354 MLD) with conveying mains at cost of Rs.995 Cr. **DPR-2** for setting up of STPs Project for South of Musi (381.5 MLD) with conveying mains at a cost of Rs.995 Cr. **DPR-3** for setting up of STPs Project for H.S. Lake (Kukatpally) (257 MLD) with conveying mains at a cost of Rs.963 Cr. **DPR-4** for setting up of STPs Project for H.S.Lake (Jeedimetla) (66 MLD) with conveying mains at a cost of Rs.297 Cr. **DPR-5** for setting up of STPs Project for Nakkavagu catchment (River Manjira) (262 MLD) with conveying mains at a cost of Rs.987 Cr. Five (5) DPRs estimated to cost Rs.4237 Crores as above were prepared and submitted to NMCG / NRCD, MoJ, GoI seeking funding under NRCD Programs. A detailed technical presentation was made on 27.02.2020 at NRCD, GoI, and the proposals are further being vetted by GOI Level. The approval from NRCD, GoI is awaited.	1. The Government was requested to provide budget and to accord administrative sanction for implementation. 2. The Government was appraised on the subject matter and requested to accord administrative sanction to the STP proposals of 5 DPRs and also to provide funds from the earmarked budget of Rs.10,000 Cr of Hyderabad Urban Agglomeration Development Funds (vide letters dated: 12.03.2020 & 17.03.2020)

Note: Status as on August-2020 is enclosed as Annexure

16

ANNEXURE-II

17

hmda
Growing Global

HYDERABAD METROPOLITAN DEVELOPMENT AUTHORITY
OFFICE OF THE CHIEF ENGINEER, HMDA
7th Floor, Swarnajayanthi Complex, Ameerpet, Hyderabad-500038

Lr. No. 14097/HMDA/DEV/CE/2018 — Date: 31-08-2020

To
The Member Secretary,
Telangana State Pollution Control Board,
Paryavarana Bhavan,
A-3, Industrial Estate,
Sanathnagar,
Hyderabad-500018.

04 SEP 2020 3918

Sir,

Sub: National Green Tribunal, New Delhi – O.A No. 426 of 2018 filed by Mohd Nayeem Pasha and another – Order dated. 22-06-2020 – Submission of Compliance Report – Reg.

Ref:
1. Govt.Memo No. 9468/UBS/2018, dated. 07-01-2020 and 24-02-2020.
2. From Member Secretary, TSPCB Lr.No. 18/NGT-NEWDELHI/TSPCB/LEGAL/2018-167, dt. 06-07-2020
3. From Member Secretary, TSPCB Lr.No. 1023/TSPCB/LAB/Musi River/2020-451, dt. 16-07-2020
4. Govt. Memo No. 9468/UBS/2018, dt. 28-07-2020
5. Joint Secretary to Government, MA&UD (UBS) Dept., Lr.No. 9468/UBS/2018, dt. 13-08-2020.

*****

Adverting to the reference 2nd cited, it is to inform that in compliance to the orders of the Hon'ble NGT in O.A.No. 426 of 2018, dt. 22-06-2020, the following measures have been initiated for enhancement of the existing treatment capacity of the STPs presently under control of HMDA to treat the 100% of the sewage generated. The augmentation details are as under

1. **Augmentation of 5 MLD at Rangadhamini Lake:**
   - As per the Technical report 5 MLD can be augmented to 10 MLD capacities with additional tertiary treatment facility treatment of 10 MLD Ultra Filtration.
   - Few additional constructions required for intake system like pumping stations.
   - The said capacity increase can be done using the existing civil structures for major components like aeration system by using MBBR technology.
   - Construction of 10 MLD Ultra Filtration to be added .

- The proposed technology is proven and implemented across INDIA to meet the CPCB guidelines/existing Discharge parameters.
- M/s Aquatech has proposed the complete project on Hybrid Annuity model (HAM) for implementation of the total project along with 15-20 yrs of O&M.

2. **Augmentation of 20 MLD at Khairtabad:**
   - As per the Technical report 20 MLD can be augmented to 40 MLD capacities with additional tertiary treatment facility treatment of 20 MLD Ultra Filtration.
   - Few additional constructions required for intake system like pumping stations.
   - The said capacity increase can be done using the existing civil structures for major components like aeration system by using MBBR technology.
   - Construction of additional treatment of 20 MLD Ultra Filtration to be added to the existing CMF unit.
   - The proposed technology is proven and implemented across INDIA to meet the CPCB guidelines/existing Discharge parameters.
   - M/s Aquatech has proposed the complete project on Hybrid Annuity model (HAM) for implementation of the total project along with 15-20 yrs of O&M.

3. **Augmentation of 30 MLD at KIMS Hospital:**
   - As per the Technical report 30 MLD can be augmented to 60 MLD capacities with additional tertiary treatment facility treatment of 60 MLD Ultra Filtration.
   - Few additional constructions required for intake system like pumping stations.
   - The said capacity increase can be done using the existing civil structures for major components like aeration system by using MBBR technology.
   - Construction of 60 MLD Ultra Filtration units to be added.
   - The proposed technology is proven and implemented across INDIA to meet the CPCB gridlines/existing Discharge parameters.
   - M/s Aquatech has proposed the complete project on Hybrid Annuity model (HAM) for implementation of the total project along with 15-20 yrs of O&M.

This is for information and further necessary action in the matter.

Yours faithfully,

Chief Engineer,
HMDA.

Copy to the Joint Secretary to the Government, MA&UD Department, T.S Secretariat, Hyderabad with reference to Letter dt. 13-08-2020.

ANNEXURE-III

(19)

GOVERNMENT OF TELANGANA
ABSTRACT

Municipal Administration & Urban Development Department - Hyderabad Metropolitan Water Supply and Sewerage Board - Construction of (17) STPs along River Musi and at Kukatpally Nala Catchment (Hussain Sagar Lake catchment) under Sewerage Improvement Project of Sewerage Master Plan of Hyderabad Urban Agglomeration - Administrative Sanction for an amount of Rs.512.87 Crores for two years i.e. Rs.256.175 Crores each year - Orders - Issued.

MUNICIPAL ADMINISTRATION & URBAN DEVELOPMENT (ENGG.) DEPARTMENT

G.O.Rt. No.374 **Dated: 11.09.2020**

Read:

From the M.D., HMWS&SB, Hyderabad, Lr.No.HMWSSB/MD/STPs-Project/AS/2020-21/dated: 22.08.2020

* * *

ORDER:

In the reference read above the Managing Director, HMWSSB, Hyderabad has submitted a proposal for construction of 17 STPs with a total capacity of 376.5 MLD which will address the issue of pollution from catchment area of Hussain Sagar effectively on a permanent basis. The Total cost of this project including O&M is Rs.1280.87 Crores. The Detailed Project Report along with site locations are ready. It is proposed on HAM model, wherein 40% of the cost is to be borne by the State Government and the balance will be met by the concessionaire agency. The 40% of Government share i.e., Rs.512.35 crores is to be provided in two years i.e. Rs.256.175 Crores each in 1st and 2nd year respectively.

2. After careful examination of the matter Government hereby accords administrative approval for construction of 17 STPs in the catchment nalas of Hussain Sagar, under HAM mode of Contract, along with concurrence to meet the 40% of Government share coming to Rs. 512.35 Crores which is to be provided in two years i.e. Rs. 256.175 Crores each from Hyderabad Urban Agglomeration budget.

3. The Managing Director, Hyderabad Metropolitan Water Supply and Sewerage Board, Hyderabad shall take further action accordingly.

(BY ORDER AND IN THE NAME OF THE GOVERNOR OF TELANGANA)

ARVIND KUMAR
PRINCIPAL SECRETARY TO GOVERNMENT

To
The Managing Director, Hyderabad Metropolitan Water Supply and Sewerage Board, Hyderabad.

Copy to:
The Prl. Secretary to Hon'ble C.M.
OSD to Hon'ble M(MA&UD).
P.S. to Principal Finance Secretary, Finance Department.
P.S. to Prl. Secretary to Govt., MA&UD Dept.,
P.A. to Secretary to Government, MA&UD.
The Finance (DCM) Dept.
SF/SC.

//FORWARDED :: BY ORDER//

SECTION OFFICER

Annexure – IV (A)

Annual Average (monthly) Analysis results of the STPs operated in River Musi Catchment area for the Year 2019

S.No	Parameters	STP Capacity	pH	EC	TSS	TDS	DO	COD	BOD	T.Coli	F.Coli	Compliance status
Standards discharge into Inland surface waters			5.5-9.0	-	100	-	-	250	30	-	-	
1	**Amberpet – STP**	**339 MLD**	7.51	1250	15	772	4.3	80	19	529	53	Within the stipulated standards
2	**Nagole - STP**	**172 MLD**	7.54	1183	12	735	4.3	68	16	552	29	Within the stipulated standards
3	**Nalla Cheruvu - STP**	**30 MLD**	7.70	1449	18	904	4.3	74	23	525	29	
4	**Miralam Tank – STP**	**15 MLD**	7.41	1141	14	724	3.9	66	15	378	13	Within the stipulated standards
5	**Kharitabad – STP**	**20 MLD**	7.40	1203	16	728	3.2	59	14	482	16	Within the stipulated standards
6	**KIMS - STP** (Picket)	**30 MLD**	7.46	1524	17	952	4.1	87	17	462	17	Within the stipulated standards
7	**Nacharam – STP** (Pedda Cheruvu)	**10 MLD**	7.80	1213	13	752	4	50	13	280	26	Within the stipulated standards
8	**Durgam Cheruvu - STP**	**5 MLD**	7.38	1424	19	896	4.0	80	23	411	22	Within the stipulated standards
9	**Saroornagar – STP**	**2.5 MLD**	7.53	1500	11	958	3.0	59	15	418	12	Within the stipulated standards
10	**Langer House - STP**	**1.25 MLD**	7.31	1207	19	756	3.7	85	20	474	19	Within the stipulated standards
11	**Safilguda - STP**	**0.6 MLD**	7.64	1713	22	1062	4.0	58	16	443	11	Within the stipulated standards
12	**Attapur - STP**, 23 MLD	**23 MLD**	7.53	1445	12	881	3.2	83	22	606	23	Within the stipulated standards

ANNEXURE -IV (A) 20

S.No	Parameters	STP Capacity	pH	EC	TSS	TDS	DO	COD	BOD	T.Coli	F.Coli	Compliance status
13	**Attapur - STP**, 51 MLD	**51 MLD**	7.25	977	22	626	5.2	61	16	209	34	Within the stipulated standards
14	**Khajaguda STP - Nanakramguda**	**4.5 MLD**	7.39	1573	33	977	3.0	124	28	563	37	Within the stipulated standards
15	**Khazakunta STP, 12 MLD**	**12 MLD**	7.41	1251	20	764	3.6	61	16	520	44	Within the stipulated standards
16	**Pragathi Nagar - STP**	**2.5 MLD**	7.47	1479	19	852	2.5	90	24	742	118	Within the stipulated standards
17	**Rangadhamuni – STP**	**5 MLD**	7.39	1371	13	819	3.4	67	17	707	33	Within the stipulated standards
18	**Noor–Mohammed Kunta - STP**	**4 MLD**	7.63	1901	23	1185	4.4	100	26	535	34	Within the stipulated standards
19	**Patel Cheruvu – STP**	**2.5 MLD**	7.58	1337	12	837	3.9	110	30	503	30	Within the stipulated standards
20	**Jalagam Vengal Rao – STP**	**0.5 MLD**	7.46	1160	24	715	3.2	54	14	453	17	Within the stipulated standards
21	**Pedda Cheruvu STP, Khajaguda**	**7 MLD**	7.24	1479	22	847	4.4	72	18	33	5	Within the stipulated standards

Annexure – IV (B)

Average (monthly data) Analysis results of the STPs operated in River Musi Catchment area for the period from Jan- June 2020

S.No	Parameters	STP Capacity	pH	EC	TSS	TDS	DO	COD	BOD	T.Coli	F.Coli	Compliance status
1	Amberpet – STP	339 MLD	7.66	1367	23	813	4.5	60	13	116	43	Within the stipulated standards
2	Nagole - STP	172 MLD	7.52	1162	14	679	5.2	87	23	91	28	Within the stipulated standards
3	Nalla Cheruvu - STP	30 MLD	7.94	1552	28	942	5.1	75	17	64	17	Within the stipulated standards
4	Miralam Tank – STP	15 MLD	7.77	1127	13	695	3.4	63	15	75	20	Within the stipulated standards
5	Kharitabad – STP	20 MLD	7.73	1075	18	671	3.2	72	18	107	40	Within the stipulated standards
6	KIMS - STP (Picket)	30 MLD	7.86	1433	17	870	3.6	74	21	88	23	Within the stipulated standards
7	Nacharam – STP (Pedda Cheruvu)	10 MLD	7.91	1254	11	726	4.4	63	16	99	21	Within the stipulated standards
8	Durgam Cheruvu - STP	5 MLD	7.65	1207	24	719	6.0	58	17	133	100	Within the stipulated standards
9	Saroornagar – STP	2.5 MLD	7.71	1402	8	844	3.5	73	17	80	75	Within the stipulated standards

ANNEXURE - IV (B) 22

S.No	Parameters	STP Capacity	pH	EC	TSS	TDS	DO	COD	BOD	T.Coli	F.Coli	Compliance status
10	Langer House - STP	1.25 MLD	7.49	1308	14	778	3.8	47	11	97	31	Within the stipulated standards
11	Safilguda - STP	0.6 MLD	8.11	1763	17	1123	4.1	71	17	166	49	Within the stipulated standards
12	Attapur - STP, 23 MLD	23 MLD	7.15	1456	81	851	4.3	64	16	123	39	Within the stipulated standards
13	Attapur - STP, 51 MLD	51 MLD	7.69	971	14	570	4.9	61	18	480	82	Within the stipulated standards
14	Khajaguda STP -Nanakramguda	4.5 MLD	8.63	1958	53	1138	4.6	109	29	78	21	Within the stipulated standards
15	Khazakunta STP, 12 MLD	12 MLD	7.96	1237	18	765	3.8	69	16	117	29	Within the stipulated standards
16	Pragathi Nagar - STP	2.5 MLD	7.90	1561	20	964	3.0	152	32	86	24	Exceeding the stipulated standards for BOD
17	Rangadhamuni – STP	5 MLD	Under Maintenance									
18	Noor–Mohammed Kunta - STP	4 MLD	7.63	1834	17	1091	5.1	73	18	70	25	Within the stipulated standards
19	Patel Cheruvu – STP	2.5 MLD	7.70	1370	26	835	4.48	60	13	116	42	Within the stipulated standards
20	Krishna Kanth Park - STP, Yousufguda, Hyderabad.	0.5 MLD	Under Maintenance									

S.No	Parameters	STP Capacity	pH	EC	TSS	TDS	DO	COD	BOD	T.Coli	F.Coli	Compliance status
21	Jalagam Vengal Rao – STP	0.5 MLD	7.52	1087	38	635	3.6	55	16	103	33	Within the stipulated standards
22	Pedda Cheruvu STP, Khajaguda	7 MLD	7.78	1566	20	850	4.4	109	24	99	32	Within the stipulated standards

ANNEXURE-V

25

Item No. 6 Court No. 1

BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI

(By Video Conferencing)

Original Application No. 426/2018

(With Report dated 19.06.2020)

Mohammed Nayeem Pasha & Anr. Applicant(s)

Versus

The State of Telangana & Ors. Respondent(s)

Date of hearing: 22.06.2020
Date of uploading of order: 29.06.2020

CORAM: HON'BLE MR. JUSTICE ADARSH KUMAR GOEL, CHAIRPERSON
HON'BLE MR. JUSTICE SHEO KUMAR SINGH, JUDICIAL MEMBER
HON'BLE DR. NAGIN NANDA, EXPERT MEMBER

ORDER

1. The issue raised in this application relates to remedial action against pollution of river *Musi* at Hyderabad (Telangana) which is reported to be contaminated due to industrial and domestic sewage discharged into the river or into the drains connected thereto. The industries in the catchment areas are bulk drug and pharmaceutical units. Further allegation is that the flood plain zones are encroached and there is also dumping of Construction and Demolition Waste ("C&D Waste") and solid waste. Water quality is not even fit for irrigation as per water quality criteria of Central Pollution Control Board ("CPCB") as per reports of samples of water.

2. The proceedings were initiated by way of *O.A. No. 426/2018* filed on 05.07.2018. Notice was issued on 06.07.2018. The Tribunal noted that as per water quality assessment report of the State Pollution Control Board ("SPCB") during 2014-18, water was not fit even for irrigation (Class-E). The matter was then considered on 05.04.2019 in the light of pleadings on record. The Tribunal noted the stand of the Municipal Administration/Urban Development Department of the State that steps taken included construction of Sewage Treatment Plants ("STPs") and laying of sewer lines but the existing capacity of the STPs was inadequate. There was plan to set up more STPs. Detailed Project Reports ("DPRs") were being prepared for the purpose which will also cover control of pollution of 23 lakes in the area. The Telangana High Court has also dealt with the matter. The observations of this Tribunal are:

> *"With regard to sewage treatment and disposal which is the main cause of pollution of river Musi it is to be noted that total sewerage generated is about 1400 mld which is being discharged in the catchment area of Musi river from either of the banks through Nalas. Already 592 mld capacity sewerage treatment plant have been built along the river Musi.* ***DPRs are also prepared at a cost of Rs. 1200 crores for creation of additional STPs at 10 locations, to treat total sewage so as to prevent pollution into river Musi. Since there is no regular sever network system, the board is said to have undertaken a survey with a technical expertise and prepared the DPRs for sewerage system of the peripheral areas.***
>
> *According to MAUD, HMWSSB has appointed Shah Technical consultant to prepare a detailed Project Report (DPR) for the master sewage plan, duly reviewing the available DPRs for integration covering the entire GHMC area up to ORR plus 4 IT hubs. The consultants are preparing DPRs for 27 STPs at 23 lakes in the GHMC area for the combined capacity of 450 mld under Phase-I, along the Musi river and further upgradation of the existing STPs will be taken up in Phase-III. The Phase-I STPs are planned to be taken up in 4 month's time, depending upon the funds availability and Phase-II in one year time. The up- gradation of STPs from the secondary level to the tertiary level 3 in one year time including the policy on recycling of water for the usage for the purpose of non-drinking, construction activity, gardening, industrial etc.* ***Due to financial constraint, the possibility of private investments through the transaction advisor under PPP mode is being***

explored. *The HMWSSB is planning to implement the comprehensive sewage master plan within one and half year time.*

In view of the aforesaid facts and circumstances, we order that as has been made clear in the order dated 19.12.2018 passed in OA no. 673/2018 BOD will not be the sole criteria to determine whether a particular river stretch is a polluted one. Other parameters including Faecal Coliform (FC) bacteria will also be the criteria for classifying a stretch as polluted or otherwise. CPCB may devise within two weeks a mechanism for classification wherein two criteria pollutants that is BOD and FC shall henceforth be the basis of classification in priority classes.

Therefore, we direct CPCB and Telangana Pollution Control Board to carry out a quick hygienic survey of the River by engaging Professor Suman Kapur, Dean, International Programmes and Collaborations and Senior Professor, Department of Biological Sciences, BITS- Pilani, Hyderabad Campus, Jawahar Nagar, Shameer Pet, Hyderabad-500078, skapur@hyderabad.bits-pilani.ac.in and submit a report for river Musi and any other clean river in the state falling in the category of 'A' and or 'B.' For this survey we request Professor Suman Kapoor to execute the survey at a cost 9.5 lakhs which will be paid by CPCB out of its environment compensation fund. The scientist of CPCP and TSPCB will be associated during the survey and field testing of pathogenic bacteria."

3. The matter was thereafter considered vide order dated 06.12.2019 in the light of report of the CPCB dated 28.06.2019 noticing the violation of environmental norms and suggesting remedial action. The Tribunal also referred to the report filed by the CPCB with regard to 351 polluted river stretches which include River Musi at Hyderabad and it was observed:

"6. ***The report of CPCB dated 28.6.2019 clearly indicates that only 49% of the sewage generated in the city is treated and remaining 51% of untreated sewage is discharged directly into the River Musi. The STPs are not granted with the Consents under the Water Act and the 5 STPs are found to be not complying with the discharged norms out of 20 operational STPs. The STPs need up-gradation as applicable to meet with the standards with reference to faecal coliform and the treated water will have to be utilized for the non-portable use.***

The report of CPCB dated 18.11.2019 describes about the Quick Hygienic Survey carried out by engaging Birla Institute of Technology and Science (BITS). The purpose of the survey was to design quick method of detection of

pathogenic bacteria as the existing methods are time consuming and also involves, long transportation distances in many cases. The method developed by BITS which has been witnessed by Scientists of CPCB and Telangana SPCB, may now further workout appropriate mechanism to adopt the Method and widely practice to carry out such survey of Indian Rivers following the standardized protocol and its procedures which may remain inconsonance and matchable with the Internationally adopted Standard Methods.

7. *We have heard the matter along with O.A. No. 673/2018. While general directions to the extent relevant for the above case will govern the present matter as river Musi is one of the 351 polluted river stretches and for this purpose this matter need not be heard along with O.A. No. 673/2018 henceforth, the individual issue relating to Musi River raised in this application is being dealt with by this separate order without prejudice to the general order in O.A. No. 673/2018. Relevant part of the directions in the said case is as follows:*

"47. We now sum up our directions as follows:

i. 100% treatment of sewage may be ensured as directed by this Tribunal vide order dated 28.08.2019 in O.A. No. 593/2017 by 31.03.2020 atleast to the extent of in-situ remediation and before the said date, commencement of setting up of STPs and the work of connecting all the drains and other sources of generation of sewage to the STPs must be ensured. If this is not done, the local bodies and the concerned departments of the States/UTs will be liable to pay compensation as already directed vide order dated 22.08.2019 in the case of river Ganga i.e. Rs. 5 lakhs per month per drain, for default in in-situ remediation and Rs. 5 lakhs per STP for default in commencement of setting up of the STP.

ii. Timeline for completing all steps of action plans including completion of setting up STPs and their commissioning till 31.03.2021 in terms of order dated 08.04.2019 in the present case will remain as already directed. In default, compensation will be liable to be paid at the scale laid down in the order of this Tribunal dated 22.08.2019 in the case of river Ganga i.e. Rs. 10 lakhs per month per STP."

8. ***In view of status report of CPCB dated 28.06.2019, let necessary remedial steps be taken by the Urban Development Department, Telangana, Municipal Corporation, Hyderabad and the TSPCB. The nodal agency will be TSPCB for the purpose. The CPCB may itself validate the Right Biotic system for Quick Hygienic Survey of rivers by seeking opinion of experts on the subject rather than referring it to the Department of Science and***

Technology, Government of India for its adoption in the country.

9. Further reports may be filed by CPCB and TSPCB in above terms before the next date by e-mail at judicial-ngt@gov.in."

4. Accordingly, further report dated 19.06.2020 has been filed by the State PCB giving the compliance status as follows:

"The compliance on the orders of the Hon'ble NGT are as follows:

Directions of the Hon'ble NGT	***Compliance***
Interim measures for In situ Phyto remediation / bio-remediation etc., for 100% sewage to reduce pollution load on recipient water bodies	*There are 27 drains joining the main river stretch of Musi from starting point of Osmansagar and confluence at Wadepally. Out of 27 drains, the following 7 drains falling within the GHMC jurisdiction were identified to take up insitu remediation.* *1. Sirimallenagar* *2. Baputghat* *3. Miralam* *4. Musinagar-Dhobigalli* *5. Shastrinagar-Golnaka* *6. Saroornagar* *7. Gayatrinagar* *For its compliance, HMWSSB has engaged the services of NEERI to provide suitable technology for In-Situ Remediation of sewage for the drains joining river Musi for submission of Detailed Project Reports.* *Accordingly, the Director, NEERI, has made a detailed presentation and initially submitted budget estimate at Rs.45 Lakhs per MLD for implementation of the NEERI technology(RENEU).* *The Government was requested to provide budget for 100% In-situ Remediation of treatment of sewage (about 1174 MLD flowing through 185 drains to water bodies amounting Rs.528.30 Crores at Rs.45 Lakhs per MLD.* *Further after detailed survey, planning and design, NEERI has submitted the DPR for one drain on 16.03.2020 and work order was issued for In-situ remediation implementation at Kokapet Lake. But, work could not be taken up by NEERI due to Lockdown situation.* *Further, Efforts were also made for the*

	technical support of IARI on the in-situ remediation. The details submitted by IARI are as follows: • *The proposed waste water treatment technology has zero energy, zero chemical and a zero skilled manpower demand.* • *Unlike the conventional technologies the proposed technology can take care of multi pollutant and a pathogen loads, along with salt — remediation, specific economically important noncompetitive, (Halophytic/non halo phytic) with microphytes planted in either solo or mixed culture design.* • *The technology is capable of reducing turbidity By 99%, Pathogen load by 99.9%, BOD by 87% and nutrients and heavy metals by 80 to 99%.* • *It has about 80 to 85% lower capital expenditure (CAPEX) demand than conventional waste water treatment technology as it requires just Rs.50 to 65 Lakhs per 1 MLD capacity in comparison to Rs.4.0Crore or more per MLD for the conventional waste water treatment technology* • *Extremely low i.e, maximum Rs.0.6 per kilolitre operational expenditure (OPEX) demand in comparison to the conventional waste water treatment technologies with Rs.20 or more per kilo of operational expenditure* • *The technology is at least 1500 times more sustainable and causes at least 33 times lesser environmental stress that any conventional sewage treatment technology* *IARI informed that due to COVID pandemic they are not in a position for making a site visit in the next 3 to 4 months.* *In view of the above, it is humbly submitted that the in-situ remediation* ***will be taken up on restoration of the normal conditions*** *(post COVID) followed by a technical visit to obtain proposals for execution.*
Commencement of STPs shall be taken up by 31.03.2020 and commissioned by 31.03.2021	*Existing STPs capacities:* ➢ *GHMC- 24 STPs with 774.8 MLD.* ➢ *Miryalaguda (11.5 MLD - Commissioned and 5.45 MLD — Nearing completion)* ➢ *M/s Shah Technical Consultants, Mumbai were appointed for preparation of Comprehensive Sewerage Master Plan for Hyderabad City upto ORR. The consultants have carried out detailed planning, survey,*

	investigation, designs, estimates and submitted the draft Sewerage Master Plan to HMWSSB. The consultants have proposed construction of STPs for year 2036 requirement, laying of lateral sewers, branch sewers and trunk sewers for 2051 requirement at a tentative cost of Rs.15,884 Crores with 65 numbers of STPs (2060 MLD). ➢ *The Govt has submitted the Pre-feasibility Reports of Sewerage Master Plan costing Rs.15,884 Crores to NMCG / NRCD, GoI.* ➢ *The NMCG / NRCD, GoI, during appraisal advised to take up the 5 DPRs proposals under Hybrid Annuity Mode (HAM) Contract for implementation with 60% investment by the agency and 40% by State Government / ULB. The cost of 5 DPRs is Rs.4237 Crores and the bidders investment at 60% will be Rs.2542.20 Crores and Government share at 40% will be Rs.1694.80 Crores.* ➢ *As per suggestions of NMCG / NRCD, the following 5 Detailed Project Reports (DPRs) for priority segments at a cost of Rs.4237 Crores were submitted for financial assistance and technical appraisal:* • *DPR-1- STPs on North of Musi (354 MLD) with conveying mains with a cost of Rs.995 Cr (4 STPs).* • *DPR-2- STPs Project for South of Musi (381.5 MLD) with conveying mains of Rs.995 Cr (3 STPs).* • *DPR-3- STPs Project for H.S. Lake (Kukatpally) (257 MLD) with conveying mains of Rs.963 Cr (8 STPs).* • *DPR-4- STPs Project for H.S. Lake (Jeedimetla) (66 MLD) with conveying mains of Rs.297 Cr (5 STPs).* • *DPR-5- STPs Project for Nakkavagu catchment (River Manjera) (262 MLD) with conveying mains of Rs.987 Cr (8 STPs).* ➢ *The estimated cost for 28 STPs (1320.5 MLD) for priority segments is Rs.4237 Crores.* ➢ *72 Nos. of septage collection vehicles (gulpers) are empaneled by HMWS&SB and consultants M/s. ASCI, Hyderabad to collect the septage from septic tanks upto ORR and convey to the existing STPs at 4 locations for co-treatment.* ➢ *The installation of co-treatment process at other existing 18 STPs is being undertaken in phased manner.*

	➢ *Hyderabad City Comprehensive Sewerage Master Plan Details (Musi, Nakkavagu/ Manjeera stretch):* ➢ *Project Area (upto ORR) - 1452 Sq. km.* ➢ *Expected Sewage Generation —* • *2021 — 1975 MLD* • *2036 — 2848 MLD* • *2051 — 3759 MLD* ➢ *Project Planning:* • *No. of STPs - 65 Nos* • *STPs capacities proposed - 2061 MLD (2036 year)* ➢ *Proposed STPs Locations:* • *Along bank of river Musi - 7 Nos - Capacity 760 MLD* • *Near the Water Bodies (GHMC) - 30 Nos- Capacity 728 MLD* • *Near the Water Bodies (ORR Villages)- 28 Nos – Capacity 573 MLD* ➢ *Tentative Cost for Construction of STPs, Laying Sewer Network and O&M for 10 Years:* • *For River Musi Catchment area components - Rs.13480 Crores* • *For Nakkavagu Catchment (River Manjeera) area components - Rs.2405 Crores*
In view of status report of CPCB dated 28.06.2019, let necessary remedial steps be taken by the Urban Development Department, Telangana, Municipal Corporation, Hyderabad and the TSPCB. The nodal agency will be TSPCB for the purpose.	*The details of the enhancement of the STPs to treat the total sewage generated in the catchment of the River Musi is submitted in the action plan prepared and submitted to CPCB in compliance to the Hon'ble NGT orders in OA No.673/2018.* ***Further, directions on the functioning of the STPs, obtaining of consents, engaging technical manpower etc. are under different stages of execution and are delayed due to COVID pandemic.*** *An action plan for utilisation of the treated waste water from STPs was prepared by the Government for the total state and submitted to CPCB on 22nd January, 2020.* ***The same is under implementation.***

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5. It is clear from the above that no concrete step has been taken on the ground to stop pollution and all steps are merely proposed action which means that violation of law continues, without any preventive or

punitive action as per law. Mere proposal without resulting in stoppage of pollution or punishing the polluters is failure of law, calling for accountability of the authorities either on account of lack of concern for public duty to enforce right to clean environment and access to water and health or collusion. Excuse of Covid is lame excuse as pollution is continuing since long as noticed in earlier orders. The situation remains where it was. It is also not shown that prosecution has been initiated as per directions of the Hon'ble Supreme Court in (2017) 5 SCC 326 which fixed deadline of 31.3.2017, nor compensation recovered for continued pollution. This may call for action against the State and the regulators unless they discharge their duties as per law.

6. Let remedial action be taken in the light of further orders of this Tribunal today in *O.A. No. 673/2018* and a compliance report filed on or before 15.09.2020 by e-mail at judicial-ngt@gov.in (preferably in the form of searchable/OCR PDF and not image PDF). A copy of the report may be placed on the website of the CPCB for comments, if any, by the affected parties within two weeks thereafter.

List for further consideration on 21.09.2020.

Adarsh Kumar Goel, CP

Sheo Kumar Singh, JM

Dr. Nagin Nanda, EM

June 29, 2020
OA No. 426/2018
A&DV