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No. 606/PPCC/NGT/SPR/SEE/2024/33
GOVERNMENT OF PUDUCHERRY
DEPARTMENT OF SCIENCE, TECHNOLOGY AND ENVIRONMENT
PUDUCHERRY POLLUTION CONTROL COMMITTEE
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Puducherry, the 23 JAN 2024

To

The Registrar General
Hon'ble National Green Tribunal
Principal Bench
New Delhi – 110 001.

Sir,

Sub: DSTE - Submission of Second Six Monthly Progress Report on the compliance of the Hon'ble National Green Tribunal directions dt. 24.11.2022 in O.A. No. 606 of 2018 – Reg.

Ref: Order of Hon'ble NGT in O.A. No. 606 of 2018 dated 24.11.2022

In compliance with the Hon'ble National Green Tribunal, Principal Bench, order dated 24.11.2022 in O.A. No. 606/2018, Second Six Monthly Progress Report is enclosed for kind perusal.

This got approval of the Chief Secretary, Government of Puducherry.

Yours sincerely,


(YASAM LAKSHMI NARAYANA REDDY)
DIRECTOR
(DSTE)

Copy to:

1. The Member Secretary, Central Pollution Control Board, Parivesh Bhawan, East Arjun Nagar, Delhi - 110032.
2. Guard file

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**SECOND SIX MONTHLY PROGRESS REPORT ON COMPLIANCE
OF THE HON'BLE NGT DIRECTION DATED 24.11.2022**

IN

ORIGINAL APPLICATION NO. 606 / 2018



**Submitted by
Chief Secretary, U.T. of Puducherry**

January, 2024

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No. 606/PPCC/NGT/MS/2024
DEPARTMENT OF SCIENCE TECHNOLOGY AND ENVIRONMENT
GOVERNMENT OF PUDUCHERRY

**SECOND SIX MONTHLY PROGRESS REPORT ON COMPLIANCE OF THE
HON'BLE NGT DIRECTIONS DATED 24.11.2022 IN O.A. NO. 606 OF 2018**

INTRODUCTION

In compliance with the Order of the Hon'ble National Green Tribunal (PB), dt. 24.11.2022 in the matter of O.A. No. 606 of 2018, the first Six monthly progress report was submitted to the Hon'ble National Green Tribunal on 08.06.2023.

The Chief Secretary of Puducherry is periodically reviewing the status of implementation of Liquid and Solid Waste Management projects. The first, second and third such review meetings under AMRUT 2.0 & SBM 2.0 were held on 15.06.2023, 29.06.2023 and 02.07.2023 respectively. Review meetings on Sewage Treatment Plant (STP) projects under SWAP-II and AMRUT 2.0 were held on 18.05.2023 and 13.10.2023 respectively. A Review on the implementation of the proposal of installation of Sewage Treatment plants in Mahe and Yanam under SBM 2.0 & AMRUT was conducted on 23.10.2023. A comprehensive review of the Hon'ble NGT directions was held on 19.01.2024.

The Development Commissioner cum Senior Nodal Officer also reviewed the compliance status of the Hon'ble NGT order in the third review meeting held on 27.09.2023.

This second six monthly progress report is presented under the following topics:

- (i) Disposal of Legacy Waste
- (ii) Processing of Solid Waste
- (iii) Sewage Treatment Plants
- (iv) Utilization of treated sewage

Abstract of the Progress made in Solid Waste Management and Sewage Treatment

Components	Data referred in the Order dt.24.11.2022	Data referred in the first six monthly progressive report, June, 2023	Data referred in the second six monthly progressive report	Gap	Timeline for completion
Presence of Legacy waste	3.09 lakhs ton	1.1 lakhs tons	0.67 lakhs tons	0.67 lakhs tons	March, 2024
Processing of Solid waste	58 TPD	58 TPD	197 TPD	300 TPD	1 st week of Feb. 2024
Sewage treatment	56 MLD	56 MLD	56 MLD	32.1 ML D	Work is in progress and the construction work of STP's of capacity 26 MLD will be completed on 01.07.2024 and 01.12.2024 in Pondicherry and Karaikal respectively. Construction work of STP's of capacity 6.5 MLD will be completed in Mahe and Yanam by April 2025.

1. Disposal of Legacy Waste

In Puducherry region, the earlier accumulated 5.53 lakhs tons of legacy waste has been bio-mined completely. The Bio-mining of subsequently accumulated legacy waste has commenced on 13.10.2023 as next Phase. Out of 3,48,989 MT of subsequently accumulated legacy waste, 70147 MT has been bio-mined. The remaining 2,78,842 MT of legacy waste will be bio-mined before June, 2024.

In Karaikal Region, out of the total accumulated quantity of 85,350 MT of legacy waste, 39,920 MT has been bio-mined. The remaining 45,430 MT of legacy waste will be bio-mined before March 2024. The Intensified North-East monsoon which lasted for four months flooded the bio-mining processing area and damaged the cable connections and the machineries installed. De-wetting continued for further three months period and this has caused delay in carrying out the bio-mining activity as per schedule.

In Yanam Region, 21,600 MT has accumulated as legacy waste. The Work order was issued for bio-mining to M/s. HR Square, LLP, Hyderabad on 31.08.2023 and the erection of machineries started on 03.01.2024 and bio-mining activity has commenced on 22.01.2024. The Entire Legacy waste will be bio mined before 31st March 2024. The site was encroached by the public residing nearby and the process of their eviction caused delay in handing over the site to the concessionaire. It caused delay in commencing bio-mining process.

In Mahe region, as all the wet waste is being composted in the backyard of houses and the segregated dry waste is sent to the recycler / re-processors, no legacy waste is accumulated.

2. Processing of Solid Waste

Puducherry Region

Puducherry region consists of two municipalities and 5 Commune Panchayats. The details of solid waste generated in the two municipalities are given in the Table 1.

Table 1: Details of Solid Waste generation in Urban Local Bodies

Sl. No	Name of the Municipality	Quantity of Solid waste generation in TPD
1.	Puducherry	155
2.	Oulgaret	155
	Total	310

The Door to Door collection of solid waste is being carried out by M/s. Swatchatha Corporation, Bangalore. For processing of solid waste, letter of Award was issued on 29.09.2023 to M/s. Green Warrior, Chennai. Draft Concession Agreement was notified on 08.12.2023 by Ministry of Housing and Urban Development (MoHU), GoI. In line with the MoHU agreement pattern, Draft Concession Agreement has been framed and sent to Law Department for vetting on 09.12.2023. Preliminary work for establishment of machinery and equipments has commenced and processing of solid waste will be started in the first week of February, 2024.

Table 2: Details of Solid Waste Generation in Rural Local Bodies

Sl. No	Name of the Local Body	Quantity of Solid waste generation in TPD
1	Villianur Commune Panchayat	5
2	Nettapakkam Commune Panchayat	15
3	Ariyankuppam Commune Panchayat	8
4	Mannadipet Commune Panchayat	22
5	Bahour Commune Panchayat	20
	Total	70

As far as rural area concerned, work order has been issued to M/s. HR Square LLP, Hyderabad for processing of solid waste. The details of solid waste generated in the rural local bodies of Puducherry region are given in the Table 2. Construction of MRF shed, compost platform and establishment of other equipments & machineries has been completed and the Processing of wet solid waste has commenced since 22.01.2024.

Karaikal Region

Karaikal Region consists of one Municipality and 5 Commune Panchayats. The details of solid waste generated in Karaikal region are given in Table 3.

Table 3: Details of Solid Waste Generation in Urban Local Bodies

Sl. No	Name of the Municipality	Quantity of Solid waste generation in TPD
1	Karaikal Municipality	40
2	Kottucherry Commune Panchayat	7
3	Nedunkadu Commune Panchayat	5
4	Neravy Commune Panchayat	3
5	T.R.Pattinam Commune Panchayat	5
6	Thirunallar Commune Panchayat	5
	Total	65

The Letter of Award for Integrated Solid Waste Management project for the district of Karaikal was issued on 22.11.2022 to M/s. HR Square LLP, Hyderabad. 100% of solid waste processing has commenced on 15.10.2023 which includes 1 TPD bio-methanation process and 4 TPD of vermicomposting. High calorific valued waste of 5.5 TPD is being sent for co-processing to the nearby cement factory.

Mahe Region

Mahe Region consists of one Municipality and it generates 12 TPD of solid waste. In-house composting of organic waste is being practiced traditionally. The dry waste is collected from the households by M/s. Northamps ENU Solutions, Cochin, Kerala. The Dry waste is segregated in Material Recovery Facility (MRF), Mahe. The invaluable dry waste is being sent to cement plants located in Tamil Nadu for co-processing.

Yanam Region

Yanam region consists of one Municipality. It generates 20 TPD of Solid waste. The Letter of Award was issued on 26.10.2021 to M/s. HR Square LLP, Hyderabad. The Land for processing of solid waste was identified and handed over to concessionaire on 08.12.2023. Yanam is a very small region with an area of only 30 sq.km surrounded by water bodies, marshy land and mangroves. Public objection hindered the works badly for setting up of processing facility. Door to Door collection of solid waste and transportation has commenced since 08.12.2021. Processing has commenced on 20.01.2024.

Processing of Solid waste in the U.T. of Puducherry is given in the Table 4. It is pertinent to mention that the processing of solid waste has been increased from 17 % to 41 % over the last 6 month period.

Table 4. Processing of solid waste

Region	Solid waste generated (TPD)	Processed /Recovered (TPD)	Gap (TPD)	Time line
Pondicherry (Urban)	310	Processed -1 Recovered – 9	300	First week of Feb.2024
Pondicherry (Rural)	70	70	-	Commenced
Karaikal	65	65	-	Commenced
Mahe	12	12	-	Commenced
Yanam	20	20	-	Commenced
Total	477	197	300	

2.1 Elimination of Single Use Plastic (SUP)

Single Use Plastic (SUP) pose greater challenges in solid waste management. Government of Puducherry is taking various measures for elimination of SUP. An Action Plan has been formulated on September, 2021 and constituted “State Level Special Task Force” under the Chairmanship of the Chief Secretary. Nine depts. have been notified as Implementing Authorities.

There are 33 paper cup, 3 Arecanut plate and 4 compostable plastic bag, cup and container manufacturing units operating in the Union Territory. 27 Government Offices including Raj Nivas, Legislative Assembly, Chief Secretariat, 108 industries, 748 Schools and 49 colleges / educational institutes have been declared as SUP free campuses.

1677 drives were made during the year 2023 and 17.5 tons of SUP items have been seized by Local bodies. The ideation hackathon was convened on 11.09.2023. Five teams in ‘SUP reduced’ were presented the concept / solution with startup model using seized single use plastics 5 kms of road has been laid. A cloth bag vending machine has been installed near Uzhavar Santhai. 3 stalls ‘Solai’ have been established for selling exclusively alternate product to single use plastics. Out of 125 plastic manufacturing industry, 91 industries have obtained EPR registration in MoEF&CC portal. 8 SUP manufacturing industries were closed.

2.2 Bulk Waste Management

In the Puducherry, Oulgaret and Karaikal municipality there are 100, 89 and 33 bulk waste generators respectively. By-laws for waste generators has been notified and four numbers of service provider for the bulk waste generator have been empaneled. Sensitization programme have been conducted to the bulk waste generators on scientific

waste management. Few of them have established in-situ waste management system. Higher collection fee will be collected at the rate of Rs.4/- per kg with effect from 1st February 2024 from other bulk waste generators who could not establish in-situ facilities due to space constraints.

M/s. Indira Gandhi Medical College and Research Institute, PIMS, JIPMER, Pondicherry University, St. Joseph of Cluny Higher Secondary School, Hotel Accord and other Institutions have set up infrastructure for composting of green wastes within their campus. Segregation is also being practiced progressively.

Necessary follow up action is being taken to implement the segregation and disposal of wastes by all remaining Bulk Waste Generators.

Bio-methanation plant has been installed 5 No. of medical colleges such as in M/s. Mahatma Gandhi Medical College and Research Institute, M/s. Sri Manakula Vinayagar Medical College and Hospital and M/s. Sri Lakshmi Narayana Institute of Medical Sciences. M/s. Pondicherry Institute of Medical Sciences and M/s. Aarupadai Veedu Medical College and Hospital have provided for vermi composting. M/s. Sri Venkateshwaraa Medical College Hospital and Research Centre is under process of providing in-situ waste treatment.

2.3 Avoiding of mixing of current waste with legacy waste

In Puducherry, 3 acre of land has been demarcated for processing of fresh waste hence mixing of legacy waste is totally avoided. In Karaikal region, the legacy waste was dumped in Paravaipet and the processing area is separated by road. Hence the chances of mixing of current waste is Nil. In Yanam region, the legacy waste is accumulated in Kanakala Peta and whereas processing is proposed at Mettacuru, at a distance of 3 Kms. Hence, mixing of legacy waste will not occur.

3. Sewage Treatments Plants

Puducherry Urban area generates 71 MLD of sewage. Currently 56 MLD of sewage is treated in 5 STPs (3×17 MLD + 2×2.5 MLD). The Remaining 15 MLD of the sewage is treated in the decentralized traditional system of soak pit and septic tank. In order to bring these 15 MLD sewage in a centralized sewage treatment plant, the work order has been awarded on 26.06.2023 to M/s. Eco Protection Engineers Pvt. Ltd., Chennai for a cost of Rs. 39.53 Cr. for construction of 17 MLD STP at Dubraypet and the construction of STP has commenced on 27.07.2023. Work is in progress and the construction work will be completed on 01.07.2024.

10.6 MLD of sewage is generated in the Karaikal Urban region. Work order was issued to M/s. Jayanti Super Construction Pvt. Ltd., Gujarat with a cost of Rs. 43,08,68,289 for construction of 11 MLD STP. The Construction work has already commenced on 01.12.2023. Work is in progress and the construction work will be completed on 01.12.2024.

For the construction of 0.5 MLD STP at Mahe, tenders were floated twice and no response was received. Third tender was floated and the same opened on 04.01.2024. As only a single bid is received, tender has been floated again.

For construction of 6 MLD STP at Yanam tenders were again floated twice and no response was received. Third tender was floated and opened on 31.08.2023 and placed before the work board for consideration. Since the tender cost was 40% higher than the estimated cost, retender process has been initiated and will be floated within this week.

Since the above two regions are very small, far away from the headquarters there is less participation by bidders in the tender process which has delayed in the getting this work executed. Now the Secretary PWD has written to the concerned authorities in Kerala and Andhra Pradesh in supporting for ensuring successful participants of bidders in the tender process.

4. Utilization of treated sewage

Utilization of treated sewage for gardening, green belt has been made mandatory in the CTE issued to all the commercial establishments / Industries. 51 MLD of sewage has been currently generated in Puducherry Region. Out of this 16, MLD treated sewage is utilized as given below:

Station	Purpose	Quantity (MLD)
Lawspet STP	Industrial usage	0.8
	Fodder Grass raising	6.0
	Coconut Plantation	
	Silk cotton trees	
	Natural recharging through Impound in reservoir	9.0
Dubrayapet STP	To Pondy Marina Hotel	0.3
	Total	16.1

An Action Plan has been formulated for the effective utilization of treated sewage.

The Proposal of transmitting Secondary Treated Effluent Water (STEW) of 5 MLD from PWD STP to M/s. Chemfab Alkalies, Kalapet with the cost of 4.69 Crores is in progress. It will be implemented once the statutory clearances are obtained. M/s. Chemfab Alkalies Ltd. is currently utilizing 400 KLD of treated sewage from Karuvadikuppam STP and 1000 KL/month from M/s. Mahatma Gandhi Medical College and the Research Institute and 1200 KL/month from M/s. PIMS, Kalapet.

An Ultra filtration Plant of 0.50 MLD capacity for treating the STEW from Dubrayapet STP has been installed and pumping mains for conveying the treated water at Botanical Garden and Bharathi Park has been laid at a total cost of Rs. 2.06 Crore under AMRUT. Construction of treated sewage storage sump has been completed with the financial assistance of Rs. 9.7 lakhs by Puducherry Pollution Control Committee. It is proposed to utilize the treated sewage in the upcoming Industrial estate at Karasur.

4.1 Avoiding of waste water discharges into rivers

Two rivers viz. Sankaraparani in Puducherry and Arasallar in Karaikal regions have been identified as polluted river stretches by the CPCB. Action plans for restoration of polluted rivers were formulated. For setting up of 3 MLD STP at Sankaraparani river, a tender was called for on 02.05.2023. Only one bidder participated and the cost quoted was very high. Hence, it was decided to go for retender. As there is another proposal for FSTP (Fecal Sludge Treatment Plant) at the same site funded by SBM (Gramin), it was decided to float a comprehensive tender for construction of 3 MLD STP together with FSTP. DPR has already been prepared and submitted and the tender will be floated soon.

Sewage mixing in Arasallar river will be treated in the 11 MLD STP being constructed in Karaikal.

4.2 Performance based O & M mechanisms for STPs

The Performance of the STPs is evaluated based on the compliance of the discharge standards. The Performance based indicators are mandated in the O&M tenders, and any failure to comply with the conditions warrant monetary deductions. The discharge of existing 3 STPs of PWD are regularly collected and analyzed at NABL accredited laboratories. It is ensured that the discharge meets the prescribed standards and Online Monitoring System are also in place.

The Directions are being issued when non-compliances of discharge standards are noticed for taking necessary measures.

CONCLUSION

The Govt.of Puducherry in compliance with the Hon'ble NGT directions is taking earnest measures in the disposal of legacy waste and addressing the gap in solid waste management and sewage treatment.The Intensified North-East Monsoon affected the progress in the disposal of legacy waste in Karaikal and Yanam, the same will be completed by March, 2024. The Processing of solid waste has already commenced in Karaikal, Mahe ,Yanam Regions and Pondicherry Rural areas. The Required machineries have been deployed for the processing of solid waste generated in Puducherry Urban areas and the processing will commence in the first week of February 2024. It is pertinent to mention that the processing of solid waste has been increased from 17 % to 41% over the last 6 months period.

The work relating to construction of 15 MLD and 11 MLD STPs for addressing the gap in the sewage treatment in Puducherry and Karaikal Regions respectively has been commenced. Construction of STPs for the outlying Regions of capacity of 0.5 MLD & 6 MLD viz. Mahe and Yanam respectively would commence within three months period.