**BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL**
**SOUTHERN ZONE, CHENNAI**
**Original Application No.107 of 2023 (SZ)**

Suo Motu based on the news item published in The New Indian Express, dt. 09.08.2023, under the caption "Huge pollution risk in 8 Km around NLC" and in The Times of India, Chennai Edition dt. 09.08.2023 under the caption "Water near NLC full of Mercury".

**Vs.**

The Managing Director,
NLC India Limited,
Chennai and Ors.

…Respondents

**INDEX**

| S.No | Description | Page No. |
|---|---|---|
| **1.** | **REPORT OF THE TAMIL NADU POLLUTION CONTROL BOARD ( 5TH RESPONDENT) AS PER THE ORDERS OF THE HON'BLE NGT(SZ) DATED 10.08.2023.** | **1 – 20** |
| **2.** | **ANNEXURE – 1 TO 30** | **21 – 88** |

**Filed by**
**Thiru. S. Sai Sathya Jith,**
**Advocate, Chennai.**

# Report of the TNPCB Committee as per orders of the Hon'ble National Green Tribunal (Southern Zone) in O.A.No. 107 of 2023 (SZ) - Suo Motu based on news item published in The New Indian Express, dt 09.08.2023, under the caption "Huge pollution risk in 8 Km around NLC" and in The Times of India, Chennai Edition dt. 09.08.2023 under the caption "Water near NLC full of Mercury".

**TAMIL NADU POLLUTION CONTROL BOARD**

**AUGUST 2023**

# INDEX

**Report of the TNPCB Committee as per orders of the Hon'ble National Green Tribunal (Southern Zone) in O.A.No. 107 of 2023 (SZ) - Suo Motu based on news item published in The New Indian Express, dt 09.08.2023, under the caption "Huge pollution risk in 8 Km around NLC" and in The Times of India, Chennai Edition dt. 09.08.2023 under the caption "Water near NLC full of Mercury".**

## 1.0 INTRODUCTION

The Hon'ble National Green Tribunal (Southern Zone) took a Suo Mote Case O.A.No. 107 of 2023 based on newspaper Article '***Huge Pollution Risk in 8KM around NLC' referring the study titles 'POWERing Pollution: The Environmental and Pollution Impacts of Thermal Power Stations and mining Operation in Neyveli & Parangipettai – August 2023'.*** The Hon'ble NGT in its order dated 10.08.2023 have directed the Tamil Nadu Pollution Control Board (TNPCB) to inspect the area, study the water quality of the water bodies near NLC and also to ascertain whether the news is correct or not.

Based on the directions, the TNPCB has formed an internal committee comprising of the following officers to inspect the area and collect water and soil samples in the areas referred in the study report and submit a detailed report on or before 23.08.2023 so as to file a report the Hon'ble NGT (SZ) on or before 28.08.2023.

1. Dr R.Rajamanickam, Additional Chief Environmental Engineer, TNPCB
2. Thiru. S.Sankarasubramanian, Assistant Director, Advanced Environmental Laboratory, Chennai
3. Dr A.Samuel Rajkumar, Joint Chief Environmental Engineer (Monitoring), Cuddalore
4. Dr R.Umayakunjaram, District Environmental Engineer, Cuddalore
5. Thiru T.Chitrarasu, Assistant Director, Advanced Environmental Laboratory, Cuddalore

The Committee has inspected the NLC and the surrounding areas on 11.08.2023, 16.08.2023 and 17.08.2023. The committee report is submitted as follows:

### 1.1 News Report

Poovulagin Nanbargal and Manthan Adhyayan Kendra have published a report in August 2023 titled '*POWERing Pollution: The Environmental and Pollution Impacts of Thermal Power Stations and mining Operation in Neyveli & Parangipettai'*. In the report, it is mentioned that a comprehensive assessment in both Neyveli and Parangipettai regions have been carried out with the involvement of local communities and bring out new issues that may have not been previously highlighted, identify source of pollution and suggest ways in which the issues could be addressed. It is also mentioned that they carried out water and soil sampling, and also questionnaire-based surveys of the local communities in the surrounding of NLC in Neyveli and ITPCL in Parangipettai. In the report, it is mentioned that several surface as well as ground water sources were found to be high levels of turbidity, hardness, total dissolved solids (TDS), total suspended solids (TSS), Oil and Grease, high chemical oxygen demand (COD) and presence of elements like aluminium, boron, fluoride, iron, manganese, magnesium, mercury and selenium in high concentration. The TNPCB committee has gone through the above report and made a detailed study. It is submitted as follows:

### 2.0 M/S. NLC INDIA LIMITED

M/s. NLC India Limited (NLCIL) is a Government of India Enterprise functioning under the control of Ministry of Coal was incepted in the year 1956, following the finding of lignite deposits in Neyveli, Tamil Nadu. Its core business is lignite mining and thermal power generation. NLCIL currently operates three open cast lignite mines of total capacity of 32.5 Million Tonnes per Annum (MTPA) and four thermal power stations with a total installed capacity of 3390 MW in Neyveli. The total extent of the NLCIL area is 200.sq.km. The details of each unit is given as follows:

### 2.1 M/s. NLC India Limited Mine I

The unit of M/s. NLC India Limited Mine-I was started on 20.05.1957. The unit got first consent of TNPCB on 07.06.1984 for mining of 6.5 Million Tons per Annum (MTPA). Later in 1989, the Ministry of Environment and Forest (MoEF), Government of India issued Environmental appraisal for Mine - I (Expansion) vide proceeding No. J-11015/11/88-IA, dt on 06.0.3.1989. In 2015, the unit obtained

environmental clearance for expansion from the MoEF vides proceeding No. J-11015/01/2012-IA-II (M) dated 02.09.2015 for the capacity of 10.5 MTPA with a mine lease area from 3178.4 Ha to 3635.4 Ha. The unit has obtained consent to operate from TNPCB vide proceeding dated 06.12.2021 for mining of lignite 10.5 MTPA. The unit was permitted to discharge 186 kilo litres per day (KLD) of sewage on industries own land for green belt development. The unit was permitted to discharge trade effluent quantity of 65480 KLD (mine seepage water) for irrigation. The unit has provided water sprinklers to control the fugitive emissions from lignite storage yards, transfer points and roads. The unit has obtained CTO renewal vide proceeding dated 14.11.2022 with validity upto 31.03.2027. During Inspection of the committee, the unit is in operation.

**Water Management**

The unit is drawing 65665.0 KLD of water from the sources such as aquifer, mine seepage and rain water. The unit is consuming 185 KLD of aquifer water for domestic purposes. 25 KLD of Mine seepage and rain water is utilized in mini auto service. The remaining water from aquifer, mine seepage and Rain water is partially sent outside the campus for irrigation and partially to artificially created lake to supply water to M/s TPS-I Expansion, and M/s New Neyveli Thermal Power Plant.

**Waste water Management**

**Sewage:** The unit has provided Sewage Treatment Plants to treat the canteen waste water/ toilet waste water and treated effluent is utilized for Green belt development. The ROA of the treated sewage samples collected for the year 2018-2023 (5 years) from the outlet of the STP reveals that the parameters were within the standards prescribed by the Board. (Consolidated ROA - Annexure-1)

**Trade Effluent**: The trade effluent generated from the following sources: (a) Trade effluent - I (aquifer, seepage and rain water), (b) Trade effluent - II (mini auto service). The ROA of the treated effluent samples collected for the year 2018-2023 (5 years) from the outlet of the ETP reveals that the parameters were within the standards prescribed by the board except the exceedance of pH (8/45). The ROA of the seepage water samples collected for the year 2018-2023 (5 years) from the outlet of the seepage reveals that the parameters were within the standards prescribed by the Board except the exceedance of pH (1/45). (Consolidated ROA- Annexure-2)

**Air Pollution Management**

The unit has provided water sprinkler systems to control the fugitive emission generated from lignite storage yard, lignite transfer points & lorry movement on road. Consolidated ROA of the Ambient Air Quality Monitoring survey in the year 2018 - 2023 all the parameters all the parameters are within the standards prescribed by the Board except $PM_{10}$ in the range of 579 µg/$m^3$ (1/10) which is slightly higher than 500 µg/$m^3$. (Consolidated ROA - Annexure-3).

**Solid waste Management**

**Mines Overburden soil**

It is reported that the existing external overburden dump yard area is 478.4 Hectares and about 239.1 $MM^3$ is dumped until 2015 and afterwards there is no external OB dumping. It is also reported that, the overburden excavated during mining operation till inception upto 01.07.2023 is 2208.07 $MM^3$ and the same quantity is back filled into the voids formed due to excavation of Lignite. The area reclaimed since inception 1240.65 Ha.

**Hazardous waste**

The unit has obtained authorization under Hazardous and Other Wastes (Management and Transboundry Movement) Rules, 2016 vide proceeding dated 12.01.2016 with validity upto 11.01.2021. The unit has submitted application for renewal of authorization and it is under process.

**Green Belt Development**

The development of Greenbelt carried out in Mine-I is given vide Plate No.-1

**2.2 M/s. NLC India Limited Mine IA**

The unit M/s. NLC India Limited Mine IA has obtained Consent to Operate for mining of 3MTPA of lignite vide proceeding dated 28.03.2003 and further renewal upto 31.03.2020. Later, the unit has obtained environmental clearance from the MoEF, GoI vide J-11015/02/2012-IA.II (M) dated 02.09.2015 for expansion from 3 MTPA to 7 MTPA in a total project area of 2005.8 hectares. The unit has obtained CTE for expansion vide proceeding dated 03.07.2019 with a validity upto

01.09.2022. Later the unit has obtained CTO expansion from 3 MTPA to 7 MTPA vide proceeding dated 19.02.2020. The unit is permitted to discharge 4 KLD of sewage and 1,05,777.3 KLD of trade effluent (mine seepage water and rain water) for irrigation, supply to Chennai Metro Water, mine spraying and their power plants. Consent is renewed upto 31.03.2026. During Inspection of the committee, the unit is in operation.

**Water Management**

Around 6.2 KLD is utilized for domestic purposes. The aquifer water of 59975.0 KLD is utilized in M/s TPS-I Expansion and M/s New Neyveli Thermal Power Plant. Further, 13090.0 KLD of mine seepage and rain water is supplied to Chennai Metro Water during summer. 25 KLD of mine seepage is utilized in Mini Auto service. The remaining 32551.6 KLD of water from mine seepage and rain water is sent to outside for irrigation,

**Waste Water Management**

**Sewage:** The unit has provided with septic tank and soaks pit arrangements to treat the sewage generated from its activity

**Trade Effluent:** The trade effluent generated from the following sources: (a) Trade effluent - I (aquifer, seepage and rain water), (b) Trade effluent - II (mini auto service). The ROA of the seepage water and outlet of ETP collected for the year 2018-2023 (5 years) from the ETP ad outlet of the seepage reveals that the parameters were within the standards prescribed by the Board. (Consolidated ROA-Annexure - 4)

**Air Pollution Management**

The unit has provided water sprinkler system to control the fugitive emission generated from lignite storage yard, lignite transfer points and lignite transport by trucks. Consolidated ROA of the AAQ survey in the year 2018-2023 (5 years) reveals that all the parameters are within the standards prescribed by the Board. (Consolidated ROA - Annexures - 5).

**Solid waste Management**

**Mine Overburden Soil**

It is reported that the overburden excavated during mining operation till inception upto 01.07.2023 is 557.12 $MM^3$ and the same quantity is back filled into the

voids formed due to excavation of lignite. The area reclaimed since inception is 360.69 Ha.

**Hazardous waste**

The unit has obtained the authorization under Hazardous and Other Wastes (Management and Transboundry Movement) Rules, 2016 vide proceeding dated 12.01.2016 with validity up to 11.01.2021.The unit has applied for renewal of authorization. The application is under process.

**Green Belt Development**

The development of Greenbelt carried out in Mine-IA is given vide Plate No.-2

**2.3 M/s. NLC India Limited Mine II**

The unit M/s. Mine-II NLC India Limited has obtained Environmental Clearance from the Ministry of Environment and Forest vide No. J 11015/30/2001-IA.II (M) dated 24.02.2002 for setting up an Open cast lignite mining of 15.0 MTPA. Based on that, the unit has obtained CTO from TNPCB under Water and Air Acts for 15 MTPA vide Board Proc. dated 31.10.2022 with a validity upto 31.03.2027.The unit is permitted to discharge to discharge 100 KLD of sewage, trade effluent 78475 KLD of trade effluent (Seepage and rain water). During Inspection of the committee, the unit is in operation.

**Water Management**

Around 120 KLD of water is utilized for domestic purposes. 33.69 MCM per annum seepage/rain water collected is utilized in M/s TPS-II and M/s TPS-II Expansion. 25 KLD of mine seepage is utilized in Mini Auto service. The remaining 78475 KLD of water from mine seepage and rain water is sent to outside for irrigation,

**Waste Water Management**

**Sewage:** The unit has provided sewage treatment plant to treat the sewage from canteen and toilet. The ROA of the treated sewage samples collected for the year 2018-2023 from the outlet of the STP reveals that the parameters were generally within the standards prescribed by the Board except the exceedance of TSS (2/52), BOD (15/52), COD (10/52).(Consolidated ROA - Annexure-6)

**Trade Effluent:** The trade effluent generated from the following sources: (a) Trade effluent - I (aquifer, seepage and rain water), (b) Trade effluent - II (mini

auto service). Treated trade effluent from mini auto service unit is discharged into eastern garland canal which is used for irrigation purposes. ROA of the treated trade effluent samples collected from the ETP outlet and seepage water reveals that, mostly the parameters were within the standards prescribed by the Board except the exceedance of pH (4/50). (Consolidated ROA - Annexure-7).

**Air Pollution Management**

The unit has provided water sprinklers at lignite storage yard, lignite transfer points, and haul roads. Consolidated ROA of the AAQ survey in the year 2020-2021, 2021-2022 and 2022-2023 reveals that all the parameters are within the standards prescribed by the Board.

**Solid waste Management**

**Mine Overburden Soil**

It is reported that the mine overburden soil excavated during mining operation till inception upto 01.07.2023 is 2206.62 $MM^3$ and the same is back filled into the voids formed due to excavation of Lignite. The area reclaimed since inception is 1171.90 Hectares.

**Hazardous waste**

The unit has obtained authorization under Hazardous and Other Wastes (Management and Transboundry Movement) Rules, 2016 valid upto 23.05.2023.The unit has applied for renewal and it is under process.

**Green Belt Development**

The development of Greenbelt carried out in Mine-II is given vide Plate No.-3

**2.4 M/s. Neyveli Thermal Power Station I**

The unit of M/s. Neyveli Thermal Power Station I was commissioned in the year 1960. The unit has obtained CTO vide proceeding dated T1/TNPCB/3652/82-2 DATED 23.11.1984 and subsequently renewed upto 31.3.2020. The unit has operated 6 x 50 MW and 3 x 100 MW plants. After service of six decades and considering the conditions of plant and machineries, the unit has decommissioned the plant in the year 2020.

**2.5 M/s. Neyveli Thermal Power Station II**

The unit M/s. Neyveli Lignite Corporation Limited Thermal Power station II has obtained environment clearance from the MoEF vide letter No.14/13/82-Env.2 dated 05.01.1983 for the capacity 7 x 210 MW. The unit has obtained CTO under the Water and Air Acts vide dated 22.03.1991 with validity upto 31.03.1991 and subsequently renewed upto 31.03.2019. Further, the unit has obtained for CTO vide dated: 10.08.2021 with a validity upto 31.03.2022 and obtained renewal upto 31.03.2027 for the operation of 7 x 210 MW. The unit was consented to discharge 142 KLD of sewage for green belt development and 89040 KLD of trade effluent discharged outside the unit for irrigation after treatment. The unit is consented to discharge emissions from three boilers through stack of 170 metre each and four boilers with stack of 220 m each. During Inspection of the committee, the unit is in operation.

**Water & Waste Water Management**

The main water source of the plant is from Mine-II discharge water and it is collected in the artificial lake, situated within the NLC campus.

**Sewage:** The unit has provided sewage treatment plant and the treated sewage is utilized for green belt development within the industry's premises. ROA of the treated sewage reveals that, most of the parameters are within the standards prescribed by the Board except the exceedance of - TSS 1/27, BOD (4/27), COD (2/27) ammonical nitrogen (1/27). (Consolidated ROA - Annexure-8)

**Trade effluent**: The unit has provided Effluent Treatment Plant and the treated trade effluent is discharged into nearby channel for irrigation purposes. The unit has provided the Online Effluent Quality Monitoring system (online sensor) for pH, Temperature, TSS in the treated trade effluent disposal line and is connected with Water Quality Watch, TNPCB, Chennai. ROA of the treated trade effluent samples collected for the year 2018-2023 (5years) reveals that, most of the parameters are within the standards prescribed by the Board except the exceedance of TSS (2/53), TDS 3/53, BOD (2/53). (Consolidated ROA - Annexure-9)

**Air Pollution Management**

The unit has provided common stack along with electrostatic precipitator (ESP) for the boilers. The unit has provided 1 No of dust extraction system in the lignite conveying system and also the unit has provided automatic medium velocity water sprinklers in the lignite handling system in order to suppress the dust emanating during the operation. The unit has provided bag filter for the fly ash silo. Consolidated ROA of the Stack emission survey in the year 2018-2023 reveals that PM( 4 /10) NOx (4/10) and SOx (10/10) (Consolidated ROA - Annexure-10)

The unit has provided continuous online stack monitoring system for parameters SPM, $SO_2$ and $NO_x$ for each unit and connected the same to CAC, TNPCB, Chennai

Consolidated ROA of the AAQ survey in the year 2018-2023 reveals that all the parameters are within the standards prescribed by the Board except the exceedance of $PM_{10}$ (6/10) $PM_{2.5}$ (5/10) Sox (4/10) and NOx (4/10) (Consolidated ROA - Annexure-11)

**Solid waste Management**

**Fly ash Management**

The unit is disposing the fly ash to cement industries and brick manufactures. The bottom ash is being sent to Mine-I of M/s NLC India Ltd for back filling in the mined area.

**Hazardous Waste Management**

The unit has obtained the authorization under Hazardous and Other Wastes (Management and Transboundry Movement) Rules, 2016 vide Bd's Proc. dated 09/02/2016 and valid upto 08.02.2021 for handling of used oil/spent oil, spent ion exchange resins. The unit has yet to apply for renewal of authorization.

**Greenbelt Development**

The development of Greenbelt carried out in TPS-II is given vide Plate No.-4

**2.6 M/s. Neyveli Thermal Power Station II Expansion**

The unit M/s. Neyveli Lignite Corporation Limited Thermal Power Station II has obtained Environment Clearance from the MoEF for vide letter No.J13011/8/2002-IA.11(T) dated 9.01.2003. Based on that, the unit has obtained CTE under Water and Air Acts vide dated 07.07.2005 and the unit has obtained CTO under Water and Air Acts vide dated 04.01.2011 with valid upto 31.03.2011 to produce electric power 2 x 250 MW and it was further renewed upto 31.03.2027. The unit was consented to discharge 150 KLD of sewage and 21440 KLD of trade effluent. The unit is consented to discharge emission from two boilers 850TPH through a stack of 220 m. During Inspection of the committee, the unit is in operation.

**Water & Waste Water Management**

The main water source of the plant is from Mine-II discharge water and it is collected in the artificial lake, situated within the NLC campus.

**Sewage:** The unit has provided sewage treatment plant and the treated sewage is utilized for green belt development within the industry's premises. ROA of the treated sewage samples collected for the year 2018-2023 from the outlet of the STP reveals that most of the parameters are within the standards prescribed by the Board except the exceedance of pH 1/48 and BOD (3/48). (Consolidated ROA - Annexure-12)

**Trade effluent**: The unit has provided ETP and the treated trade effluent is being recycled with in the process. The unit has provided the Online Effluent Quality Monitoring system for pH, Temperature, TSS in the treated trade effluent disposal line and is connected with Water Quality Watch, TNPCB, Chennai. ROA of the treated trade effluent samples collected for the year 2018-2023 (5 years) from the outlet of ETP reveals that, most of the parameters are within the standards prescribed by the Board except the exceedance of - TDS (4/43), (Consolidated ROA - Annexure-13)

**Air Pollution Management**

The unit has provided common stack along with Electrostatic Precipitator (ESP) for the boilers. The unit has provided Circulating Fluidized Bed Combustion

(CFBC) Boilers with limestone feeders to control $SO_2$ emission. The unit has provided continuous online stack monitoring system for parameters SPM, $SO_2$ and $NO_x$ ,for each unit and connected the same to CAC, TNPCB, Chennai. The unit has provided bag filter for the fly ash silo. The unit has provided 3Nos of dust extraction system in the lignite conveying system and also provided automatic medium velocity water sprinklers in the lignite handling system in order to suppress the dust emanating during the operation.

ROA of the Stack emission survey in the year 2018-2023 (5 years) reveals that all the parameters are within the limit prescribed standard except SOx (1/10). (Consolidated ROA - Annexure-14). Consolidated ROA of the AAQ survey in the year 2018-2023 (5years) reveals that $PM_{10}$,(3/10) $PM_{2.5}$ (2/10) Sox(1/10) and NOx(1/10). (Consolidated ROA - Annexure-15)

**Solid waste Management**

**Fly Ash Management**

The unit is disposing the fly ash to cement industries and brick manufactures. The bottom ash is being sent to Mine-II of M/s NLC India Ltd for back filling in the mined area.

**Hazardous Waste Management**

The unit has obtained the authorization under Hazardous and Other Wastes (Management and Transboundry Movement) Rules, 2016 vide Bd's Proc. Dated 09.02.2016 and valid upto 08.02.2021 for handling of used oil/spent oil, spent ion exchange resins. The unit has to apply for renewal of authorization.

**Greenbelt Development**

The development of Greenbelt carried out in TPS-II Expansion is given vide Plate No.-5

**2.7 M/s. NLC TPS I Expansion**

The unit M/s. Neyveli Lignite Corporation Limited has obtained Environment Clearance from the MoEF for Expansion of Unit-I vide letter No.J13011/31/87-IA II dt 29.06.1990 for a capacity 2 x 210 MW. Based on that, the unit has obtained CTE under Water and Air Acts vide proceeding dated 22.02.2001 with a validity upto

21.02.2003. Later the unit has obtained CTO under Water and Air Acts vide dated 21.07.2006 with valid upto 31.03.2007 and further renewed upto 31.03.2023 to produce 2 x 210 MW. The unit is consented to discharge 385 KLD of sewage and 9000 KLD of trade effluent. The unit is consented to discharge emission from two nos. of 690TPH boilers through a 220 m stack. During Inspection of the committee, the unit is in operation.

**Water & Waste Water Management**

The main water source of the plant is from Mine-I/1A discharge water and it is collected in the artificial lake, situated within the NLC campus. In addition, the unit is also drawing GW at the rate of 500 KLD for the boiler make up to produce steam and also for domestic consumption

**Sewage:** The unit has provided sewage treatment plant for the treatment of the sewage and canteen wastewater and the treated sewage is utilised for greenbelt development within the industry's premises. ROA of the treated sewage samples collected for the year 2018-2023 from the outlet of the STP and it reveals that most of the parameters are within the standards prescribed by the Board except the exceedance of - pH (1/55), BOD ( 6/55) and COD (1/55).(Consolidated ROA - Annexure-16)

**Trade effluent:** The unit has provided Effluent Treatment Plant and the treated trade effluent is discharged into nearby channel for irrigation purposes. ROA of the treated trade effluent samples collected for the 2018-2023 reveals that, most of the parameters are within the standards prescribed by the Board except the exceedance of - except the exceedance of pH (1/55), TDS (1/55). (Consolidated ROA - Annexure-17). The unit has provided the Online Effluent Quality Monitoring system (online sensor) for pH, Temperature, TSS in the treated trade effluent disposal line and is connected with Water Quality Watch, TNPCB, Chennai.

**Air Pollution Management**

The unit has provided common stack along with ESP for the boilers. The unit has provided continuous online stack monitoring system for parameters SPM, $SO_2$ and $NO_x$ , for each unit and connected the same to CAC, TNPCB, Chennai. The unit has provided bag filter for the lignite crusher house. The unit has provided 4 Nos of

dust extraction system in the lignite conveying system and automatic water sprinklers in the lignite handling system to suppress the dust.

ROA of the Stack emission survey in the year 2018-2023 reveals that PM( 2/10), NOx(1/10) 618 mg/$Nm^3$ and SOx 3 (7/10). (Consolidated ROA - Annexure-18). To meet the SOx norms in the stack emission, the unit has proposed to install flue gas de-sulfurization (FGD) system and it is planned to complete as per the timeline given by MoEF& CC (i.e) 31.12.2026.

Consolidated ROA of the Ambient Air Quality Monitoring survey in the year 2018-2023 (5 years) all the parameters are within the standards prescribed by the Board except the exceedance of - PM 10 (4/10 ) PM 2.5 (6/10) SOx (2/10) and NOx (2/10) (Consolidated ROA - Annexure-19).

**Solid waste Management**

**Fly Ash Management**

The unit is disposing the fly ash to cement industries and brick manufactures. The bottom ash is being sent to Mine-I of M/s NLC India Ltd for back filling in the mined area.

**Hazardous Waste Management**

The unit has obtained the authorization under Hazardous and Other Wastes (Management and Transboundry Movement) Rules, 2016 vide Bd's Proc. dated 09.02.2016 and valid upto 08.02.2021 for handling of used oil/spent oil, spent ion exchange resins. The unit has to apply for renewal of authorization

**Greenbelt Development**

The development of Greenbelt carried out in TPS-I Expansion is given vide Plate No.- 6

**2.8 M/s. Neyveli New Thermal Power Station**

The unit M/s. Neyveli New Thermal Power Station has obtained Environment Clearance was obtained from the MoEF for the capacity 2x500 MW vide MoeEFLetter J-13012/250/2007-IA.II (T) dated 21.10.2010. Based on that the unit has obtained CTE from TNPCB under Water and Air Acts vide proceeding dated 12.01.2012 with validity upto 31.03.2014. Later the unit has obtained CTO vide

proceeding dated 26.04.2019 with validity upto 31.03.2021 to produce electric power 2 x 500 MW. The unit has applied for renewal of consent. The application is returned for want of additional details.

The unit is consented to discharge 35 KLD of sewage and 15600 KLD of trade effluent. The unit has two boilers of 1600 TPH and consented to discharge emission through a 275 m stack. During inspection of the committee, the unit is in operation.

**Water & waste water management**

The main water source of the plant is from Mine-I/1A discharge water and it is collected in the artificial lake, situated within the NLC campus

**Sewage:** The unit has provided sewage treatment plant for the treatment of the sewage and canteen wastewater generated and the treated sewage is disposed on land for green belt development within the industry's premises. ROA of the treated sewage samples collected for the year December 2020-2021, 2021-2022 and 2022 -2023 from the outlet of the STP reveals that most of the parameters are within the standards prescribed by the Board except the exceedance of - pH (1/31) and BOD (1/31). (Consolidated ROA - Annexure-20).

**Trade effluent:** The unit has provided effluent treatment plant and the treated trade effluent is discharged into nearby channel for irrigation purposes. The unit has provided the Online Effluent Quality Monitoring system for pH, Temperature, TSS in the treated trade effluent disposal line and is connected with Water Quality Watch, TNPCB, Chennai. ROA of the treated trade effluent samples collected for the year September 2020-2021, 2021-2022 and 2022 -2023 from the outlet of ETP reveals that most of the parameters are within the standards prescribed by the Board except the exceedance of - pH (6/32), TDS 8/32 chloride (1/32). (Consolidated ROA - Annexure-21).

**Air Pollution Control measures**

The unit has provided common stack along with ESP for the boilers. The unit has provided continuous online stack monitoring system for parameters SPM, $SO_2$ and $NO_x$ , for each unit and connected the same to CAC, TNPCB, Chennai. The unit has started the construction activity on 31.01.2022 for FGD system and planned to complete before January 2025.The unit has provided bag filter for the lignite crusher house. The unit has provided 4 Nos of dust extraction system in the lignite conveying

system and automatic water sprinklers in the lignite handling system to suppress dust.

ROA of the Stack emission survey in the year 2020-2023 reveals that the following parameters are exceeded the standards PM (5/6), $SO_X$ (6/6) and NOx (6/6) (Consolidated ROA - Annexure-22). ROA of the AAQ survey in the year 2020-2021, 2021 - 2022 and 2022-2023 reveals that all the parameters are within the standards prescribed by the Board except the exceedance of - $PM_{10}$ (2/6). (Consolidated ROA - Annexure-23).

**Fly Ash Management**

The unit is disposing the fly ash to cement industries and brick manufactures. The bottom ash is being sent to Mine-I of M/s NLC India Ltd for back filling in the mined area.

**Hazardous Waste Management**

The unit has made agreement is made with M/s. Dalmia cements for disposing the spent resin and oil soaked cotton waste. Spent resin is stored in the MS drums in the hazardous waste storage shed. Spent oil is stored in the closed shed. Agreement is made with M/s. MSTC for disposing the spent oil. The unit has applied for hazardous waste authorization to the Board. The application is returned for want of additional particulars.

**Greenbelt Development**

The development of Greenbelt carried out in Neyveli New Thermal Power Station is given vide Plate No.- 7

**2.9 Over all Fly Ash Disposal by all TPSs in NLCIL**

M/s. NLCIL reported that all the power plants (viz., TPS I Exp, TPS II, TPS II Exp & NNTPS) are achieving 100% ash utilization since 2013 by supplying the generated ash to brick manufacturing companies, cement manufacturing companies, filling of mine voids, low lying areas etc., complying with the guidelines of MoEF&CC fly ash notifications. The details of fly ash generation and utilization during FY 2022-2023 are given below:

| | | TPS I Exp | TPS II | TPS II Exp | NNTPS |
|---|---|---|---|---|---|
| Generation | Total Ash (Dry Fly Ash + Bottom Ash) in Tons | 2,25,737.8 | 7,74,991.2 | 1,42,172 | 4,53,890 |
| | Total Dry Fly Ash in Tons | 1,65,956.2 | 3,36,742.3 | 1,12,150 | 4,07,195 |
| | Total Bottom Ash in Tons | 59,781.6 | 4,38,248.9 | 30,022 | 46,695 |
| Utilization | Total Dry Fly Ash in Tons | 1,65,956.2 | 3,36,742.3 | 1,12,150 | 4,07,195 |
| | Total Bottom Ash in Tons | 59,781.6 | 4,38,248.9 | 30,022 | 46,695 |
| | % of Total Ash Utilization | 100% | 100% | 100% | 100% |

**2.10 Continuous Ambient Air Quality Monitoring Stations in NLCIL campus**

TNPCB has directed the NLCIL to install Continuous Ambient Air Quality Monitoring System (CAAQMS). Based on that NLCIL have installed seven CAAQMS in and around the units of NLCIL and connected to TNPCB's Care Air Centre. Installation of two additional CAAQMS is in progress.

The details of the locations of the CAAQMS are as below:

| Sl.No | Station | Location | Status |
|---|---|---|---|
| 1 | Mine-I | Block 8 | Installed |
| 2 | Mine-IA | Vadakuthu | Under progress |
| 3 | Mine-II | Administrative Office | Installed |
| 4 | TPS-I Exp/Mine-I | Block 6 | Installed |
| 5 | TPS-II | Inside TPS-II premises | Installed |
| 6 | TPS-II Exp | Inside TPS-II Expn premises | Installed |
| 7 | Mine-II | Substation near Muthanai | Under progress |
| 8 | NNTPS | Inside NNTPS premises | Installed |
| 9 | CARD | Inside CARD | Installed |

M/s. NCLIL has provided LED display boards at prominent places and entrances of the units and displaying the environmental monitoring data to the public.

### 2.11 Township Sewage Treatment Plant

The unit of M/s. NLC India Limited has established a Sewage Treatment Plant and obtained CTO from Board under Water and Air Acts vide Board Proceedings No. DEE/TNPCB/CUD/OL/A&W/2004 dated 23.12.2004 and subsequently renewed with validity up to 30.03.2025. The unit has installed 30 MLD capacity of STP to treat the sewage from NLC Township. Treated sewage is discharged into Kanniakoil Odai which is used for irrigation in the downstream. ROA of the treated sewage samples collected for the year 2018- 2023 (5 years) from the outlet of the STP reveals that, most of the parameters are within the standards prescribed by the Board. (Consolidated ROA - Annexure-24).

## 3.0 M/S. IL& FS TAMIL NADU POWER COMPANY LIMITED

The unit of M/s. IL& FS Tamil Nadu Power Company Limited has obtained environmental clearance from Ministry of Environment and Forest vide J 13012/34/2008-IA.II (T) dated 31.05.2010 for setting up a thermal power plant of 2X 600MW and 3X 800 MW and also 30 MLD desalination plant. The unit has obtained environmental and CRZ clearance for captive port of capacity 15MTPA and 30 MLD desalination plant from MoEF vide F.No. 11-43/2010 –IA-III dated 29.10.2010. Based on that the unit has obtained CTE from Board under Water and Air Acts to manufacture 2x 600 MW Power and 12 MLD desalination plant vide Board Proc. Dated 14.06.2011.

The unit has obtained CTO from the Board vide dated: 15.04.2016 with a validity upto 31.03.2017 and further renewed upto 31.03.2028 for the operation of 2 x 600 MW units and 10MLD desalination plant. The unit is consented to discharge 840 KLD of sewage, 205705 KLD of trade effluent. The unit is consented to discharge emission from boiler through a stack of 275 metre height. During inspection of the committee, 1 x 600 MW plant is in operation and another plant is under maintenance. The imported coal is used as fuel. Ash and sulphur content of coal is 6% and 0.8% respectively.

### Water Management

The unit is drawing water from the Bay of Bengal located in the Eastern side of the plant. The unit has provided desalination plant of 10 MLD. Desalination plant

contains two stages (a) Sea Water Reverse Osmosis Plant (b) Brackish Water Reverse Osmosis. Product of BWRO is used for domestic purpose and for demineralised plant. The demineralised water is used for make up in boiler, electro chlorination plant and condensate polishing unit regeneration. Reject from Brackish Water Reverse Osmosis and cooling tower blow down are collected in central monitoring basin from there, it is discharged into sea (Bay of Bengal) through pipe line.

**Waste Water Management**

**Sewage**: The unit has provided Sewage Treatment Plant to treat the sewage generated and the treated sewage is used for on land for green belt development. The ROA of the treated sewage samples collected for the year 2018-2023 (5 years) from the outlet of the STP reveals that, most of the parameters are within the standards prescribed by the Board except the exceedance of - BOD (6/52) COD (4/52) Nitrogen (1/52). (Consolidated ROA - Annexure-25).

**Trade Effluent:** The trade effluent generated from cooling tower blow down and seawater reverse osmosis reject are collected in guard pond and discharged into the sea. Trade effluent from oil wastewater treatment plant, coal wastewater treatment plant, DM plant regeneration, boiler blow down and condensate polishing unit regeneration are treated in the ETP and used for dust suppression, coal handling plant and plant wash. Consolidated ROA of the treated trade effluent samples collected from the ETP outlet reveals that most of the parameters are within the standards prescribed by the Board except the exceedance of - BOD (1/52) , sulphide (4/52) and chloride (5/52) (Consolidated ROA - Annexure-26).

**Air Pollution Management**

The unit has provided common stack of 275m height and FGD systems along with separate ESPs for the Boiler I and Boiler II. The unit has provided online continuous stack emission monitoring systems for the parameters PM, $SO_2$ and $NO_x$ and connected the same to CAC, TNPCB, Chennai. The unit has provided 6 Nos of CAAQM stations for $PM_{10}$, $PM_{2.5}$, $SO_2$, $NO_x$ and CO and connected to CAC, TNPCB, Chennai. The unit has provided water sprinklers in coal handling area, coal stockyard and bag filters at coal transfer points as APC measures. In coal stockyard,

the unit has provided wind barriers of 15 m height all around to prevent fugitive emission.

Consolidated ROA of the stack emission survey in the year 2018-2023 (5 years) all the parameters are within the standards prescribed by the Board except the exceedance of - PM 10 (9/21). (Consolidated ROA - Annexure-27). Consolidated ROA of the AAQ monitoring survey in the year 2018-2023 (5 years) reveals that all the parameters are within the standards prescribed by the Board except the exceedance of - $PM_{10}$ (4/10) range of 108-116 µg/$m^3$, $PM_{2.5}$ (5/10) range of 62-82 µg/$m^3$. (Consolidated ROA - Annexure-28). The unit has obtained authorization under Hazardous and Other Wastes (Management and Transboundry Movement) Rules, 2016 vide Bd's proc. dated 30.11.2021 with validity upto 31.03.2026.

**Fly Ash Management**

The fly Ash, bottom ash and gypsum are disposed to cement factories. The pond ash accumulated is being disposed to road project (Vikravandi to Nagapattinam- NH 45) carried out by M/s. Oriental Structural Engineers Limited as when required.

**Green Belt Development**

The unit has developed around 3,30,219 Nos of trees till December 2022 in 262.30 acres. The unit authorities informed that during the year 2022-2023 around 46055 trees were planted in 8. 5 acres.

**4.0 SAMPLE COLLECTION**

In the '*POWERing Pollution*' report, it is noted that there are 26 samples collected in Feb 2023 and 11 samples in April 2023 in both NLCIL, Neyveli and ITPCL, Parangipettai surrounding areas covering surface water groundwater and soil. In order to know the correctness of the report, the committee has taken the samples in the same areas. Totally 41 samples (surface water-27, ground Water-8, soil-6) were collected on 11.08.2023 and 16.08.2023. The sample collection detail is given Annexure-29. Photographs are given in Plate No.- 8. The collected samples are given to IITM CUBE, Chennai laboratory for analysis. Once the report of analysis received, a detailed report will be submitted.

Further, in order to know changes in the quality of ground water over a period of time, it is proposed to collect additional samples in the 10KM surrounding area of NLCIL with reference to the earlier EIA study reports. (i.e) Samples will be collected in the same villages where samples were collected while carrying out EIA study for their expansion/new mining and thermal plants. The details of proposed sampling are given in Annexure- 30. This sampling will be done in the first week of September 2023.

Enclosure: Annexures

T.Chitrarasu
AD, AEL, Cuddalore

Dr R.Umayakumaram
DEE, Cuddalore

Dr A.Samuel Rajkumar
JCEE(M), Cuddalore

S.Sankarasubramanian
AD, AEL, Chennai

Dr R.Rajamanickam
ACEE, TNPCB

## ANNEXURE 1

## CONSOLIDATED ROA OFTREATED SEWAGE FROM M/S. NLC INDIA LTD, MINE I FOR THE YEAR 2018-2023

| Mine - I Outlet of Sewage Treatment Plant | | | | | | |
|---|---|---|---|---|---|---|
| **S.No.** | **Month** | **pH** | **TSS** | **BOD** | **COD** | **Ammonical Nitrogen ($NH_3$-N)** |
| 1 | Apr-18 | 7.7 | 8 | 12 | 52 | 12.89 |
| 2 | May-18 | 6.92 | 8 | 10 | 88 | <MDL |
| 3 | Jun-18 | 7.59 | 10 | 8 | 64 | <MDL |
| 4 | Jul-18 | 8.98 | 6 | 26 | 160 | 12.89 |
| 5 | Aug-18 | 6.96 | 16 | 20 | 80 | <MDL |
| 6 | Sep-18 | 7.16 | 8 | 4 | 16 | – |
| 7 | Oct-18 | 7.93 | 12 | 16 | 32 | – |
| 8 | Nov-18 | 7.41 | 12 | 26 | 100 | 16.25 |
| 9 | Dec-18 | 7.85 | 10 | 10 | 40 | 7.84 |
| 10 | Jan-19 | 8.01 | 6 | 4 | 16 | 6.16 |
| 11 | Feb-19 | 7.8 | 10 | 16 | 64 | 10.09 |
| 12 | Mar-19 | 6.84 | 6 | 8 | 32 | 8.4 |
| 13 | Jan-20 | 6.49 | 10 | 20 | 80 | 8.4 |
| 14 | Feb-20 | 6.96 | 12 | 28 | 120 | – |
| 15 | Mar-20 | 7.92 | 8 | 20 | 88 | 10.09 |
| 16 | May-20 | 7.45 | 8 | 14 | 64 | – |
| 17 | Jun-20 | 6.46 | 12 | 18 | 72 | – |
| 18 | Jul-20 | 7.61 | 14 | 18 | 72 | 8.96 |
| 19 | Sep-20 | 7.73 | 10 | 16 | 48 | 6.72 |
| 20 | Oct-20 | 8.54 | 8 | 18 | 48 | 4.48 |
| 21 | Nov-20 | 6.28 | 10 | 16 | 44 | 3.36 |
| 22 | Dec-20 | 7.4 | 14 | 20 | 52 | 5.04 |
| 23 | Jan-21 | 7.6 | 10 | 16 | 44 | – |
| 24 | Feb-21 | 7.05 | 10 | 16 | 44 | 3.92 |
| 25 | Apr-21 | 6.74 | 10 | 14 | 44 | – |
| 26 | Jun-21 | 6.52 | 14 | 16 | 44 | <MDL |
| 27 | Jul-21 | 7.36 | 10 | 16 | 44 | <MDL |
| 28 | Aug-21 | 7.97 | 12 | 18 | 44 | – |
| 29 | Sep-21 | 8 | 12 | 16 | 44 | <MDL |
| 30 | Oct-21 | 6.59 | 14 | 16 | 44 | <MDL |
| 31 | Nov-21 | 6.48 | 12 | 16 | 44 | <MDL |
| 32 | Dec-21 | 6.61 | 12 | 16 | 44 | <MDL |
| 33 | Jan-22 | 7.16 | 16 | 18 | 44 | <MDL |
| 34 | Feb-22 | 8.12 | 12 | 16 | 44 | <MDL |
| 35 | Mar-22 | 7.02 | 14 | 16 | 44 | <MDL |
| 36 | May-22 | 6.19 | 16 | 20 | 64 | <MDL |
| 37 | Jun-22 | 5.91 | 10 | 8 | 32 | 4.48 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 38 | Aug-22 | 7.44 | 10 | 10 | 32 | 3.36 |
| 39 | Sep-22 | 6.57 | 10 | 14 | 64 | 5.04 |
| 40 | Oct-22 | 6.66 | 12 | 5.8 | 24 | <MDL |
| 41 | Nov-22 | 7.96 | 12 | 12 | 32 | 4.48 |
| 42 | Dec-22 | 7.07 | 12 | 8 | 32 | 6.72 |
| 43 | Jan-23 | 9.12 | 18 | 36 | 144 | 6.72 |
| 44 | Feb-23 | 6.94 | 18 | 16.4 | 56 | 9.52 |
| 45 | Mar-23 | 9.1 | 6 | 6 | 80 | 6.2 |
| ***Standards for STP*** | | ***5.5-9.0*** | ***30*** | ***20*** | ***100*** | ***-*** |

***Inference:***The ROA of the treated sewage samples collected for the year 2018 – 2019, 2019-2020, 2020-2021, 2021-2022 and 2022 -2023 from the outlet of the STP reveals that the parameters were within the standards prescribed by the Board in most of the months.

## ANNEXURE 2

## CONSOLIDATED ROA OF TREATED EFFLUENT FROM M/S. NLC INDIA LTD., MINE I FOR THE YEAR 2018-2023

| Mine - I Outlet of Effluent Treatment Plant | | | | | |
|---|---|---|---|---|---|
| **S.No.** | **Month** | **pH** | **TSS** | **BOD** | **COD** |
| 1 | Apr-18 | 8.99 | 12 | 28 | 112 |
| 2 | May-18 | 6.58 | 22 | 18 | 116 |
| 3 | Jun-18 | 5.19 | 10 | 10 | 96 |
| 4 | Jul-18 | 7.04 | 8 | 28 | 180 |
| 5 | Aug-18 | 6.95 | 12 | 16 | 64 |
| 6 | Sep-18 | 6.87 | 8 | 30 | 144 |
| 7 | Oct-18 | 7.76 | 28 | 16 | 64 |
| 8 | Nov-18 | 5.28 | 10 | 22 | 88 |
| 9 | Dec-18 | 5.37 | 12 | 6 | 32 |
| 10 | Jan-19 | 8.01 | 8 | 14 | 56 |
| 11 | Feb-19 | 7.57 | 8 | 16 | 64 |
| 12 | Mar-19 | **4.28** | 8 | 8 | 32 |
| 13 | Dec-19 | 8.92 | 14 | 18 | 76 |
| 14 | Jan-20 | **3.83** | 12 | 20 | 80 |
| 15 | Feb-20 | 6.02 | 22 | 22 | 108 |
| 16 | Mar-20 | 7.67 | 12 | 22 | 96 |
| 17 | May-20 | **4.1** | 12 | 20 | 80 |
| 18 | Jun-20 | 5.77 | 12 | 10 | 40 |
| 19 | Sep-20 | 5.89 | 12 | 18 | 72 |
| 20 | Oct-20 | **4.72** | 24 | 18 | 80 |
| 21 | Nov-20 | 5.7 | 14 | 18 | 76 |
| 22 | Jan-21 | **4.8** | 12 | 20 | 64 |
| 23 | Feb-21 | **4.83** | 14 | 20 | 80 |
| 24 | Apr-21 | 6.52 | 10 | 16 | 44 |
| 25 | Jun-21 | 6.48 | 14 | 18 | 64 |
| 26 | Jul-21 | 7.36 | 14 | 20 | 80 |
| 27 | Aug-21 | 6.04 | 18 | 20 | 80 |
| 28 | Sep-21 | 7.98 | 14 | 20 | 80 |
| 29 | Oct-21 | 5.48 | 14 | 20 | 80 |
| 30 | Nov-21 | 6.06 | 18 | 20 | 88 |
| 31 | Dec-21 | 5.78 | 16 | 20 | 80 |
| 32 | Jan-22 | 7.28 | 16 | 20 | 88 |
| 33 | Feb-22 | 7.6 | 16 | 20 | 88 |
| 34 | Mar-22 | **4.31** | 18 | 20 | 88 |
| 35 | May-22 | 6.16 | 12 | 16 | 44 |
| 36 | Jun-22 | 6.91 | 12 | 8 | 16 |
| 37 | Jul-22 | 8.23 | 21 | 2 | 8 |
| 38 | Aug-22 | 7.75 | 18 | 8 | 32 |

| | | | | | |
|---|---|---|---|---|---|
| 39 | Sep-22 | 6.23 | 22 | 16 | 72 |
| 40 | Oct-22 | 7.91 | 12 | 6.1 | 24 |
| 41 | Nov-22 | 6.62 | 8 | 18 | 64 |
| 42 | Dec-22 | 7.18 | 18 | 28 | 144 |
| 43 | Jan-23 | 6.33 | 12 | 18 | 64 |
| 44 | Feb-23 | 7.98 | 14 | 9.8 | 48 |
| 45 | Mar-23 | **4.02** | 10 | 5 | 64 |
| ***Standards for ETP*** | | ***5.5-9.0*** | ***200*** | ***100*** | **-** |

***Inference:****The ROA of the treated effluent samples collected for the year 2018 – 2019, 2019-2020, 2020-2021, 2021-2022 and 2022 -2023 from the outlet of the ETP reveals that the parameters were within the standards prescribed by the boardexcept the exceedance of pH (8/45).*

## ANNEXURE 2

## CONSOLIDATED ROA OF SEEPAGEWATER FROM M/S. NLC INDIA LTD., MINE I FOR THE YEAR 2018-2023

| Mine - I Outlet of Seepage water | | | | | |
|---|---|---|---|---|---|
| **S.No.** | **Month** | **pH** | **TSS** | **BOD** | **COD** |
| 1 | Apr-18 | 8.83 | 18 | 38 | 152 |
| 2 | May-18 | 7.2 | 16 | 12 | 108 |
| 3 | Jun-18 | 6.84 | 16 | 14 | 108 |
| 4 | Jul-18 | 7.3 | 12 | 20 | 136 |
| 5 | Aug-18 | 7.04 | 10 | 20 | 80 |
| 6 | Sep-18 | 6.47 | 6 | 12 | 64 |
| 7 | Oct-18 | 7.71 | 12 | 10 | 32 |
| 8 | Nov-18 | 6.79 | 14 | 25 | 100 |
| 9 | Dec-18 | 7.26 | 10 | 16 | 64 |
| 10 | Jan-19 | 8.1 | 16 | 26 | 104 |
| 11 | Feb-19 | 7.52 | 14 | 13 | 52 |
| 12 | Mar-19 | 7.42 | 6 | 4 | 16 |
| 13 | Dec-19 | 8.7 | 12 | 16 | 68 |
| 14 | Jan-20 | 6.65 | 14 | 22 | 88 |
| 15 | Feb-20 | 6.99 | 18 | 24 | 136 |
| 16 | Mar-20 | 7.62 | 8 | 10 | 64 |
| 17 | May-20 | 6.99 | 20 | 22 | 88 |
| 18 | Jun-20 | 6.66 | 18 | 14 | 64 |
| 19 | Sep-20 | 7.34 | 14 | 20 | 80 |
| 20 | Oct-20 | 7.15 | 14 | 16 | 64 |
| 21 | Nov-20 | 5.08 | 16 | 20 | 80 |
| 22 | Dec-20 | **4.91** | 14 | 20 | 80 |
| 23 | Jan-21 | 7.69 | 10 | 18 | 56 |
| 24 | Feb-21 | 7.03 | 12 | 18 | 72 |
| 25 | Apr-21 | 6.92 | 12 | 20 | 52 |
| 26 | Jun-21 | 7.98 | 16 | 20 | 72 |
| 27 | Jul-21 | 7.09 | 16 | 22 | 88 |
| 28 | Aug-21 | 8.14 | 20 | 22 | 92 |
| 29 | Sep-21 | 7.7 | 16 | 22 | 84 |
| 30 | Oct-21 | 6.58 | 12 | 18 | 72 |
| 31 | Nov-21 | 7.75 | 20 | 22 | 92 |
| 32 | Dec-21 | 6.28 | 14 | 18 | 64 |
| 33 | Jan-22 | 7.43 | 20 | 22 | 96 |
| 34 | Feb-22 | 7.58 | 18 | 22 | 92 |
| 35 | Mar-22 | 7.73 | 16 | 22 | 92 |
| 36 | May-22 | 6.84 | 14 | 18 | 64 |
| 37 | Jun-22 | 7.22 | 10 | 6 | 24 |

| | | | | | |
|---|---|---|---|---|---|
| 38 | Jul-22 | 8.44 | 14 | 10 | 56 |
| 39 | Aug-22 | 7.02 | 12 | 12 | 40 |
| 40 | Sep-22 | 7.36 | 18 | 12 | 64 |
| 41 | Oct-22 | 6.29 | 12 | 1.8 | 8 |
| 42 | Nov-22 | 6.43 | 12 | 8 | 32 |
| 43 | Jan-23 | 6.4 | 14 | 2 | 8 |
| 44 | Feb-23 | 4.87 | 12 | 8 | 40 |
| 45 | Mar-23 | 7.04 | 10 | 4 | 40 |
| ***Standards*** | | ***5.5-9.0*** | ***200*** | ***100*** | ***-*** |

***Inference:****The ROA of the seepage water samples collected for the year 2018 – 2019, 2019-2020, 2020-2021, 2021-2022 and 2022 -2023 from the outlet of the seepage reveals that the parameters were within the standards prescribed by the board except the exceedance of pH (1/45).*

**ANNEXURE 3**

**CONSOLIDATED ROA OF THE AMBIENT AIR QUALITY MONITORING SURVEY CONDUCTED AT M/S. NLC INDIA LTD., MINE I FOR THE YEAR 2018-23**

| Parameters | | PM10 | | PM2.5 | | SO2 | | NOx | |
|---|---|---|---|---|---|---|---|---|---|
| Standards | | 500 | | 250 | | 120 | | 120 | |
| Year | | Min. | Max. | Min. | Max. | Min. | Max. | Min. | Max. |
| 2018-19 | 1st Half year | 150 | 344 | 26 | 70 | 10 | 18 | 12 | 20 |
| | 2nd Half year | 320 | 158 | 34 | 68 | 11 | 20 | 14 | 22 |
| 2019-20 | 1st Half year | 310 | 340 | 58 | 94 | 15 | 18 | 17 | 20 |
| | 2nd Half year | 256 | 316 | 54 | 102 | 8 | 13 | 10 | 16 |
| 2020-21 | 1st Half year | 285 | 292 | 56 | 58 | 14 | 16 | 17 | 19 |
| | 2nd Half year | 286 | 296 | 59 | 60 | 9 | 10 | 11 | 12 |
| 2021-22 | 1st Half year | 168 | **579** | 69 | 78 | 13 | 16 | 18 | 21 |
| | 2nd Half year | 129 | 133 | 45 | 51 | 14 | 17 | 16 | 23 |
| 2022-23 | 1st Half year | 222 | 260 | 38 | 46 | 12 | 22 | 13 | 23 |
| | 2nd Half year | 230 | 250 | 32 | 56 | 14 | 16 | 15 | 20 |

***Inference:****Ambient Air Quality Survey was conducted at six locations inside and outside of the Mine I. The minimum and maximum value at particular location is given above. As per the survey report of the year 2018 – 2023, all the parameters are within the standards prescribed by the Board except PM10 in the range of 579 µg/m$^3$(1/10) which is slightly higher than 500 µg/m$^3$.*

## ANNEXURE 4

## CONSOLIDATED ROA OF TREATED EFFLUENT FROM M/S. NLC INDIA LTD., MINE IA FOR THE YEAR 2018-2023

| Mine - IAOutlet of Effluent Treatment Plant | | | | | |
|---|---|---|---|---|---|
| **S.No.** | **Month** | **pH** | **TSS** | **BOD** | **COD** |
| 1 | Apr-18 | 6.73 | 8 | 8 | 32 |
| 2 | May-18 | 6.65 | 8 | 12 | 48 |
| 3 | Jun-18 | 6.64 | 14 | 13 | 80 |
| 4 | Jul-18 | 7.49 | 6 | 8 | 32 |
| 5 | Sep-18 | 5.95 | 8 | 8 | 32 |
| 6 | Oct-18 | 6.05 | 10 | 4 | 16 |
| 7 | Nov-18 | 7.21 | 12 | 8 | 32 |
| 8 | Dec-18 | 7.76 | 14 | 16 | 64 |
| 9 | Jan-19 | 7.12 | 8 | 8 | 32 |
| 10 | Feb-19 | 7.74 | 2 | 8 | 32 |
| 11 | Mar-19 | 7.34 | 6 | 4 | 16 |
| 12 | Apr-19 | 6.81 | 6 | 12 | 64 |
| 13 | May-19 | 5.86 | 8 | 4 | 16 |
| 14 | Jun-19 | 6.92 | 4 | 4 | 16 |
| 15 | Jul-19 | 7.13 | 6 | 8 | 32 |
| 16 | Aug-19 | 6.41 | 6 | 8 | 32 |
| 17 | Sep-19 | 7.35 | 8 | 18 | 64 |
| 18 | Oct-19 | 7.81 | 12 | 16 | 64 |
| 19 | Nov-19 | 6.26 | 16 | 26 | 108 |
| 20 | Dec-19 | 8.5 | 14 | 24 | 96 |
| 21 | Jan-20 | 4.38 | 10 | 20 | 76 |
| 22 | Feb-20 | 6.32 | 12 | 18 | 72 |
| 23 | Mar-20 | 7.69 | 10 | 14 | 64 |
| 24 | Sep-20 | 4.53 | 14 | 20 | 88 |
| 25 | Oct-20 | 4.69 | 14 | 18 | 76 |
| 26 | Dec-20 | 4.94 | 14 | 20 | 72 |
| 27 | Apr-21 | 3.32 | 16 | 20 | 72 |
| 28 | Jun-21 | 7.21 | 20 | 22 | 96 |
| 29 | Jul-21 | 6.75 | 20 | 22 | 96 |
| 30 | Aug-21 | 7.4 | 20 | 22 | 116 |
| 31 | Sep-21 | 7.73 | 16 | 20 | 76 |
| 32 | Oct-21 | 7.07 | 14 | 22 | 88 |
| 33 | Nov-21 | 6.13 | 16 | 20 | 76 |
| 34 | Dec-21 | 6.06 | 14 | 20 | 72 |
| 35 | Apr-22 | 6.84 | 18 | 22 | 88 |
| 36 | May-22 | 7.44 | 16 | 18 | 60 |
| 37 | Jun-22 | 8.19 | 10 | 8 | 32 |
| 38 | Jul-22 | 8.38 | 10 | 10 | 32 |

| | | | | | |
|---|---|---|---|---|---|
| 39 | Aug-22 | 7.01 | 8 | 12 | 64 |
| 40 | Sep-22 | 6.84 | 16 | 12 | 48 |
| 41 | Oct-22 | 7.03 | 12 | 8 | 40 |
| 42 | Dec-22 | 7.51 | 8 | 8 | 32 |
| 43 | Jan-23 | 5.8 | 18 | 12 | 32 |
| 44 | Feb-23 | 7.08 | 16 | 8.2 | 40 |
| 45 | Mar-23 | 5.83 | 8 | 3.2 | 24 |
| ***Standards for ETP*** | | ***5.5-9.0*** | ***200*** | ***100*** | ***-*** |

***Inference:***The ROA of the treated effluent samples collected for the year 2018 – 2019, 2019-2020, 2020-2021, 2021-2022 and 2022 -2023 from the outlet of the ETP reveals that the parameters were within the standards prescribed by the Board.

## ANNEXURE 4

## CONSOLIDATED ROA OF SEEPAGE WATER FROM M/S. NLC INDIA LTD., MINE IA FOR THE YEAR 2018-2023

| Mine - IAOutlet of Seepage water | | | | | |
|---|---|---|---|---|---|
| **S.No.** | **Month** | **pH** | **TSS** | **BOD** | **COD** |
| 1 | Apr-18 | 8.24 | 6 | 4 | 16 |
| 2 | May-18 | 7.91 | 6 | 12 | 48 |
| 3 | Jun-18 | 7.3 | 22 | 18 | 96 |
| 4 | Jul-18 | 7.61 | 8 | 16 | 64 |
| 5 | Sep-18 | 6.09 | 12 | 18 | 64 |
| 6 | Oct-18 | 6.27 | 12 | 12 | 32 |
| 7 | Nov-18 | 7.29 | 18 | 20 | 80 |
| 8 | Dec-18 | 7.85 | 12 | 8 | 32 |
| 9 | Jan-19 | 6.96 | 12 | 16 | 64 |
| 10 | Feb-19 | 7.68 | 4 | 14 | 64 |
| 11 | Mar-19 | 7.18 | 12 | 8 | 32 |
| 12 | Apr-19 | 6.49 | 8 | 8 | 32 |
| 13 | May-19 | 6.97 | 12 | 8 | 32 |
| 14 | Jun-19 | 6.64 | 8 | 8 | 32 |
| 15 | Jul-19 | 7.27 | 8 | 12 | 64 |
| 16 | Aug-19 | 6.7 | 8 | 16 | 64 |
| 17 | Sep-19 | 6.45 | 12 | 26 | 104 |
| 18 | Oct-19 | 8.08 | 18 | 22 | 88 |
| 19 | Nov-19 | 8.36 | 18 | 28 | 112 |
| 20 | Dec-19 | 8.5 | 14 | 24 | 96 |
| 21 | Jan-20 | 5.68 | 12 | 22 | 80 |
| 22 | Feb-20 | 6.36 | 20 | 26 | 136 |
| 23 | Mar-20 | 7.8 | 14 | 18 | 72 |
| 24 | Sep-20 | 3.63 | 20 | 26 | 112 |
| 25 | Oct-20 | 4.8 | 18 | 20 | 80 |
| 26 | Nov-20 | 4.25 | 18 | 24 | 116 |
| 27 | Dec-20 | 3.86 | 20 | 24 | 88 |
| 28 | Apr-21 | 4.13 | 16 | 18 | 64 |
| 29 | Jun-21 | 8.48 | 16 | 20 | 92 |
| 30 | Jul-21 | 4.16 | 18 | 20 | 88 |
| 31 | Aug-21 | 5.41 | 16 | 24 | 104 |
| 32 | Sep-21 | 7.75 | 18 | 22 | 80 |
| 33 | Oct-21 | 6.36 | 18 | 20 | 80 |
| 34 | Nov-21 | 3.08 | 20 | 22 | 104 |
| 35 | Dec-21 | 5.34 | 18 | 20 | 88 |
| 36 | Feb-22 | 8.2 | 18 | 24 | 104 |
| 37 | Mar-22 | 7.87 | 20 | 22 | 96 |
| 38 | Apr-22 | 7.16 | 16 | 24 | 96 |

| | | | | | |
|---|---|---|---|---|---|
| 39 | May-22 | 7.96 | 14 | 16 | 48 |
| 40 | Jun-22 | 7.78 | 10 | 16 | 64 |
| 41 | Jul-22 | 8.2 | 18 | 12 | 40 |
| 42 | Aug-22 | 7.04 | 2 | 20 | 88 |
| 43 | Sep-22 | 7.32 | 20 | 16 | 88 |
| 44 | Oct-22 | 7.3 | 18 | 4.2 | 16 |
| 45 | Dec-22 | 7.76 | 12 | 16 | 64 |
| 46 | Jan-23 | 7.28 | 12 | 7.4 | 32 |
| 47 | Feb-23 | 7.16 | 12 | 7.8 | 32 |
| 48 | Mar-23 | 7.14 | 14 | 5.4 | 40 |
| ***Standards for Seepage*** | | | | | |

***Inference:***The ROA of the seepage water samples collected for the year 2018 – 2019, 2019-2020, 2020-2021, 2021-2022 and 2022 -2023 from the outlet of the seepage reveals that the parameters were within the standards prescribed by the Board.

## ANNEXURE 5

## CONSOLIDATED ROA OF THE AMBIENT AIR QUALITY MONITORING SURVEY CONDUCTED AT M/S. NLC INDIA LTD., MINE IA FOR THE YEAR 2018-2023

| Parameters | | PM10 | | PM2.5 | | SO2 | | NOx | |
|---|---|---|---|---|---|---|---|---|---|
| Standards | | 500 | | 250 | | 120 | | 120 | |
| Year | | Min. | Max. | Min. | Max. | Min. | Max. | Min. | Max. |
| 2018-19 | 1st Half year | 158 | 320 | 34 | 68 | 20 | 11 | 22 | 14 |
| | 2nd Half year | 270 | 290 | 55 | 56 | 8 | 15 | 12 | 18 |
| 2019-20 | 1st Half year | 340 | 268 | 98 | 55 | 22 | 17 | 25 | 20 |
| | 2nd Half year | 268 | 360 | 58 | 105 | 12 | 22 | 15 | 26 |
| 2020-21 | 1st Half year | 290 | 286 | 56 | 55 | 12 | 15 | 15 | 18 |
| | 2nd Half year | 287 | 297 | 58 | 54 | 10 | 12 | 4 | 7 |
| 2021-22 | 1st Half year | 104 | 340 | 72 | 86 | 15 | 13 | 25 | 18 |
| | 2nd Half year | 110 | 109 | 46 | 64 | 14 | 15 | 16 | 18 |
| 2022-23 | 1st Half year | 248 | 262 | 32 | 40 | 10 | 18 | 13 | 20 |
| | 2nd Half year | 232 | 252 | 34 | 58 | 14 | 18 | 15 | 22 |

***Inference:***Consolidated ROA of the AAQ survey in the year 2018-2019, 2019-2020, 2020-2021, 2021-2022 and 2022-2023 reveals that all the parameters are within the standards prescribed by the Board.

## ANNEXURE 6

## CONSOLIDATED ROA OFTREATED SEWAGE FROM M/S. NLC, MINE II FOR THE YEAR 2018-2023

| Mine - II Outlet of Sewage Treatment Plant | | | | | | |
|---|---|---|---|---|---|---|
| **S. No.** | **Month** | **pH** | **TSS** | **BOD** | **COD** | **Ammonical Nitrogen ($NH_3$-N)** |
| 1 | Apr-18 | 7.22 | 8 | 16 | 64 | – |
| 2 | May-18 | 7.2 | 6 | 8 | 80 | – |
| 3 | Jun-18 | 7.58 | 10 | 12 | 96 | – |
| 4 | Jul-18 | 8.02 | 12 | 10 | 96 | – |
| 5 | Aug-18 | 7.06 | 8 | **30** | **148** | – |
| 6 | Sep-18 | 7.09 | 8 | **36** | **144** | – |
| 7 | Oct-18 | 7.52 | **38** | **72** | **288** | – |
| 8 | Nov-18 | 7.48 | 12 | **26** | **104** | – |
| 9 | Dec-18 | 7.75 | 8 | 12 | 64 | – |
| 10 | Jan-19 | 7.17 | 28 | **34** | **136** | – |
| 11 | Feb-19 | 7.58 | 12 | **26** | **104** | – |
| 12 | Mar-19 | 7.78 | 12 | 8 | 32 | – |
| 13 | Apr-19 | 6.92 | 8 | **36** | **144** | – |
| 14 | May-19 | 6.17 | 12 | 18 | 64 | – |
| 15 | Jun-19 | 6.98 | 8 | **26** | **104** | – |
| 16 | Jul-19 | 6.81 | 8 | 18 | 64 | – |
| 17 | Aug-19 | 6.69 | 12 | 8 | 32 | – |
| 18 | Sep-19 | 7.26 | 18 | 18 | 72 | – |
| 19 | Oct-19 | 7.45 | 10 | 20 | 80 | – |
| 20 | Nov-19 | 7.9 | 12 | 20 | 80 | – |
| 21 | Apr-20 | 8.1 | 14 | 18 | 96 | – |
| 22 | May-20 | 8.1 | 14 | 18 | 96 | – |
| 23 | Jun-20 | 7.2 | 14 | 14 | 64 | – |
| 24 | Jul-20 | 7.09 | 12 | 16 | 76 | – |
| 25 | Aug-20 | 7.27 | 12 | 14 | 72 | – |
| 26 | Sep-20 | 8.01 | 14 | 20 | 80 | – |
| 27 | Oct-20 | 8.92 | 14 | 20 | 88 | – |
| 28 | Nov-20 | 7.15 | 14 | 20 | 80 | – |
| 29 | Jan-21 | 7.43 | 12 | 20 | 80 | – |
| 30 | Feb-21 | 7.81 | 18 | **22** | 96 | – |
| 31 | Mar-21 | 7.87 | 10 | 18 | 48 | – |
| 32 | Apr-21 | 7.08 | 14 | 20 | 72 | – |
| 33 | Jun-21 | 7.26 | 18 | 20 | 80 | – |
| 34 | Jul-21 | 7.22 | 14 | 20 | 80 | – |
| 35 | Aug-21 | 8.12 | 18 | **24** | **108** | – |
| 36 | Sep-21 | 8.31 | 16 | 18 | 72 | – |
| 37 | Oct-21 | 6.64 | 18 | **22** | 88 | – |
| 38 | Nov-21 | 7.02 | 16 | 20 | 96 | – |
| 39 | Dec-21 | 7.4 | 20 | **22** | 96 | – |

| | | | | | | |
|---|---|---|---|---|---|---|
| 40 | Feb-22 | 8.07 | 14 | **22** | 96 | – |
| 41 | Mar-22 | 7.73 | 14 | 16 | 48 | – |
| 42 | Apr-22 | 6.82 | 10 | 16 | 40 | <MDL |
| 43 | May-22 | 7.41 | 18 | 18 | 64 | <MDL |
| 44 | Jun-22 | 6.7 | 18 | 20 | 96 | 5.04 |
| 45 | Jul-22 | 8.24 | 16 | **26** | 80 | – |
| 46 | Aug-22 | 6.96 | 8 | 20 | 80 | 8.4 |
| 47 | Sep-22 | 7.54 | 20 | **32** | **112** | 10.64 |
| 48 | Oct-22 | 7.7 | 16 | 5.4 | 24 | <MDL |
| 49 | Dec-22 | 6.79 | 12 | 16 | 64 | 3.36 |
| 50 | Jan-23 | 6.71 | **133** | 9.2 | 24 | 3.36 |
| 51 | Feb-23 | 7.28 | 16 | 12 | 32 | 3.36 |
| 52 | Mar-23 | 6.54 | 18 | 6.4 | 40 | 5.6 |
| ***Standards for STP*** | | ***5.5-9.0*** | ***30*** | ***20*** | ***100*** | – |

***Inference:***The ROA of the treated sewage samples collected for the year 2018-2023 from the outlet of the STP reveals that the parameters were generally within the standards prescribed by the Boardexcept the exceedance of TSS (2/52), BOD (15/52), COD(10/52).

## ANNEXURE 7

## CONSOLIDATED ROA OF TREATED EFFLUENT FROM M/S. NLC INDIA LTD., MINE II FOR THE YEAR 2018-23

| Mine - IIOutlet of Effluent Treatment Plant | | | | | |
|---|---|---|---|---|---|
| **S.No.** | **Month** | **pH** | **TSS** | **BOD** | **COD** |
| 1 | Apr-18 | 7.84 | 6 | 12 | 66 |
| 2 | May-18 | 7.99 | 8 | 4 | 48 |
| 3 | Jun-18 | 7.72 | 12 | 8 | 64 |
| 4 | Jul-18 | 7.61 | 10 | 8 | 48 |
| 5 | Aug-18 | 7.19 | 10 | 20 | 80 |
| 6 | Sep-18 | 7.21 | 6 | 26 | 104 |
| 7 | Oct-18 | 7.65 | 14 | 12 | 32 |
| 8 | Nov-18 | 7.83 | 8 | 8 | 64 |
| 9 | Dec-18 | 7.92 | 10 | 18 | 72 |
| 10 | Jan-19 | 7.53 | 8 | 12 | 32 |
| 11 | Feb-19 | 7.57 | 10 | 8 | 32 |
| 12 | Mar-19 | 7.99 | 6 | 18 | 64 |
| 13 | Apr-19 | 6.87 | 6 | 8 | 64 |
| 14 | May-19 | 6.73 | 8 | 4 | 16 |
| 15 | Jun-19 | 7.28 | 6 | 18 | 64 |
| 16 | Jul-19 | 6.74 | 6 | 20 | 84 |
| 17 | Aug-19 | 6.51 | 8 | 4 | 16 |
| 18 | Sep-19 | 6.68 | 8 | 8 | 32 |
| 19 | Oct-19 | **4.86** | 14 | 26 | 104 |
| 20 | Nov-19 | **4.53** | 14 | 22 | 84 |
| 21 | Apr-20 | 8.18 | 12 | 16 | 88 |
| 22 | May-20 | 8.18 | 12 | 16 | 88 |
| 23 | Jun-20 | **4.54** | 18 | 18 | 88 |
| 24 | Jul-20 | 6.25 | 14 | 18 | 80 |
| 25 | Aug-20 | **5.43** | 14 | 18 | 80 |
| 26 | Sep-20 | 7.79 | 12 | 18 | 72 |
| 27 | Oct-20 | 8.84 | 10 | 18 | 72 |
| 28 | Nov-20 | 7.68 | 16 | 18 | 84 |
| 29 | Jan-21 | 7.68 | 18 | 22 | 96 |
| 30 | Feb-21 | 6.15 | 16 | 20 | 80 |
| 31 | Mar-21 | 7.6 | 14 | 20 | 80 |
| 32 | Apr-21 | 7.75 | 18 | 22 | 80 |
| 33 | Jun-21 | 7.01 | 18 | 20 | 80 |
| 34 | Jul-21 | 7.08 | 20 | 22 | 92 |
| 35 | Aug-21 | 8.17 | 20 | 26 | 112 |
| 36 | Sep-21 | 8.51 | 18 | 22 | 80 |
| 37 | Oct-21 | 7.72 | 16 | 20 | 80 |
| 38 | Nov-21 | 7.18 | 14 | 18 | 92 |

| | | | | | |
|---|---|---|---|---|---|
| 39 | Dec-21 | 6.93 | 18 | 20 | 92 |
| 40 | Apr-22 | 6.84 | 18 | 22 | 88 |
| 41 | May-22 | 7.44 | 16 | 18 | 60 |
| 42 | Jun-22 | 8.19 | 10 | 8 | 32 |
| 43 | Jul-22 | 8.38 | 10 | 10 | 32 |
| 44 | Aug-22 | 7.01 | 8 | 12 | 64 |
| 45 | Sep-22 | 6.84 | 16 | 12 | 48 |
| 46 | Oct-22 | 7.03 | 12 | 8 | 40 |
| 47 | Dec-22 | 7.51 | 12 | 8 | 32 |
| 48 | Jan-23 | 7.59 | 18 | 8 | 32 |
| 49 | Feb-23 | 8.1 | 12 | 10 | 32 |
| 50 | Mar-23 | 6.6 | 130 | 6 | 56 |
| ***Standards for ETP*** | | ***5.5-9.0*** | ***200*** | ***100*** | ***-*** |

***Inference:***Consolidated ROA of the treated trade effluent samples collected from the ETP outlet reveals that, mostly the parameters were within the standards prescribed by the Board except the exceedance of pH (4/50).

## ANNEXURE 7

## CONSOLIDATED ROA OF SEEPAGE WATER FROM M/S. NLC INDIA LTD., MINE II FOR THE YEAR 2018-23

| Mine - IIOutlet of Seepage water | | | | | |
|---|---|---|---|---|---|
| **S.No.** | **Month** | **pH** | **TSS** | **BOD** | **COD** |
| 1 | Apr-18 | 7.68 | 10 | 16 | 64 |
| 2 | May-18 | 7.67 | 12 | 10 | 72 |
| 3 | Jun-18 | 7.55 | 18 | 6 | 72 |
| 4 | Jul-18 | 8.25 | 12 | 10 | 104 |
| 5 | Aug-18 | 7.54 | 12 | 8 | 32 |
| 6 | Sep-18 | 6.3 | 10 | 8 | 32 |
| 7 | Oct-18 | 7.9 | 12 | 14 | 52 |
| 8 | Nov-18 | 7.92 | 18 | 10 | 66 |
| 9 | Dec-18 | 8.12 | 6 | 12 | 48 |
| 10 | Jan-19 | 6.89 | 12 | 4 | 16 |
| 11 | Feb-19 | 7.26 | 18 | 4 | 16 |
| 12 | Mar-19 | 7.85 | 8 | 12 | 60 |
| 13 | Apr-19 | 6.65 | 12 | 4 | 16 |
| 14 | May-19 | 6.75 | 10 | 18 | 72 |
| 15 | Jun-19 | 7.42 | 8 | 8 | 32 |
| 16 | Jul-19 | 6.81 | 8 | 22 | 88 |
| 17 | Aug-19 | 6.52 | 12 | 18 | 80 |
| 18 | Sep-19 | 7.65 | 12 | 16 | 64 |
| 19 | Oct-19 | 8.63 | 18 | 18 | 72 |
| 20 | Nov-19 | 7.91 | 16 | 24 | 96 |
| 21 | Apr-20 | 8.15 | 10 | 14 | 84 |
| 22 | May-20 | 8.15 | 10 | 14 | 84 |
| 23 | Jun-20 | 7.25 | 20 | 22 | 104 |
| 24 | Jul-20 | 6.8 | 16 | 20 | 88 |
| 25 | Aug-20 | 7.37 | 16 | 20 | 88 |
| 26 | Sep-20 | 7.6 | 18 | 22 | 96 |
| 27 | Oct-20 | 8.68 | 16 | 22 | 104 |
| 28 | Nov-20 | 7.12 | 18 | 22 | 96 |
| 29 | Dec-20 | 4.01 | 16 | 22 | 96 |
| 30 | Jan-21 | 7.93 | 14 | 20 | 88 |
| 31 | Feb-21 | 7.14 | 16 | 104 | 10 |
| 32 | Mar-21 | 7.93 | 20 | 22 | 96 |
| 33 | Apr-21 | 7.72 | 14 | 22 | 104 |
| 34 | Jun-21 | 8.06 | 14 | 20 | 88 |
| 35 | Jul-21 | 7.99 | 16 | 18 | 72 |
| 36 | Aug-21 | 8.35 | 16 | 22 | 108 |
| 37 | Sep-21 | 8.39 | 14 | 20 | 80 |
| 38 | Oct-21 | 8.18 | 14 | 18 | 72 |

| | | | | | |
|---|---|---|---|---|---|
| 39 | Nov-21 | 6.68 | 16 | 20 | 80 |
| 40 | Dec-21 | 6.77 | 20 | 22 | 96 |
| 41 | Feb-22 | 8.07 | 14 | 22 | 96 |
| 42 | Mar-22 | 7.87 | 20 | 22 | 96 |
| 43 | Apr-22 | 7.16 | 16 | 24 | 96 |
| 44 | May-22 | 7.96 | 14 | 16 | 48 |
| 45 | Jun-22 | 7.78 | 10 | 16 | 64 |
| 46 | Jul-22 | 8.2 | 18 | 12 | 40 |
| 47 | Aug-22 | 7.04 | 2 | 20 | 88 |
| 48 | Sep-22 | 7.32 | 20 | 16 | 88 |
| 49 | Oct-22 | 7.3 | 18 | 4.2 | 16 |
| 50 | Dec-22 | 7.76 | 12 | 16 | 64 |
| 51 | Jan-23 | 7.6 | 26 | 12 | 32 |
| 52 | Feb-23 | 7.56 | 18 | 7.2 | 24 |
| 53 | Mar-23 | 6.91 | 12 | 4.8 | 64 |
| 54 | Dec-22 | 7.76 | 12 | 16 | 64 |
| ***Standards*** | | ***5.5-9.0*** | ***200*** | ***100*** | ***-*** |

***Inference:***Consolidated ROA of the water samples collected from the Seepage outlet reveals that, all the parameters were within the standards prescribed by the Board.

## ANNEXURE 8

## CONSOLIDATED ROA OFTREATED SEWAGE FROM M/S. NEYVELI THERMAL POWER STATION II FOR THE YEAR 2020-23

| NLC Limited Thermal Power Station II<br>Outlet of Sewage Treatment Plant | | | | | | |
|---|---|---|---|---|---|---|
| **S. No.** | **Month** | **pH** | **TSS** | **BOD** | **COD** | **Ammonical Nitrogen ($NH_3$-N)** |
| 1 | **Oct-20** | 7.98 | 8 | 10 | 44 | 4.48 |
| 2 | **Nov-20** | 7.25 | 8 | 10 | 40 | 2.8 |
| 3 | **Dec-20** | 8.41 | 10 | 16 | 48 | 3.92 |
| 4 | **Jan-21** | 8.2 | 14 | 20 | 56 | 8.4 |
| 5 | **Feb-21** | 6.94 | 10 | 16 | 44 | 4.48 |
| 6 | **Apr-21** | 6.31 | 10 | 16 | 44 | <MDL |
| 7 | **Jun-21** | 6.78 | 12 | 18 | 44 | <MDL |
| 8 | **Jul-21** | 6.22 | 10 | 16 | 44 | <MDL |
| 9 | **Aug-21** | 6.45 | 16 | 18 | 44 | |
| 10 | **Sep-21** | 7.76 | 10 | 16 | 44 | <MDL |
| 11 | **Oct-21** | 6.48 | 10 | 16 | 44 | <MDL |
| 12 | **Nov-21** | 7.49 | 10 | 16 | 40 | <MDL |
| 13 | **Jan-22** | 7.26 | 14 | 16 | 44 | <MDL |
| 14 | **Feb-22** | 7.83 | 12 | 18 | 56 | 4.48 |
| 15 | **Mar-22** | 7.45 | 14 | 18 | 44 | <MDL |
| 16 | **Apr-22** | 7.17 | 12 | 18 | 48 | <MDL |
| 17 | **May-22** | 7.54 | 16 | 18 | 40 | <MDL |
| 18 | **Jun-22** | 7.65 | 12 | 16 | 64 | 8.4 |
| 19 | **Jul-22** | 8.44 | 12 | 20 | 80 | 5.3 |
| 20 | **Aug-22** | 7.43 | **68** | **64** | **256** | **15.12** |
| 21 | **Sep-22** | 8.08 | 24 | 18 | 48 | 5.04 |
| 22 | **Oct-22** | 6.52 | 8 | **34** | **112** | <MDL |
| 23 | **Nov-22** | 7.74 | 16 | 12 | 32 | 10.65 |
| 24 | **Dec-22** | 7.75 | 18 | **60** | 80 | 6.72 |
| 25 | **Jan-23** | 6.33 | 23 | 6.4 | 40 | 4.48 |
| 26 | **Feb-23** | 6.56 | 12 | **24** | 80 | 8.96 |
| 27 | **Mar-23** | 6.34 | 14 | 4.6 | 40 | <2 |
| ***Standards for STP*** | | ***5.5-9.0*** | ***30*** | ***20*** | ***100*** | ***15*** |

***Inference:***ROA of the treated sewage reveals that, most of the parameters are within the standards prescribed by the Board except the exceedance of – TSS 1/27, BOD (4/27), COD (2/27) ammonical nitrogen (1/27).

## ANNEXURE 9

## CONSOLIDATED ROA OFTREATED EFFLUENT FROM M/S. NEYVELI THERMAL POWER STATION II FOR THE YEAR 2018-2023

| NLC Limited Thermal Power Station II – Outlet of Effluent Treatment Plant | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **S.No.** | **Month** | **pH** | **TSS** | **TDS** | **Chlorides** | **Sulphates** | **Oil&Grease** | **BOD** | **COD** | **% Sodium** |
| 1 | Apr-18 | 8.18 | 8 | 620 | 230 | 132 | 2 | 16 | 64 | 13.16 |
| 2 | May-18 | 8.08 | 6 | 1016 | 140 | 96 | – | 8 | 64 | 31.63 |
| 3 | Jun-18 | 8.29 | 8 | 714 | 318 | 126 | – | 8 | 64 | 47.67 |
| 4 | Jul-18 | 8.32 | 8 | 608 | 105 | 31 | <1.0 | 8 | 28 | 10.02 |
| 5 | Aug-18 | 8.24 | 8 | 698 | 160 | 92 | 2 | 18 | 72 | 12.37 |
| 6 | Sep-18 | 8.02 | 6 | 764 | 255 | 150 | 2 | 8 | 32 | 8.14 |
| 7 | Oct-18 | 8.02 | 12 | 886 | 245 | 112 | 2 | 12 | 44 | 10.1 |
| 8 | Nov-18 | 7.97 | 8 | 986 | 215 | 62 | 2 | 18 | 64 | 10.1 |
| 9 | Dec-18 | 8.16 | 8 | 936 | 310 | 260 | 2 | 18 | 64 | 10.1 |
| 10 | Jan-19 | 7.81 | 8 | 698 | 315 | 168 | 2 | 10 | 44 | 6.82 |
| 11 | Feb-19 | 7.73 | 8 | 472 | 215 | 110 | 2 | 18 | 64 | 8.95 |
| 12 | Mar-19 | 7.9 | 8 | 800 | 355 | 120 | 2 | 8 | 32 | 8.14 |
| 13 | Apr-19 | 7.85 | 6 | 1176 | 305 | 152 | 2 | 18 | 64 | 8.14 |
| 14 | May-19 | 8.19 | 10 | 754 | 210 | 68 | 2 | 18 | 64 | 10.1 |
| 15 | Jun-19 | 7.08 | 8 | 850 | 220 | 102 | 2 | 8 | 32 | 6.78 |
| 16 | Jul-19 | 7.52 | 6 | 326 | 105 | 60 | 2 | 12 | 32 | 8.14 |
| 17 | Sep-19 | 7.87 | 12 | 768 | 255 | 82 | 2 | 20 | 72 | 6.78 |
| 18 | Oct-19 | 8.78 | 12 | **2458** | 805 | 400 | 2 | 18 | 72 | 10.1 |
| 19 | Nov-19 | 8.19 | 12 | 958 | 255 | 112 | 2 | 22 | 92 | 10.1 |
| 20 | Dec-19 | 7.46 | 18 | 902 | 255 | 102 | <MDL | 24 | 92 | 8.14 |
| 21 | Jan-20 | 7.87 | 18 | 586 | 220 | 102 | – | 22 | 88 | 10.1 |
| 22 | Feb-20 | 8.03 | 14 | 954 | 210 | 102 | – | 26 | 124 | 12.37 |
| 23 | Mar-20 | 8.34 | 20 | 820 | 255 | 112 | 2 | 22 | 104 | 10.1 |
| 24 | May-20 | 8.22 | 18 | 1116 | 355 | 152 | <MDL | 24 | 108 | 10.1 |
| 25 | Jun-20 | 8.39 | 14 | 1308 | 455 | 252 | <MDL | 18 | 80 | 8.14 |
| 26 | Jul-20 | 8.2 | 14 | 1018 | 210 | 102 | <MDL | 18 | 72 | 8.99 |
| 27 | Aug-20 | 6.39 | 86 | 810 | 280 | 122 | 2 | 24 | 108 | 10.1 |
| 28 | Sep-20 | 7.28 | **104** | 932 | 185 | 187 | <2 | 21 | 176 | |
| 29 | Oct-20 | 8.22 | 18 | 802 | 225 | 122 | 2 | 22 | 96 | 10.1 |
| 30 | Nov-20 | 7.72 | 20 | 830 | 210 | 102 | <MDL | 22 | 92 | 8.99 |
| 31 | Dec-20 | 8.3 | 12 | 810 | 255 | 112 | <MDL | 22 | 104 | 11.64 |
| 32 | Jan-21 | 8.12 | 18 | 1670 | 625 | 302 | <MDL | 22 | 96 | 10.02 |
| 33 | Feb-21 | 8.08 | 20 | 852 | 225 | 132 | <MDL | 20 | 80 | 9.61 |
| 34 | Apr-21 | 7.92 | 20 | 1152 | 405 | 204 | – | 22 | 96 | 7.75 |
| 35 | Jun-21 | 7.23 | 16 | 1016 | 255 | 126 | – | 22 | 88 | 7.75 |
| 36 | Jul-21 | 7.1 | 18 | 1012 | 230 | 120 | – | 22 | 92 | 6.16 |
| 37 | Aug-21 | 7.5 | 18 | 862 | 260 | 134 | – | 24 | 108 | 8.99 |
| 38 | Oct-21 | 7.85 | 18 | 896 | 305 | 126 | – | 22 | 96 | 25.36 |
| 39 | Dec-21 | 8.12 | 14 | 934 | 325 | 196 | – | 22 | 80 | 8.99 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 40 | Jan-22 | 7.9 | 18 | 534 | 210 | 122 | – | 20 | 80 | 7.04 |
| 41 | Feb-22 | 8.03 | 16 | 1098 | 310 | 172 | – | 22 | 96 | 7.75 |
| 42 | Mar-22 | 8.19 | 18 | 1034 | 305 | 165 | – | 22 | 96 | 6.34 |
| 43 | Apr-22 | 8.29 | 18 | 1182 | 455 | 212 | – | 20 | 92 | 6.16 |
| 44 | May-22 | 7.07 | 14 | 316 | 110 | 58 | – | 20 | 64 | |
| 45 | Jun-22 | 7.79 | 12 | 488 | 220 | 152 | – | 12 | 32 | 17.35 |
| 46 | Jul-22 | 7.44 | 20 | 82 | 25 | 14 | – | 10 | 24 | 1.47 |
| 47 | Aug-22 | 8.32 | 18 | 284 | 145 | 62 | – | 12 | 72 | 3.52 |
| 48 | Oct-22 | 7.49 | 12 | 360 | 142 | 48 | – | **36** | 128 | 8.14 |
| 49 | Nov-22 | 7.94 | 14 | **2810** | 725 | 428 | – | 16 | 64 | 16.03 |
| 50 | Dec-22 | 6.12 | 20 | 198 | 115 | 53 | – | 6 | 32 | 40.59 |
| 51 | Jan-23 | 7.21 | 4 | 738 | 218 | 78 | – | 16 | 32 | 4.27 |
| 52 | Feb-23 | 6.38 | **165** | 288 | 145 | 35 | – | **62** | 240 | 6.23 |
| 53 | Mar-23 | 6.9 | 100 | 330 | 115 | 25 | – | 12 | 40 | 5.66 |
| ***Standards for ETP*** | | ***5.5-9.0*** | ***100*** | ***2100*** | ***1000*** | ***1000*** | ***10*** | ***30*** | ***250*** | ***-*** |

***Inference:***ROA of the treated trade effluent samples collected for the year 2018 - 2023 reveals that, most of the parameters are within the standards prescribed by the Board except the exceedance of TSS (2/53), TDS (3/53),BOD (2/53).

## ANNEXURE 10

## CONSOLIDATED ROA OF STACK EMISSION SURVEY CONDUCTED AT M/S. NEYVELI THERMAL POWER STATION II FOR YEAR 2018-2023

| Parameters | | PM | | SO2 | | NOx | |
|---|---|---|---|---|---|---|---|
| Standards | | 100 | | 600 | | 600 | |
| Year | | Min. | Max. | Min. | Max. | Min. | Max. |
| 2018-19 | 1st Half year | 62 | 138 | 3728 | 3737 | 120 | 650 |
| | 2nd Half year | 102 | 132 | 3518 | 3759 | 610 | 652 |
| 2019-20 | 1st Half year | 52 | 56 | 3210 | 3799 | 133 | 134 |
| | 2nd Half year | 108 | 138 | 3539 | 3790 | 614 | 640 |
| 2020-21 | 1st Half year | 52 | 80 | 2380 | 2851 | 191 | 260 |
| | 2nd Half year | 48 | 56 | 1641 | 2714 | 163 | 714 |
| 2021-22 | 1st Half year | 46 | 56 | 2253 | 3078 | 265 | 310 |
| | 2nd Half year | 20 | 65 | 645 | 1442 | 90 | 215 |
| 2022-23 | 1st Half year | 104 | 120 | 2512 | 2528 | 464 | 478 |
| | 2nd Half year | 55 | 58 | 1442 | 1448 | 476 | 478 |

***Inference:***Consolidated ROA of the Stack emission survey in the year 2018-2023 reveals that PM 4 /10 NOx 4/10 and SOx (10/10).

## ANNEXURE 11

## CONSOLIDATED ROA OF THE AMBIENT AIR QUALITY MONITORING SURVEY CONDUCTED AT M/S. NEYVELI THERMAL POWER STATION II FOR YEAR 2018-2023

| Parameters | | PM10 | | PM2.5 | | SO2 | | NOx | |
|---|---|---|---|---|---|---|---|---|---|
| Standards | | 100 | | 60 | | 80 | | 80 | |
| Year | | Min. | Max. | Min. | Max. | Min. | Max. | Min. | Max. |
| 2018-19 | 1st Half year | 56 | 108 | 20 | 64 | 52 | 86 | 56 | 90 |
| | 2nd Half year | 54 | 112 | 56 | 62 | 46 | 84 | 52 | 88 |
| 2019-20 | 1st Half year | 95 | 124 | 44 | 78 | 68 | 89 | 72 | 95 |
| | 2nd Half year | 85 | 112 | 45 | 80 | 56 | 86 | 60 | 90 |
| 2020-21 | 1st Half year | 88 | 95 | 52 | 56 | 20 | 26 | 16 | 21 |
| | 2nd Half year | 89 | 97 | 55 | 59 | 23 | 29 | 18 | 24 |
| 2021-22 | 1st Half year | 82 | 129 | 49 | 57 | 18 | 23 | 21 | 28 |
| | 2nd Half year | 68 | 124 | 51 | 62 | 17 | 29 | 18 | 31 |
| 2022-23 | 1st Half year | 50 | 88 | 32 | 48 | 40 | 68 | 44 | 68 |
| | 2nd Half year | 44 | 80 | 32 | 48 | 40 | 68 | 42 | 70 |

***Inference:***Ambient Air Quality Survey was conducted at six locations inside and outside of the thermal power station. The minimum and maximum value at particular location is given above. Consolidated ROA of the AAQ survey in the year 2018-2023 reveals that all the parameters are within the standards prescribed by the Board except the exceedance of $PM_{10}$ (6/10) $PM_{2.5}$ (5/10) Sox (4/10) and NOx (4/10)

## ANNEXURE 12

## CONSOLIDATED ROA OFTREATED SEWAGE FROM M/S. NEYVELI THERMAL POWER STATION II EXPANSION FOR THE YEAR 2018-23

| NLC Limited Thermal Power Station II<br>Outlet of Sewage Treatment Plant | | | | | | |
|---|---|---|---|---|---|---|
| **S.No.** | **Month** | **pH** | **TSS** | **BOD** | **COD** | **Ammonical Nitrogen ($NH_3$-N)** |
| 1 | **Apr-18** | 7.87 | 8 | 8 | 32 | 10.65 |
| 2 | **May-18** | 7.86 | 6 | 8 | 45 | <MDL |
| 3 | **Jun-18** | 8.32 | 8 | 4 | 16 | <MDL |
| 4 | **Jul-18** | 8.36 | 10 | 6 | 16 | 7.28 |
| 5 | **Aug-18** | 7.98 | 10 | 16 | 64 | 12.59 |
| 6 | **Sep-18** | 7.96 | 8 | 18 | 32 | 10.09 |
| 7 | **Oct-18** | 7.64 | 12 | 8 | 28 | 10.09 |
| 8 | **Nov-18** | 8.02 | 8 | 12 | 32 | 10.09 |
| 9 | **Dec-18** | 8.01 | 12 | 12 | 64 | 12.33 |
| 10 | **Jan-19** | 7.74 | 8 | 16 | 32 | 6.72 |
| 11 | **Feb-19** | 7.79 | 8 | 6 | 16 | 8.4 |
| 12 | **Mar-19** | 7.89 | 6 | 8 | 32 | 6.72 |
| 13 | **Apr-19** | 7.59 | 6 | 12 | 32 | 10.09 |
| 14 | **May-19** | 7.23 | 8 | 12 | 32 | 8.4 |
| 15 | **Jun-19** | 7.69 | 6 | 4 | 16 | 6.72 |
| 16 | **Jul-19** | 7.7 | 8 | 18 | 64 | 12.33 |
| 17 | **Aug-19** | 7.26 | 8 | 12 | 32 | 8.4 |
| 18 | **Sep-19** | 7.45 | 8 | 8 | 32 | 8.4 |
| 19 | **Oct-19** | 8.78 | 18 | 20 | 80 | 10.09 |
| 20 | **Nov-19** | 8.85 | 12 | 18 | 72 | 8.96 |
| 21 | **May-20** | 7.99 | 12 | 18 | 48 | 8.48 |
| 22 | **Jun-20** | 7.55 | 12 | 14 | 64 | 8.4 |
| 23 | **Jul-20** | 7.63 | 14 | 18 | 72 | 8.4 |
| 24 | **Aug-20** | 7.07 | 14 | 16 | 64 | 6.72 |
| 25 | **Oct-20** | 8.36 | 16 | 20 | 52 | 8.4 |
| 26 | **Nov-20** | 7.71 | 14 | 18 | 52 | 4.48 |
| 27 | **Apr-21** | 7.22 | 10 | 16 | 48 | <MDL |
| 28 | **Jun-21** | 7.08 | 14 | 18 | 48 | <MDL |
| 29 | **Jul-21** | 6.22 | 10 | 16 | 44 | <MDL |
| 30 | **Aug-21** | 7.28 | 10 | 16 | 44 | <MDL |
| 31 | **Sep-21** | 8.1 | 12 | 14 | 44 | <MDL |
| 32 | **Oct-21** | 7.27 | 10 | 16 | 40 | <MDL |
| 33 | **Nov-21** | 7.16 | 10 | 16 | 44 | <MDL |
| 34 | **Jan-22** | 6.86 | 18 | 20 | 56 | <MDL |

| | | | | | | |
|---|---|---|---|---|---|---|
| 35 | **Feb-22** | 7.5 | 18 | **22** | 80 | 6.72 |
| 36 | **Mar-22** | 7.62 | 14 | 18 | 48 | <MDL |
| 37 | **Apr-22** | 7.73 | 10 | 16 | 44 | <MDL |
| 38 | **May-22** | 7.12 | 16 | 18 | 48 | <MDL |
| 39 | **Jun-22** | **4.29** | 8 | 4 | 8 | 6.72 |
| 40 | **Jul-22** | 8.4 | 18 | **24** | 88 | 7.84 |
| 41 | **Aug-22** | 7.68 | 12 | 12 | 64 | 7.24 |
| 42 | **Sep-22** | 8.18 | 16 | **48** | 64 | 4.48 |
| 43 | **Oct-22** | 6.99 | 24 | 3.8 | 16 | <MDL |
| 44 | **Nov-22** | 6.7 | 18 | 8 | 32 | 3.92 |
| 45 | **Dec-22** | 7.63 | 8 | 8 | 32 | 4.48 |
| 46 | **Jan-23** | 7.84 | 8 | 12 | 64 | 3.92 |
| 47 | **Feb-23** | 8.45 | 18 | 16 | 40 | 3.92 |
| 48 | **Mar-23** | 8.6 | 6 | 4 | 72 | 5.6 |
| ***Standards for STP*** | | ***5.5-9.0*** | ***30*** | ***20*** | ***100*** | ***15*** |

***Inference:****The consolidated ROA of the treated sewage samples collected for the year 2018-2023 from the outlet of the STP reveals that most of the parameters are within the standards prescribed by the Board except the exceedance of pH 1/48 and BOD (3/48).*

**ANNEXURE 13**
**CONSOLIDATED ROA OF EFFLUENT TREATMENT PLANT OF M/S. NLC INDIA LTD – TPS II EXP FOR THE YEAR 2019 – 2023**

| Sl. No | MONTH | pH | TSS | TDS | Chlorides | Sulphates | Oil& Grease | BOD | COD | % Sodium |
|---|---|---|---|---|---|---|---|---|---|---|
| 1. | FEB-19 | 7.63 | 8 | 1524 | 610 | 252 | 2 | 8 | 32 | 12.37 |
| 2. | MAR-19 | 7.88 | 8 | **2230** | 655 | 252 | 2 | 12 | 64 | 8.95 |
| 3. | APR-19 | 7.73 | 8 | 1964 | 415 | 218 | 2 | 18 | 64 | 8.14 |
| 4. | MAY-19 | 6.78 | 8 | 518 | 145 | 68 | 2 | 8 | 32 | 9.11 |
| 5. | JUN-19 | 7.8 | 8 | 2022 | 610 | 220 | 2 | 18 | 40 | 8.14 |
| 6. | JUL-19 | 6.83 | 8 | 534 | 155 | 62 | 2 | 12 | 32 | 8.14 |
| 7. | AUG-19 | 6.63 | 8 | 1892 | 620 | 240 | 2 | 18 | 64 | 8.14 |
| 8. | SEP-19 | 7.84 | 8 | 776 | 205 | 102 | 2 | 8 | 32 | 8.14 |
| 9. | OCT-19 | 8.61 | 8 | 1942 | 505 | 252 | <MDL | 16 | 64 | 8.14 |
| 10. | NOV-19 | 8.41 | 10 | 1982 | 695 | 302 | <MDL | 18 | 80 | 6.16 |
| 11. | MAY-20 | 7.95 | 14 | 1982 | 610 | 312 | 2 | 24 | 112 | 13.16 |
| 12. | JUN-20 | 7.63 | 14 | 1950 | 555 | 284 | <MDL | 22 | 108 | 10.62 |
| 13. | AUG-20 | 6.34 | 18 | **2982** | 610 | 422 | <MDL | 22 | 104 | 10.1 |
| 14. | SEP-20 | 8.68 | 20 | 1814 | 460 | 252 | <MDL | 26 | 104 | 8.14 |
| 15. | OCT-20 | 8.64 | 20 | 1860 | 510 | 252 | 2 | 24 | 108 | 11.64 |
| 16. | NOV-20 | 7.85 | 20 | 1930 | 705 | 302 | <MDL | 26 | 116 | 9.61 |
| 17. | JAN-21 | 7.85 | 10 | **2160** | 705 | 362 | - | 28 | 164 | 6.34 |
| 18. | FEB-21 | 8.12 | 18 | 1670 | 455 | 252 | - | 24 | 104 | 10.43 |
| 19. | APR-21 | 8.23 | 18 | **2768** | 825 | 402 | - | 28 | 108 | 9.5 |
| 20. | JUN-21 | 6.98 | 18 | 1938 | 610 | 328 | - | 28 | 124 | 10.43 |
| 21. | JUL-21 | 7.38 | 22 | 2098 | 635 | 318 | - | 28 | 124 | 10.43 |
| 22. | SEP-21 | 8.25 | 16 | 1942 | 450 | 204 | - | 26 | 112 | 10.02 |
| 23. | OCT-21 | 7.69 | 22 | 1528 | 505 | 202 | - | 26 | 108 | 20.02 |
| 24. | NOV-21 | 7.91 | 22 | 1942 | 555 | 250 | - | 26 | 116 | 10.02 |
| 25. | APR-22 | 7.83 | 18 | 1004 | 350 | 190 | - | 20 | 92 | 10.02 |
| 26. | MAY-22 | 8.25 | 14 | 236 | 80 | 44 | - | 18 | 48 | |
| 27. | JUN-22 | 8.01 | 4 | 1075 | 723.1 | 152 | - | 16 | 64 | 11.78 |
| 28. | JUL-22 | 8.12 | 10 | 648 | 230 | 109 | - | 10 | 40 | 3.61 |
| 29. | AUG-22 | 8.27 | 8 | 76 | 40 | 8 | - | 8 | 32 | 2.45 |
| 30. | SEP-22 | 8.16 | 26 | 838 | 744 | 16 | - | 28 | 96 | 1.2 |
| 31. | OCT-22 | 7.06 | 28 | 620 | 244 | 92 | - | 12 | 40 | 9.59 |
| 32. | NOV-22 | 8.3 | 8 | 6.72 | 10.09 | - | - | 8 | 32 | |
| 33. | DEC-22 | 7.9 | 8 | 1568 | 870 | 112 | - | 26 | 114 | 16.03 |
| **TNPCB NORMS** | | **5.5-9.0** | **100** | **2100** | **1000** | **1000** | **10** | **30** | **250** | |

***Inference***:*ROA of the treated trade effluent samples collected for the year 2019-2023 collected from the outlet of ETP and it reveals that, most of the parameters are within the standards prescribed by the Board except the exceedance of - TDS (4/33).*

**ANNEXURE14**

**CONSOLIDATED ROA OF STACK EMISSION SURVEY CONDUCTED**

**M/S. NEYVELI THERMAL POWER STATION II EXP FOR YEAR 2018-2023**

| **Parameters** | | **PM** | | **SO2** | | **NOx** | |
|---|---|---|---|---|---|---|---|
| **Standards** | | **50** | | **600** | | **450** | |
| **Year** | | **Min.** | **Max.** | **Min.** | **Max.** | **Min.** | **Max.** |
| 2018-19 | 1st Half year | 42 | - | 544 | - | 101 | - |
| | 2nd Half year | 41 | - | 537 | - | 102 | - |
| 2019-20 | 1st Half year | 35 | 36 | 520 | 531 | 94 | 94 |
| | 2nd Half year | 38 | - | 528 | - | 122 | - |
| 2020-21 | 1st Half year | 34 | 36 | 513 | 522 | 85 | 90 |
| | 2nd Half year | 36 | 38 | 518 | 531 | 188 | 192 |
| 2021-22 | 1st Half year | 39 | 40 | 2338 | **2719** | 154 | 175 |
| | 2nd Half year | 30 | 32 | 348 | 359 | 194 | 197 |
| 2022-23 | 1st Half year | 37 | - | **741** | - | 110 | - |

***Inference:****ROA of the Stack emission survey in the year 2018-2023 reveals that all the parameters are within the limit prescribed standard except Sox (1/10).*

## ANNEXURE – 15

## CONSOLIDATED ROA OF THE AMBIENT AIR QUALITY MONITORING SURVEY CONDUCTED AT M/S. NLC INDIA LTD, TPS II EXPANSION FOR THE YEAR 2018 – 2023

| Parameters | | PM10 | | PM2.5 | | SO2 | | NOx | |
|---|---|---|---|---|---|---|---|---|---|
| Standards | | 100 | | 60 | | 80 | | 80 | |
| Year | | Min. | Max. | Min. | Max. | Min. | Max. | Min. | Max. |
| 2018-19 | 1st Half year | 52 | 80 | 24 | 58 | 48 | 70 | 54 | 78 |
| 2019-20 | 1st Half year | 76 | **112** | 43 | **68** | 57 | **86** | 64 | **91** |
| | 2nd Half year | 70 | 98 | 40 | 58 | 56 | 76 | 60 | 78 |
| 2020-21 | 1st Half year | 88 | 94 | 57 | 59 | 46 | 58 | 21 | 33 |
| | 2nd Half year | 91 | 98 | 52 | 56 | 12 | 26 | 11 | 19 |
| 2021-22 | 1st Half year | 72 | **148** | 36 | 42 | 17 | 31 | 19 | 26 |
| | 2nd Half year | 68 | **124** | 51 | **62** | 17 | 29 | 18 | 31 |
| 2022-23 | 1st Half year | 48 | 74 | 32 | 46 | 12 | 19 | 15 | 22 |
| | 2nd Half year | 45 | 72 | 38 | 48 | 24 | 40 | 26 | 42 |

***Inference :****Ambient Air Quality was conducted at six locations inside and outside of the unit TPS II EXP. The minimum and Maximum value at particular locations are given above. ROA of the AAQ survey in the year 2018-2023 reveals that* $PM_{10}$*,(3/10)* $PM_{2.5}$ *(2/10) Sox(1/10) and Nox(1/10).*

## ANNEXURE – 16

## CONSOLIDATED ROA OF TREATED SEWAGE FROM M/S. NLC INDIA LTD, TPS – 1 EXPANSION FOR THE YEAR 2018 – 2023

| NLC LIMITED TPS- 1 EXPANSION – OUTLET OF SEWAGE TREATMENT PLANT | | | | | | |
|---|---|---|---|---|---|---|
| S.No | **MONTH** | **pH** | **TSS** | **BOD** | **COD** | **Ammonical Nitrogen** |
| **1.** | Apr-18 | 7.04 | 4 | 4 | 16 | 5.04 |
| **2.** | May-18 | 7.26 | 6 | 4 | 16 | <MDL |
| **3.** | June-18 | 7.64 | 8 | 6 | 64 | <MDL |
| **4.** | July-18 | 7.78 | 6 | 6 | 32 | 12.89 |
| **5.** | Aug-18 | 7.14 | 6 | 8 | 32 | <MDL |
| **6.** | Sep-18 | 7.78 | 4 | 4 | 16 | 6.72 |
| **7.** | Oct-18 | 7.91 | 10 | 8 | 32 | 4.48 |
| **8.** | Nov-18 | 6.83 | 6 | 8 | 32 | 6.72 |
| **9.** | Dec-18 | 7.81 | 8 | 8 | 32 | 6.72 |
| **10.** | Jan-19 | 7.46 | 4 | 4 | 16 | 5.04 |
| **11.** | Feb-19 | 7.97 | 4 | 4 | 16 | 4.48 |
| **12.** | Mar-19 | 7.29 | 6 | 8 | 32 | 5.04 |
| **13.** | Apr-19 | 7.42 | 4 | 2 | 8 | 4.48 |
| **14.** | May-19 | 7.19 | 6 | 4 | 16 | 6.72 |
| **15.** | Jun-19 | 7.76 | 4 | 6 | 16 | 5.04 |
| **16.** | Jul-19 | 7.23 | 6 | 8 | 32 | 6.72 |
| **17.** | Aug-19 | 7.06 | 6 | 4 | 16 | 6.72 |
| **18.** | Sep-19 | 7.65 | 8 | 4 | 32 | 8.4 |
| **19.** | Oct-19 | 8.82 | 8 | 8 | 32 | 6.72 |
| **20.** | Nov-19 | 7.36 | 22 | **24** | 100 | 8.4 |
| **21.** | Dec-19 | 8.49 | 20 | 16 | 64 | 6.16 |
| **22.** | Jan-20 | 7.82 | 14 | **22** | 88 | 8.4 |
| **23.** | Feb-20 | 6.29 | 12 | **24** | **104** | 12.33 |
| **24.** | Apr-20 | 7.86 | 14 | 18 | 80 | 8.4 |
| **25.** | May-20 | 6.38 | 10 | 6 | 32 | 5.04 |
| **26.** | Jun-20 | 7.48 | 12 | 18 | 60 | 8.4 |
| **27.** | Jul-20 | 8.37 | 12 | 14 | 32 | 6.72 |
| **28.** | Aug-20 | 8.11 | 12 | 18 | 48 | 8.96 |
| **29.** | Oct-20 | 8.5 | 10 | 8 | 32 | 3.98 |
| **30.** | Nov-20 | 8.98 | 12 | 18 | 56 | 6.16 |
| **31.** | Dec-20 | 8.38 | 12 | 18 | 44 | 4.48 |
| **32.** | Jan-21 | 7.14 | 14 | 18 | 52 | 5.04 |
| **33.** | Feb-21 | 7.86 | 10 | 18 | 48 | 4.48 |
| **34.** | Apr-21 | 7.22 | 10 | 16 | 48 | <MDL |
| **35.** | Jun-21 | 7.08 | 14 | 18 | 48 | <MDL |
| **36.** | July-21 | 6.22 | 10 | 16 | 44 | <MDL |
| **37.** | Aug-21 | 7.28 | 10 | 16 | 44 | <MDL |

| | | | | | | |
|---|---|---|---|---|---|---|
| **38.** | Sep-21 | 8.1 | 12 | 14 | 44 | <MDL |
| **39.** | Oct-21 | 7.27 | 10 | 16 | 40 | <MDL |
| **40.** | Nov-21 | 7.16 | 10 | 16 | 44 | <MDL |
| **41.** | Jan-22 | 6.86 | 18 | 20 | 56 | <MDL |
| **42.** | Feb-22 | 7.5 | 18 | **22** | 80 | 6.72 |
| **43.** | Mar-22 | 7.62 | 14 | 18 | 48 | <MDL |
| **44.** | Apr-22 | 7.73 | 10 | 16 | 44 | <MDL |
| **45.** | May-22 | 7.12 | 16 | 18 | 48 | <MDL |
| **46.** | Jun-22 | **4.29** | 8 | 4 | 8 | 6.72 |
| **47.** | July-22 | 8.4 | 18 | **24** | 88 | 7.84 |
| **48.** | Aug-22 | 7.68 | 12 | 12 | 64 | 7.24 |
| **49.** | Sep-22 | 8.18 | 16 | **48** | 64 | 4.48 |
| **50.** | Oct-22 | 6.99 | 24 | 3.8 | 16 | <MDL |
| **51.** | Nov-22 | 6.7 | 18 | 8 | 32 | 3.92 |
| **52.** | Dec-22 | 7.63 | 8 | 8 | 32 | 4.48 |
| **53.** | Jan-23 | 7.84 | 8 | 12 | 64 | 3.92 |
| **54.** | Feb-23 | 8.45 | 18 | 16 | 40 | 3.92 |
| **55.** | Mar-23 | 8.6 | 6 | 4 | 72 | 5.6 |
| | standards | **5.5-9.0** | **30** | **20** | **100** | **15** |

***Inference*** : ROA of the treated sewage samples collected for the year 2018-2023 from the outlet of the STP and it reveals that most of the parameters are within the standards prescribed by the Board except the exceedance of - pH (1/55), BOD ( 6/55) and COD (1/55).

## ANNEXURE 17

## CONSOLIDATED ROA OF TREATED EFFLUENT FROM M/S. NEYVELI THERMAL POWER STATION - I EXPANSION FROM THE YEAR 2018-23

| NLC Thermal Power Station I Expansion – Outlet of Effluent Treatment Plant | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **S.No** | **MONTH** | **pH** | **TSS** | **TDS** | **Chlorides** | **Sulphates** | **Oil&Grease** | **BOD** | **COD** | **% Sodium** |
| 1 | Apr-18 | 7.73 | 12 | 352 | 105 | 58 | 2 | 16 | 64 | 9.59 |
| 2 | May-18 | 7.35 | 8 | 296 | 120 | 86 | <MDL | 4 | 16 | 16.03 |
| 3 | Jun-18 | 7.81 | 36 | 1818 | 718 | 360 | 4 | 26 | 148 | 62.98 |
| 4 | Jul-18 | 7.82 | 12 | 266 | 33 | 47 | <1 | 6 | 28 | – |
| 5 | Aug-18 | 7.76 | 12 | 788 | 215 | 320 | 2 | 26 | 144 | 10.1 |
| 6 | Sep-18 | 7.52 | 8 | 890 | 335 | 152 | 2 | 6 | 32 | 8.14 |
| 7 | Oct-18 | 7.84 | 14 | 280 | 110 | 32 | 2 | 8 | 32 | 6.69 |
| 8 | Nov-18 | 7.83 | 8 | 830 | 305 | 112 | 2 | 14 | 56 | 4.68 |
| 9 | Dec-18 | 7.82 | 10 | 230 | 115 | 60 | 2 | 8 | 32 | 10.62 |
| 10 | Jan-19 | 7.53 | 8 | 618 | 255 | 128 | 2 | 12 | 32 | 8.95 |
| 11 | Feb-19 | 7.92 | 6 | 620 | 265 | 132 | 2 | 16 | 60 | 8.14 |
| 12 | Mar-19 | 7.65 | 6 | 992 | 355 | 68 | 2 | 8 | 32 | 6.78 |
| 13 | Apr-19 | 7.61 | 8 | 930 | 250 | 116 | 2 | 8 | 32 | 10.1 |
| 14 | May-19 | 7.88 | 8 | 540 | 145 | 68 | 2 | 16 | 32 | 8.14 |
| 15 | Jun-19 | 8.03 | 8 | 398 | 105 | 52 | 2 | 16 | 32 | 6.16 |
| 16 | Jul-19 | 7.6 | 8 | 622 | 245 | 120 | 2 | 8 | 32 | 6.78 |
| 17 | Aug-19 | 7.86 | 8 | 90 | 12 | 8 | 2 | 8 | 16 | 10.1 |
| 18 | Sep-19 | 7.49 | 8 | 1142 | 390 | 128 | 2 | 16 | 64 | 8.14 |
| 19 | Oct-19 | 8.47 | 14 | 516 | 135 | 52 | 2 | 16 | 64 | 8.14 |
| 20 | Nov-19 | 7.56 | 8 | **3602** | 995 | 602 | <MDL | 20 | 80 | 6.34 |
| 21 | Dec-19 | 7.5 | 12 | 1246 | 505 | 172 | <MDL | 18 | 72 | 8.99 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 22 | Jan-20 | 8.03 | 12 | 522 | 155 | 62 | <MDL | 20 | 84 | 8.14 |
| 23 | Feb-20 | 6.19 | 16 | 176 | 55 | 22 | <MDL | 8 | 40 | 6.78 |
| 24 | May-20 | 7.84 | 12 | 106 | 40 | 22 | <MDL | 8 | 32 | 6.78 |
| 25 | Jun-20 | 6.07 | 10 | 82 | 35 | 22 | <MDL | 8 | 32 | 6.78 |
| 26 | Jul-20 | 6.35 | 10 | 130 | 40 | 22 | <MDL | 8 | 32 | 4.12 |
| 27 | Aug-20 | 8.38 | 10 | 438 | 155 | 92 | <MDL | 14 | 72 | 6.78 |
| 28 | Sep-20 | 8.72 | 14 | 556 | 205 | 102 | <MDL | 18 | 72 | 6.78 |
| 29 | Oct-20 | 8.21 | 18 | **2758** | 685 | 362 | <MDL | 20 | 88 | 8.99 |
| 30 | Nov-20 | 9.24 | 14 | 226 | 85 | 48 | <MDL | 16 | 52 | 5.61 |
| 31 | Dec-20 | 7.04 | 10 | 168 | 65 | 42 | <MDL | 18 | 64 | 4.12 |
| 32 | Jan-21 | 7.81 | 16 | 542 | 195 | 122 | <MDL | 20 | 80 | 6.34 |
| 33 | Feb-21 | 7.4 | 12 | 676 | 225 | 128 | <MDL | 22 | 96 | 6.16 |
| 34 | Apr-21 | 6.16 | 14 | 726 | 245 | 122 | – | 20 | 88 | 8.99 |
| 35 | Jun-21 | 7.29 | 18 | 794 | 265 | 110 | – | 22 | 96 | 8.99 |
| 36 | Jul-21 | 6.34 | 14 | 698 | 205 | 102 | – | 22 | 88 | 8.99 |
| 37 | Aug-21 | 7.35 | 18 | 716 | 200 | 102 | – | 22 | 88 | 7.75 |
| 38 | Sep-21 | 7.98 | 18 | 658 | 210 | 102 | – | 24 | 104 | 8.99 |
| 39 | Oct-21 | 6.93 | 16 | 812 | 255 | 116 | – | 20 | 88 | 26.16 |
| 40 | Nov-21 | 6.66 | 18 | 680 | 205 | 102 | – | 20 | 80 | 5.34 |
| 41 | Jan-22 | 7.17 | 12 | – | – | – | – | 18 | 44 | – |
| 42 | Feb-22 | 7.79 | 16 | – | – | – | – | 20 | 64 | 5.04 |
| 43 | Mar-22 | 7.97 | 20 | 1146 | 365 | 204 | – | 20 | 104 | 6.16 |
| 44 | Apr-22 | 7.56 | 14 | 1018 | 305 | 204 | – | 24 | 108 | 8.99 |
| 45 | May-22 | 7.18 | 14 | 256 | 90 | 52 | – | 16 | 44 | – |
| 46 | Jun-22 | **4.51** | 12 | 206 | 70.9 | 18 | – | 10 | 40 | 5.17 |
| 47 | Jul-22 | 8.84 | 10 | 220 | 80 | 39 | – | 10 | 24 | 2.68 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 48 | Aug-22 | 7.78 | 24 | 148 | 65 | 12 | – | 8 | 32 | 5.47 |
| 49 | Sep-22 | 7.57 | 12 | 188 | 75 | 18 | – | 24 | 88 | 0.13 |
| 50 | Oct-22 | 8.18 | 16 | 318 | 126 | 48 | – | 6.8 | 24 | 10.2 |
| 51 | Nov-22 | 7.93 | 12 | 112 | 75 | 28 | – | 8 | 16 | 4.68 |
| 52 | Dec-22 | 6.58 | 32 | 496 | 160 | 68 | – | 8 | 32 | 4.68 |
| 53 | Jan-23 | 6.85 | 18 | 442 | 250 | 68 | – | 20 | 80 | 12.37 |
| 54 | Feb-23 | 7.69 | 10 | 520 | 260 | 62 | – | 10.6 | 40 | 6.69 |
| 55 | Mar-23 | 7.1 | 8 | 380 | 195 | 60 | – | 5.6 | 56 | 9.08 |
| ***Standards for ETP*** | | ***5.5-9.0*** | ***100*** | ***2100*** | ***1000*** | ***1000*** | ***10*** | ***30*** | ***250*** | ***-*** |

***Inference:***ROA of the treated trade effluent samples collected for the year 2018 - 2023 reveals that, most of the parameters are within the standards prescribed by the Board except the exceedance of pH (1/55), TDS (1/55).

## ANNEXURE 18

## CONSOLIDATED ROA OF STACK EMISSION SURVEY CONDUCTED AT M/S. NEYVELI THERMAL POWER STATION I EXPANSION FOR YEAR 2018-2023

| Parameters | | PM | | SO2 | | NOx | |
|---|---|---|---|---|---|---|---|
| Standards | | 100 | | 600 | | 600 | |
| Year | | Min. | Max. | Min. | Max. | Min. | Max. |
| 2018-19 | 1st Half year | 102 | – | 2866 | – | 540 | – |
| | 2nd Half year | 104 | – | 3803 | – | 544 | – |
| 2019-20 | 1st Half year | 84 | – | 2842 | – | 484 | – |
| | 2nd Half year | 106 | – | 2945 | – | 618 | – |
| 2020-21 | 1st Half year | 60 | 66 | 1704 | 2104 | 291 | 356 |
| | 2nd Half year | 52 | 54 | 516 | 536 | 264 | 267 |
| 2021-22 | 1st Half year | 64 | 66 | 2102 | 2115 | 293 | 297 |
| | 2nd Half year | 28 | 70 | 2442 | 2844 | 70 | 131 |
| 2022-23 | 1st Half year | 97 | 98 | 2500 | 2512 | 408 | 472 |
| | 2nd Half year | 52 | – | 1433 | – | 400 | – |

***Inference:****ROA of the Stack emission survey in the year 2018-2023 reveals that PM( 2/10) , NOx (1/10) 618 mg/Nm$^3$ and SOx 3 (7/10)*

**ANNEXURE 19**

**CONSOLIDATED ROA OF THE AMBIENT AIR QUALITY MONITORING SURVEY CONDUCTED AT M/S. NLC INDIA LTD., TPS I EXPANSION FOR THE YEAR 2018-23**

| Parameters | | PM10 | | PM2.5 | | SO2 | | NOx | |
|---|---|---|---|---|---|---|---|---|---|
| Standards | | 100 | | 60 | | 80 | | 80 | |
| Year | | Min. | Max. | Min. | Max. | Min. | Max. | Min. | Max. |
| 2018-19 | 1st Half year | 54 | **110** | 38 | **80** | 40 | 60 | 46 | 64 |
| | 2nd Half year | 72 | 118 | 58 | **66** | 42 | 64 | 48 | 68 |
| 2019-20 | 1st Half year | 72 | 122 | 42 | 84 | 54 | **88** | 57 | **92** |
| | 2nd Half year | 74 | 118 | 40 | 82 | 58 | **85** | 62 | **90** |
| 2020-21 | 1st Half year | 94 | 98 | 55 | 58 | 22 | 28 | 18 | 22 |
| | 2nd Half year | 92 | 98 | 58 | 59 | 23 | 29 | 18 | 25 |
| 2021-22 | 1st Half year | 91 | **126** | 58 | **78** | 13 | 23 | 15 | 28 |
| | 2nd Half year | 81 | 148 | 56 | **122** | 14 | 25 | 16 | 27 |
| 2022-23 | 1st Half year | 58 | 70 | 32 | 52 | 14 | 20 | 16 | 22 |
| | 2nd Half year | 48 | 79 | 46 | 53 | 28 | 38 | 30 | 40 |

***Inference:*** Ambient Air Quality Survey was conducted at six locations inside andoutside of the unit TPS I expansion. The minimum and maximum value at particular location is given above. Consolidated ROA of the Ambient Air Quality Monitoring survey in the year 2018-2023 all the parameters are within the standards prescribed by the Board except the exceedance of – PM 10 (4/10 ) PM 2.5 (6/10 ) SOx (2/10) and NOx (2/10)

**ANNEXURE 20**

**CONSOLIDATED ROA OFTREATED SEWAGE FROM M/S. NEYVELI NEW THERMAL POWER STATION FOR THE YEAR DEC 2020-MAR 2023**

| NEYVELI NEW THERMAL POWER STATION<br>Outlet of Sewage Treatment Plant | | | | | | |
|---|---|---|---|---|---|---|
| **S.No.** | **Month** | **pH** | **TSS** | **BOD** | **COD** | **Ammonical Nitrogen ($NH_3$-N)** |
| 1 | Dec-20 | 8.82 | 10 | 16 | 52 | 3.92 |
| 2 | Nov-20 | 7.09 | 14 | 18 | 48 | 5.6 |
| 3 | Jan-21 | 6.94 | 12 | 18 | 48 | 4.48 |
| 4 | Feb-21 | 8.12 | 12 | 18 | 48 | 5.54 |
| 5 | Mar-21 | 7.91 | 10 | 16 | 44 | <MDL |
| 6 | Mar-21 | 7.08 | 16 | 18 | 48 | 5.04 |
| 7 | Apr-21 | 7.57 | 12 | 18 | 48 | <MDL |
| 8 | Jun-21 | 7.59 | 14 | 18 | 44 | <MDL |
| 9 | Jul-21 | 6.4 | 12 | 18 | 44 | <MDL |
| 10 | Aug-21 | 7.35 | 12 | 18 | 48 | <MDL |
| 11 | Sep-21 | 8.14 | 12 | 18 | 48 | <MDL |
| 12 | Oct-21 | 7.57 | 12 | 18 | 44 | 4.48 |
| 13 | Nov-21 | 7.43 | 12 | 18 | 44 | <MDL |
| 14 | Dec-21 | 7.32 | 14 | 16 | 40 | <MDL |
| 15 | Jan-22 | 7.5 | 16 | 18 | 48 | <MDL |
| 16 | Mar-22 | 7.87 | 12 | 18 | 44 | <MDL |
| 17 | Apr-22 | 7.86 | 12 | 16 | 44 | <MDL |
| 18 | May-22 | 7.9 | 10 | 18 | 44 | <MDL |
| 19 | Jun-22 | **4.63** | 8 | 2 | 8 | 5.04 |
| 20 | Jul-22 | 8.36 | 12 | **26** | 80 | 7.28 |
| 21 | Aug-22 | 8.19 | 12 | 8 | 32 | 2.8 |
| 22 | Sep-22 | 8 | 14 | 20 | 48 | <MDL |
| 23 | Oct-22 | 7.53 | 10 | 21 | 72 | <MDL |
| 24 | Nov'22 | 8.06 | 12 | 8 | 32 | 4.48 |
| 25 | Dec-22 | 7.5 | 12 | 12 | 32 | 12.89 |
| 26 | Jan-23 | 7.32 | 12 | 14 | 64 | 6.72 |
| 27 | Feb-23 | 7.76 | 10 | 10.6 | 32 | 3.92 |
| 28 | Mar-23 | 7.39 | 6 | 4.2 | 24 | <2 |
| ***Standards for STP*** | | ***5.5-9.0*** | ***30*** | ***20*** | ***100*** | ***15*** |

***Inference:***ROA of the treated sewage samples collected for the year December 2020-2021, 2021-2022 and 2022 -2023 from the outlet of the STP reveals that most of the parameters are within the standards prescribed by the Board except the exceedance of - pH (1/31) and BOD (1/31).

## ANNEXURE 21

## CONSOLIDATED ROA OF TREATED EFFLUENT FROM M/S. NEYVELI NEW THERMAL POWER STATION FROM THE YEAR SEP 2020- MARCH 2023

| NEYVELI NEW THERMAL POWER STATION– Outlet of Effluent Treatment Plant | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **S.No.** | **Month** | **pH** | **TSS** | **TDS** | **Chlorides** | **Sulphates** | **BOD** | **COD** | **% Sodium** |
| 1 | Sep'20 | 8.3 | 18 | 1368 | 495 | 222 | 22 | 88 | - |
| 2 | Oct'20 | **9.28** | 18 | 1678 | 450 | 262 | 24 | 104 | 10.62 |
| 3 | Nov'20 | 8.39 | 24 | **2770** | 655 | 316 | 24 | 112 | 10.43 |
| 4 | Dec'20 | 8.58 | 18 | **2384** | 610 | 318 | 26 | 116 | 10.43 |
| 5 | Jan'21 | 8.58 | 20 | **2872** | 805 | 402 | 24 | 96 | 7.75 |
| 6 | Feb'21 | **9.44** | 22 | **2580** | 625 | 326 | 26 | 116 | 10.43 |
| 7 | Mar'21 | 8.4 | 18 | **2308** | 855 | 532 | 24 | 108 | 8.99 |
| 8 | April'21 | 7.62 | 20 | **2334** | 725 | 328 | 28 | 116 | 10.02 |
| 9 | June'21 | **6.24** | 22 | **2120** | 725 | 326 | 28 | 116 | 9.61 |
| 10 | Jul'21 | 8.16 | 20 | 2034 | 625 | 322 | 26 | 116 | 9.61 |
| 11 | Aug'21 | **3.26** | 22 | **4908** | **1050** | 602 | 28 | 136 | 10.02 |
| 12 | Sep'21 | 8.33 | 22 | 1860 | 605 | 302 | 28 | 124 | 11.64 |
| 13 | Oct'21 | 7.65 | 20 | 1436 | 455 | 242 | 24 | 116 | 29.5 |
| 14 | Nov'21 | 7.07 | 22 | 1456 | 525 | 210 | 26 | 124 | 10.1 |
| 15 | Dec-21 | **3.2** | 18 | 1324 | 455 | 220 | 24 | 112 | 7.75 |
| 16 | Jan-22 | **3.82** | 18 | 1066 | 325 | 182 | 24 | 108 | 8.99 |
| 17 | Mar-22 | 7.51 | 16 | 842 | 325 | 122 | 20 | 80 | 6.34 |
| 18 | Apr-22 | 8 | 18 | 1580 | 495 | 252 | 24 | 112 | 10.1 |
| 19 | May-22 | 8.42 | 12 | 362 | 105 | 68 | 20 | 64 | - |
| 20 | Jun-22 | 5.04 | 8 | 521 | 326 | 110 | 12 | 48 | 18.97 |
| 21 | Jul-22 | 8.74 | 12 | 104 | 35 | 19.4 | 6 | 24 | 5.69 |
| 22 | Aug-22 | 7.83 | 18 | 712 | 510 | 218 | 28 | 8 | 6.26 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 23 | Sep-22 | 8.37 | 18 | 570 | 320 | 136 | 16 | 48 | 1.2 |
| 24 | Oct-22 | 8.13 | 14 | 416 | 168 | 56 | 23 | 80 | 11.64 |
| 25 | Nov'22 | 7.22 | 18 | 424 | 120 | 80 | 18 | 72 | 15.45 |
| 26 | Dec-22 | 6.99 | 18 | 980 | 465 | 118 | 28 | 176 | 16.03 |
| 27 | Jan-23 | 7.13 | 12 | 1332 | 675 | 230 | 18 | 80 | 9.59 |
| 28 | Feb-23 | 8.29 | 12 | 612 | 305 | 85 | 8 | 32 | 14.09 |
| 29 | Mar-23 | 8.6 | 12 | 510 | 245 | 65 | 5.2 | 56 | 12.19 |
| ***Standards for ETP*** | | ***5.5-9.0*** | ***100*** | ***2100*** | ***1000*** | ***1000*** | ***30*** | ***250*** | ***-*** |

***Inference:***ROA of the treated trade effluent samples collected for the year September 2020-2021, 2021-2022 and 2022 -2023 collected from the outlet of ETP reveals that most of the parameters are within the standards prescribed by the Board except the exceedance of - pH (6/32), TDS 8/32 chloride (1/32).

## ANNEXURE 22

## CONSOLIDATED ROA OF STACK EMISSION SURVEY CONDUCTED M/S. NEYVELI NEW THERMAL POWER STATION FOR THE YEAR 2020-2023

| **Parameters** | | **PM** | | **SO2** | | **NOx** | |
|---|---|---|---|---|---|---|---|
| **Standards** | | **30** | | **100** | | **100** | |
| **Year** | | **Min.** | **Max.** | **Min.** | **Max.** | **Min.** | **Max.** |
| 2020-21 | 1st Half year | 28 | - | 673 | - | 255 | - |
| | 2nd Half year | **39** | 46 | **592** | 681 | 258 | 283 |
| 2021-22 | 1st Half year | **39** | 48 | 1497 | 1499 | **142** | 146 |
| | 2nd Half year | 42 | 49 | 1507 | **1518** | 233 | 239 |
| 2022-23 | 1st Half year | **56** | - | 1480 | - | 432 | - |
| | 2nd Half year | 52 | - | 1348 | - | **488** | - |

***Inference:***ROA of the Stack emission survey in the year 2020-2023 reveals that the following parameters are exceedance the standards PM (5/6) , SOX (6/6) and NOx (6/6)

.

**ANNEXURE 23**

**CONSOLIDATED ROA OF THE AMBIENT AIR QUALITY MONITORING SURVEY CONDUCTED AT M/S. NEYVELI NEW THERMAL POWER STATION FOR THE YEAR 2020-23**

| Parameters | | PM10 | | PM2.5 | | SO2 | | NOx | |
|---|---|---|---|---|---|---|---|---|---|
| Standards | | 100 | | 60 | | 80 | | 80 | |
| Year | | Min. | Max. | Min. | Max. | Min. | Max. | Min. | Max. |
| 2020-21 | 1st Half year | 85 | 96 | 54 | 57 | 19 | 30 | 16 | 25 |
| | 2nd Half year | 74 | 96 | 42 | 49 | 12 | 26 | 12 | 38 |
| 2021-22 | 1st Half year | 87 | **129** | 32 | 46 | 12 | 22 | 15 | 26 |
| | 2nd Half year | 46 | **144** | 50 | **118** | 12 | 20 | 15 | 24 |
| 2022-23 | 1st Half year | 42 | 68 | 26 | 32 | 08 | 42 | 12 | 48 |
| | 2nd Half year | 52 | 74 | 40 | 48 | 30 | 38 | 34 | 40 |

***Inference:***ROA of the AAQ survey in the year 2020-2021, 2021 - 2022 and 2022-2023 reveals that all the parameters are within the standards prescribed by the Board except the exceedance of - $PM_{10}$ (2/6)

## ANNEXURE 24

## CONSOLIDATED ROA OF TREATED SEWAGE FROM M/S. NLC INDIA LTD MODERN SEWAGE TREATMENT PLANT FOR THE YEAR 2018-2023

| Outlet of Sewage Treatment Plant | | | | | |
|---|---|---|---|---|---|
| **S.No.** | **Month** | **pH** | **TSS** | **BOD** | **COD** |
| 1 | May-18 | 6.67 | 36 | 18 | 96 |
| 2 | Jun-18 | 7.4 | 8 | 4 | 16 |
| 3 | Jul-18 | 7.45 | 12 | 8 | 32 |
| 4 | Aug-18 | 7.34 | 12 | 18 | 72 |
| 5 | Sep-18 | 8.08 | 8 | 22 | 84 |
| 6 | Oct-18 | 6.65 | 12 | 16 | 64 |
| 7 | Nov-18 | 7.71 | 18 | 40 | 184 |
| 8 | Dec-18 | 7.8 | 12 | 26 | 104 |
| 9 | Jan-19 | 7.32 | 8 | 16 | 32 |
| 10 | Feb-19 | 7.72 | 8 | 16 | 64 |
| 11 | Mar-19 | 7.85 | 4 | 4 | 12 |
| 12 | Apr-19 | 7.39 | 6 | 4 | 16 |
| 13 | May-19 | 6.33 | 8 | 12 | 32 |
| 14 | June-19 | 7.29 | 8 | 12 | 32 |
| 15 | July-19 | 7.34 | 8 | 28 | 112 |
| 16 | Aug-19 | 7.64 | 8 | 30 | 104 |
| 17 | Sep-19 | 8.17 | 12 | 26 | 104 |
| 18 | Oct-19 | 8.79 | 12 | 10 | 40 |
| 19 | Nov-19 | 8.23 | 14 | 26 | 104 |
| 20 | Dec-19 | 8.14 | 20 | 42 | 172 |
| 21 | Jan-20 | 7.72 | 12 | 24 | 96 |
| 22 | Feb-20 | 6.75 | 20 | 24 | 116 |
| 23 | Mar-20 | 6.98 | 18 | 20 | 80 |

| Outlet of Sewage Treatment Plant | | | | | |
|---|---|---|---|---|---|
| **S.No.** | **Month** | **pH** | **TSS** | **BOD** | **COD** |
| 24 | May-20 | 7.49 | 12 | 14 | 64 |
| 25 | Jun-20 | 6.78 | 12 | 10 | 48 |
| 26 | July-20 | 7.12 | 12 | 14 | 64 |
| 27 | Aug-20 | 6.86 | 14 | 18 | 48 |
| 28 | Sep-20 | 7.75 | 14 | 20 | 72 |
| 29 | Oct-20 | 8.28 | 10 | 18 | 48 |
| 31 | Dec-20 | 7.47 | 12 | 18 | 44 |
| 33 | Jan-21 | 7.76 | 18 | 20 | 52 |
| 34 | Feb-21 | 7.6 | 8 | 16 | 44 |
| 35 | Apr-21 | 7.24 | 12.00 | 18.00 | 44.00 |
| 36 | Jun-21 | 8.01 | 12.00 | 16.00 | 44.00 |
| 37 | Jul-21 | 6.14 | 8.00 | 16.00 | 40.00 |
| 38 | Aug-21 | 7.59 | 12.00 | 18.00 | 44.00 |
| 39 | Sep-21 | 8.39 | 10.00 | 16.00 | 44.00 |
| 40 | Oct-21 | 7.19 | 12.00 | 18.00 | 44.00 |
| 41 | Nov-21 | 6.95 | 8.00 | 10.00 | 44.00 |
| 42 | Dec-21 | 7 | 12 | 18 | 44 |
| 43 | Jan-22 | 8 | 12 | 16 | 44 |
| 44 | Feb-22 | 8 | 12 | 18 | 44 |
| 45 | Mar-22 | 8 | 12 | 16 | 44 |
| 46 | Apr-22 | 7.83 | 14.00 | 18.00 | 44.00 |
| 47 | Jun-22 | 7.97 | 10.00 | 8.00 | 16.00 |
| 48 | Jul-22 | 7.92 | 12.00 | 28.00 | 72.00 |
| 49 | Aug-22 | 6.91 | 10.00 | 14.00 | 64.00 |
| 50 | Sep-22 | 7.09 | 16.00 | 8.00 | 16.00 |
| 51 | Oct-22 | 7.07 | 10.00 | 1.60 | 8.00 |

| Outlet of Sewage Treatment Plant | | | | | |
|---|---|---|---|---|---|
| **S.No.** | **Month** | **pH** | **TSS** | **BOD** | **COD** |
| 52 | Nov-22 | 7.09 | 12.00 | 18.00 | 64.00 |
| 53 | Dec-22 | 6.70 | 12.00 | 16.00 | 64.00 |
| 54 | Jan-23 | 7.23 | 18.00 | 12.00 | 64.00 |
| 55 | Feb-23 | 7.27 | 26.00 | 12.00 | 64.00 |
| 56 | Mar-23 | 6.80 | 16.00 | 3.30 | 40.00 |
| 57 | Apr-23 | 6.50 | 18.00 | 5.40 | 24.00 |
| 58 | May-23 | 7.30 | 16.00 | 8.00 | 32.00 |
| 59 | June-23 | 6.76 | 10.00 | 6.00 | 48.00 |
| ***Standards for ETP*** | | ***5.5-9.0*** | ***200*** | ***100*** | ***-*** |

***Inference:*** The ROA of the treated effluent samples collected for the year 2018 – 2019, 2019-2020, 2020-2021, 2021-2022 and 2022 -2023 from the outlet of the ETP reveals that the parameters were within the standards prescribed by the board.

## ANNEXURE 25

## CONSOLIDATED ROA OF TREATED SEWAGE FROM M/S. IL & FS TAMILNADU POWER COMPANY LIMITED FOR THE YEAR 2018-23

| Outlet of Sewage Treatment Plant | | | | | | |
|---|---|---|---|---|---|---|
| **S.No.** | **Month** | **pH** | **TSS** | **BOD** | **COD** | **Ammonical Nitrogen ($NH_3$-N)** |
| 1. | June-2018 | 8.13 | 10 | 6 | 32 | - |
| 2. | July-2018 | 8.19 | 8 | 8 | 32 | - |
| 3. | Sep-2018 | 8.58 | 8 | 8 | 16 | - |
| 4. | Oct-2018 | 7.82 | 8 | 6 | 32 | 8.96 |
| 5. | Nov-2018 | 7.76 | 12 | 16 | 40 | - |
| 6. | Dec-2018 | 8.02 | 8 | 12 | 64 | - |
| 7. | Jan-2019 | 7.93 | 8 | 8 | 32 | 10.65 |
| 8. | Feb-2019 | 8.01 | 8 | 6 | 16 | 8.4 |
| 9. | Mar-2019 | 8.04 | 6 | 8 | 32 | 5.6 |
| 10. | Apr-2019 | 6.52 | 8 | 12 | 32 | 8.4 |
| 11. | May-2019 | 7.41 | 8 | 6 | 32 | 6.72 |
| 12. | June-2019 | 7.81 | 8 | 8 | 32 | 6.72 |
| 13. | July-2019 | 8.32 | 8 | 18 | 32 | 6.72 |
| 14. | Aug-2019 | 7.39 | 8 | 6 | 32 | 6.72 |
| 15. | Sep-2019 | 8.6 | 12 | 18 | 72 | 8.4 |
| 16. | Oct-2019 | 8.12 | 18 | **26** | **104** | 8.4 |
| 17. | Nov-2019 | 8.45 | 12 | 18 | 76 | 6.72 |
| 18. | Jan-2020 | 8.06 | 18 | **26** | **104** | 8.96 |
| 19. | Feb-2020 | 7.52 | 18 | **26** | **112** | **15.13** |
| 20. | Mar-2020 | 8.25 | 18 | **24** | **104** | 10.09 |
| 21. | May-2020 | 7.39 | 20 | 14 | 80 | 8.4 |
| 22. | June-2020 | 7.86 | 18 | 20 | 96 | 10.09 |
| 23. | July-2020 | 7.71 | 14 | **26** | 96 | 8.4 |
| 24. | Aug-2020 | 7.96 | 12 | 18 | 72 | 8.4 |
| 25. | Sep-2020 | 8.11 | 14 | 20 | 64 | 8.96 |
| 26. | Oct-2020 | 8.89 | 14 | 18 | 48 | 4.48 |
| 27. | Nov-2020 | 7.42 | 10 | 16 | 48 | 5.04 |
| 28. | Dec-2020 | 8.39 | 12 | 18 | 48 | 4.48 |
| 29. | Jan-2021 | 8.28 | 10 | 16 | 44 | <MDL |
| 30. | Feb-2021 | 7.43 | 10 | 18 | 48 | 4.48 |
| 31. | Mar-2021 | 8.34 | 12 | 18 | 44 | <MDL |
| 32. | June-2021 | 7.21 | 14 | 18 | 48 | <MDL |
| 33. | July-2021 | 7.54 | 14 | 20 | 52 | 4.48 |
| 34. | Sep-2021 | 6.8 | 14 | 20 | 56 | 4.48 |
| 35. | Oct-2021 | 7.59 | 14 | 18 | 48 | <MDL |
| 36. | Nov-2021 | 8.1 | 14 | 18 | 48 | <MDL |
| 37. | Dec-2021 | 8.24 | 14 | 20 | 56 | 5.04 |
| 38. | Jan-2022 | 7.42 | 14 | 18 | 48 | <MDL |

| | | | | | | |
|---|---|---|---|---|---|---|
| 39. | Feb-2022 | 8.24 | 10 | 16 | 48 | <MDL |
| 40. | Mar-2022 | 6.84 | 14 | 18 | 48 | <MDL |
| 41. | Apr-2022 | 7.96 | 14 | 18 | 48 | <MDL |
| 42. | May-2022 | 8.3 | 20 | 20 | 96 | - |
| 43. | June-2022 | 8.4 | 14 | 6 | 32 | <MDL |
| 44. | July-2022 | 7.79 | 8 | 18 | 72 | 6.72 |
| 45. | Aug-2022 | 7.15 | 12 | 16 | 64 | 5.04 |
| 46. | Sep-2022 | 7.82 | 8 | 20 | 88 | 5.6 |
| 47. | Oct-2022 | 7.74 | 14 | 11 | 40 | <MDL |
| 48. | Nov-2022 | 7.68 | 8 | 16 | 64 | <MDL |
| 49. | Dec-2022 | 7.85 | 10 | 8 | 24 | 3.92 |
| 50. | Jan-2023 | 7.74 | 11 | 8.2 | 32 | 4.48 |
| 51. | Feb-2023 | 8.25 | 10 | 16.4 | 32 | 3.92 |
| 52. | Mar-2023 | 7.75 | 8 | **34** | 72 | 4.48 |
| ***Standards for STP*** | | ***5.5-9.0*** | ***30*** | ***20*** | ***100*** | ***15*** |

***Inference:****The ROA of the treated sewage samples collected for the year 2018-2023 from the outlet of the STP outlet reveals that, mostly the parameters were within the standards prescribed by the Board except the exceedance of – BOD (6/52) COD (4/52) Nitrogen (1/52).*

## ANNEXURE 26

## CONSOLIDATED ROA OFTREATED EFFLUENT FROM M/S. IL&FS TAMILNADU POWER COMPANY LTD., FOR THE YEAR June-2018-2023

| M/S. IL & FS TAMIL NADU POWER COMPANY LTD.- Outlet of Effluent Treatment Plant | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **S.No.** | **Month** | **pH** | **TSS** | **TDS** | **Chlorides** | **Sulphates** | **Oil&Grease** | **BOD** | **COD** | **Sulfide** |
| 1 | Jun-2018 | 8.24 | 12 | 1112 | 418 | 160 | <MDL | 8 | 64 | <MDL |
| 2 | Jul-2018 | 8.07 | 6 | 978 | 337 | 111 | 2 | 16 | 64 | <MDL |
| 3 | Sep-2018 | 8.36 | 6 | 1574 | **630** | 210 | <MDL | 4 | 16 | <MDL |
| 4 | Oct-2018 | 7.65 | 8 | 1728 | 415 | 130 | <MDL | 12 | 32 | <MDL |
| 5 | Nov-2018 | 7.7 | 14 | 1210 | 520 | 172 | <MDL | 18 | 68 | <MDL |
| 6 | Dec-2018 | 7.76 | 10 | 1078 | 415 | 216 | 2 | 8 | 32 | <MDL |
| 7 | Jan-2019 | 8.21 | 10 | 898 | 350 | 128 | 2 | 10 | 40 | <MDL |
| 8 | Feb-2019 | 8.26 | 6 | 1246 | 550 | 148 | <MDL | 8 | 28 | <MDL |
| 9 | Mar-2019 | 7.83 | 12 | 1220 | 510 | 320 | 4 | 16 | 40 | <MDL |
| 10 | Apr-2019 | 7.72 | 6 | 1240 | 350 | 12 | <MDL | 8 | 28 | <MDL |
| 11 | May-2019 | 7.93 | 6 | 1248 | **610** | 220 | <MDL | 8 | 32 | <MDL |
| 12 | Jun-2019 | 8.22 | 8 | 984 | 325 | 148 | <MDL | 14 | 52 | <MDL |
| 13 | Jul-2019 | 7.01 | 10 | 1090 | 465 | 210 | 2 | 18 | 64 | <MDL |
| 14 | Aug-2019 | 7.99 | 6 | 1606 | **960** | 552 | <MDL | 8 | 32 | <MDL |
| 15 | Sep-2019 | 6.56 | 6 | 1056 | 405 | 102 | <MDL | 14 | 36 | <MDL |
| 16 | Oct-2019 | 8.57 | 12 | **3400** | **980** | 602 | <MDL | 18 | 72 | <MDL |
| 17 | Nov-2019 | 8.74 | 12 | 658 | 265 | 92 | <MDL | 22 | 92 | <MDL |
| 18 | Jan-2020 | 8.18 | 16 | 748 | 255 | 112 | <MDL | 24 | 104 | <MDL |
| 19 | Feb-2020 | 6.54 | 12 | 916 | 355 | 122 | <MDL | 24 | 108 | <MDL |
| 20 | Mar-2020 | 8.16 | 14 | 1176 | 355 | 126 | <MDL | 22 | 84 | <MDL |
| 21 | May-2020 | 7.74 | 14 | 938 | 280 | 118 | <MDL | 22 | 96 | <MDL |
| 22 | Jun-2020 | 6.73 | 12 | 1318 | 405 | 202 | <MDL | 22 | 96 | <MDL |
| 23 | Jul-2020 | 7.44 | 12 | 748 | 210 | 102 | <MDL | 16 | 72 | <MDL |
| 24 | Aug-2020 | **3.19** | 12 | 1684 | 555 | 252 | <MDL | 20 | 96 | <MDL |
| 25 | Sep-2020 | 7.76 | 14 | 766 | 305 | 122 | <MDL | 18 | 96 | <MDL |
| 26 | Oct-2020 | 8.05 | 18 | 2034 | **795** | 312 | <MDL | 26 | 108 | <MDL |
| 27 | Nov-2020 | 7.74 | 16 | 988 | 190 | 102 | <MDL | 22 | 84 | <MDL |
| 28 | Dec-2020 | 6.9 | 18 | 1222 | 375 | 168 | <MDL | 22 | 96 | <MDL |
| 29 | Jan-2021 | 7.26 | 12 | 470 | 210 | 126 | - | 20 | 80 | - |
| 30 | Feb-2021 | 7.07 | 14 | 1178 | 355 | 218 | - | 20 | 72 | <MDL |
| 31 | Mar-2021 | 7.96 | 20 | 1332 | 450 | 204 | - | 22 | 96 | - |
| 32 | Jun-2021 | 6.59 | 16 | 886 | 255 | 136 | - | 20 | 80 | - |
| 33 | Jul-2021 | 6.89 | 14 | 692 | 205 | 102 | - | 50 | 96 | <MDL |
| 34 | Sep-2021 | 7.97 | 18 | 1030 | 220 | 124 | - | 20 | 80 | - |
| 35 | Oct-2021 | 8.31 | 20 | 1128 | 400 | 202 | - | 20 | 80 | <MDL |
| 36 | Nov-2021 | 7.62 | 16 | 952 | 325 | 120 | - | 20 | 80 | <MDL |
| 37 | Dec-2021 | 8.21 | 20 | 1250 | 405 | 210 | - | 24 | 104 | <MDL |
| 38 | Jan-2022 | 7.47 | 20 | 464 | 200 | 102 | | 22 | 96 | <MDL |
| 39 | Feb-2022 | 7.39 | 18 | 1008 | 315 | 162 | - | 20 | 80 | <MDL |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 40 | Mar-2022 | 6.59 | 16 | 902 | 305 | 142 | - | 20 | 88 | <MDL |
| 41 | Apr-2022 | 7.71 | 14 | 348 | 150 | 102 | - | 22 | 96 | <MDL |
| 42 | May-2022 | 7.67 | 18 | 488 | 165 | 102 | - | 20 | 92 | <MDL |
| 43 | Jun-2022 | 7.01 | 12 | 726 | 205 | 102 | - | 6 | 16 | <MDL |
| 44 | Jul-2022 | **5.06** | 10 | 382 | 115 | 55.9 | - | 20 | 96 | **3** |
| 45 | Aug-2022 | 6.77 | 12 | 402 | 145 | 90 | - | 20 | 88 | <MDL |
| 46 | Sep-2022 | 7.43 | 10 | 320 | 205 | 82 | - | 28 | 136 | **4.8** |
| 47 | Oct-2022 | 7.73 | 22 | 182 | 70 | 24 | - | 18 | 64 | **5.12** |
| 48 | Nov-2022 | 7.25 | 12 | 275 | 120 | 60 | - | 4 | 16 | <MDL |
| 49 | Dec-2022 | 6.48 | 8 | 846 | 435 | 210 | - | 4 | 32 | **4.06** |
| 50 | Jan-2023 | 7.36 | 12 | 574 | 255 | 116 | 2 | 18 | 64 | <MDL |
| 51 | Feb-2023 | 6.87 | 12 | 98 | 50 | 12 | - | 14 | 40 | <MDL |
| 52 | Mar-2023 | 6.51 | 14 | 280 | 150 | 52 | - | 14 | 40 | <1 |
| ***Standards for ETP*** | | ***5.5-9.0*** | ***200*** | ***2100*** | ***600*** | ***1000*** | ***10*** | ***100*** | ***-*** | ***2*** |

***Inference:***

Consolidated ROA of the treated trade effluent samples collected from the ETP outlet reveals that mostly the parameters were within the standards prescribed by the Board except the exceedance of – pH (2/52), TDS (1/52), Chloride (5/52), andsulfide (4/52).

## ANNEXURE 27

## CONSOLIDATED ROA OF STACK EMISSION SURVEY CONDUCTED AT M/S. IL&FS TAMIL NADU POWER COMPANY LIMITED FOR THE YEAR 2018-2023

| Parameters | | PM | | SO2 | | NOx | |
|---|---|---|---|---|---|---|---|
| Standards | | 50 | | 200 | | 450 | |
| Year | | Min. | Max. | Min. | Max. | Min. | Max. |
| 2018-19 | 1st Half year | 64 | - | 302 | - | 350 | - |
| | 2nd Half year | 60 | 62 | 224 | 230 | 352 | 354 |
| 2019-20 | 1st Half year | 56 | 62 | 232 | 243 | 257 | 268 |
| | 2nd Half year | 58 | 60 | 236 | 247 | 262 | 265 |
| 2020-21 | 1st Half year | 57 | - | 243 | - | 260 | - |
| | 2nd Half year | 40 | 42 | 164 | 185 | 265 | 271 |
| 2021-22 | 1st Half year | 52 | - | 182 | - | 375 | - |
| | 2nd Half year | 12 | - | 126 | - | 162 | - |
| 2022-23 | 1st Half year | 18 | - | 32 | - | 260 | - |
| | 2nd Half year | 14 | - | 36 | - | 212 | - |

***Inference:***Consolidated ROA of the Stack emission survey in the year 2018-2023 reveals that exceedance of – PM 10 (6/10)

## ANNEXURE 28

## CONSOLIDATED ROA OF THE AMBIENT AIR QUALITY MONITORING SURVEY CONDUCTED AT M/S. IL&FS TAMILNADU POWER COMPANY FOR YEAR 2018-2023

| Parameters | | PM10 | | PM2.5 | | SO2 | | NOx | |
|---|---|---|---|---|---|---|---|---|---|
| Standards | | 100 | | 60 | | 80 | | 80 | |
| Year | | Min. | Max. | Min. | Max. | Min. | Max. | Min. | Max. |
| 2018-19 | 1st Half year | 64 | 114 | 34 | 82 | 36 | 98 | 40 | 102 |
| | 2nd Half year | 68 | 112 | 59 | 62 | 12 | 20 | 14 | 22 |
| 2019-20 | 1st Half year | 72 | 116 | 57 | 64 | 20 | 32 | 26 | 38 |
| | 2nd Half year | 78 | 114 | 46 | 68 | 22 | 34 | 26 | 38 |
| 2020-21 | 1st Half year | 75 | 108 | 43 | 66 | 18 | 30 | 22 | 35 |
| | 2nd Half year | 78 | 89 | 45 | 58 | 23 | 38 | 19 | 32 |
| 2021-22 | 1st Half year | 68 | 79 | - | - | 15 | 23 | 18 | 25 |
| | 2nd Half year | 17 | 24 | 10 | 12 | 12 | 18 | 14 | 21 |
| 2022-23 | 1st Half year | 40 | 72 | 38 | 56 | 14 | 28 | 16 | 30 |
| | 2nd Half year | 42 | 76 | 32 | 56 | 8 | 26 | 12 | 20 |

***Inference:***Ambient Air Quality Survey was conducted at six locations inside and outside of the Thermal power station. The minimum and maximum value at particular location is given above. Consolidated ROA of the Ambient Air Quality Monitoring survey in the year 2018-2023 reveals that all the parameters are within the standards prescribed by the Board except the exceedance of - $PM_{10}$ (4/10) range from 108-116 µg/$m^3$, $PM_{2.5}$ (5/10). In the range of 62-82 µg/$m^3$.

**Annexure - 29**
**DETAILS OF SAMPLES COLLECTED BY TNPCB IN NLC**
**ON 11.08.2023 AND 16.08.2023**

| Sample code No | Date and Time | Place, Latitude & Longitude | Type of Sample |
|---|---|---|---|
| 1 | 11.08.2023 at 12.30 pm | Neyveli PCS Store Discharge – Surface water<br>Lat : 11.596363<br>Lon: 79.465716 | Surface water |
| 2 | 11.08.2023 at 12.45 pm | Discharge from NNTPS - Surface water<br>Lat : 11.579525<br>Lon: 79.461002 | Surface water |
| 3 | 11.08.2023 at 12.55 pm | Discharge from Neyveli TPS II - Surface water<br>Lat : 11.561055<br>Lon: 79.452025 | Surface water |
| 4 | 11.08.2023 at 01.20 pm | Artificial Lake located at North side of TS-II,South side of NNTPS, west side of abandoned ash pond<br>Lat : 11.56802<br>Lon: 79.44848 | Surface water |
| 5 | 11.08.2023 at 02.00 pm | Bore well water Located near OHT,ThandapaniKoilStreet,Kaikalarkuppam<br>Lat : 11.595008<br>Lon: 79.446353 | Ground Water |
| 6 | 11.08.2023 at 4.40 pm | Opposite to Main Gate of Mine II – KootuKudineerThittam near Valayamadevi – surface water<br>Lat : 11.561003<br>Lon: 79.451945 | surface water |
| 7 | 11.08.2023 at 04.13 pm | Paravanar River Carrying NLC Mine-II Discharge –Surface water<br>Lat : 11.572065<br>Lon: 79.517808 | surface water |
| 8 | 11.08.2023 at 05.22 pm | Walaja Lake<br>Lat : 11.514743<br>Lon: 79.562468 | surface water |
| 9 | 11.08.2023 at 04.30 pm | NLC Supplied Water at U.Mangalam Tank<br>Lat : 11.536934<br>Lon: 79.43294 | surface water |
| 10 | 11.08.2023 at 06.53 pm | Coal Mine Discharge from Mine –I –Surface water<br>Lat : 11.58316<br>Lon: 79.467776 | surface water |
| 11 | 11.08.2023 at 03.58 pm | Direct Discharge from TPS-I – Surface water<br>Lat : 11.590535<br>Lon: 79.478162 | surface water |
| 12 | 11.08.2023 | Paddy field near NNTPS Stack | Soil Sample |

| | | | |
|---|---|---|---|
| | at<br>03.43 pm | Lat : 11.589198<br>Lon: 79.446201 | |
| 13 | 11.08.2023<br>at 05.36 pm | Romapuri,Mandarakuppam – Vadakkuvellur – Surface water<br>Lat : 11.538715<br>Lon: 79.458366 | surface water |
| 14 | 11.08.2023<br>at 04.50 pm | Vadakkuvellur Pond near Sivan Koil<br>Lat : 11.549235<br>Lon: 79.459217 | surface water |
| 15 | 11.08.2023<br>at<br>04.58 pm | Vadakkuvellur Sugar cane field<br>Lat : 11.547582<br>Lon: 79.457119 | Soil Sample |
| 16 | 11.08.2023<br>at 06.23 pm | Bore well Located at Vanadhirayapuram Village<br>Lat : 11.51474<br>Lon: 79.56248 | Ground water |
| 17 | 11.08.2023<br>at 06.40 pm | Bore well water at Mariyamman Temple, Ayikuppam Village<br>Lat : 11.617468<br>Lon: 79.664808 | Ground water |
| 18 | 11.08.2023<br>at 06.15 pm | Kanjamanadanpettai pond water<br>Lat : 11.573015<br>Lon: 79.611106 | Surface Water |
| 19 | 11.08.2023<br>at 05.15 pm | Bore Well water at Block-22 Pump House(Jawahar College)<br>Lat : 11.611015<br>Lon: 79.465224 | Ground water |
| 20 | 11.08.2023<br>at 05.45 pm | Mine –I Outlet at Veenangeni –Surface water<br>Lat : 11.550328<br>Lon: 79.532898 | Surface water |
| 21 | 16.08.2023<br>at 1.48 PM | Agriculture land near Iyyan Lake<br>Lat :11.554339°<br>Long : 79.562573° | Soil Sample |
| 22 | 16.08.2023<br>at 1.38 PM | Iyyan Lake<br>Lat :11.557013°<br>Long : 79.562686° | Surface water |
| 23 | 16.08.2023<br>at 12.49 PM | Pallitheru, Vadakku Vellore<br>Lat :11.5479011°<br>Long : 79.464587° | Soil Sample |
| 24 | 16.08.2023<br>at 12.41 PM | Tholkappiem Nagar<br>Lat :11.5479011°<br>Long : 79.4645875° | Surface Water |
| 25 | 16.08.2023<br>at 12.26 PM | Muppaneri<br>Lat :11.552566°<br>Long : 79.459706° | Surface Water |
| 26 | 16.08.2023 | Vadakku Vellore By-pass | Soil Sample |

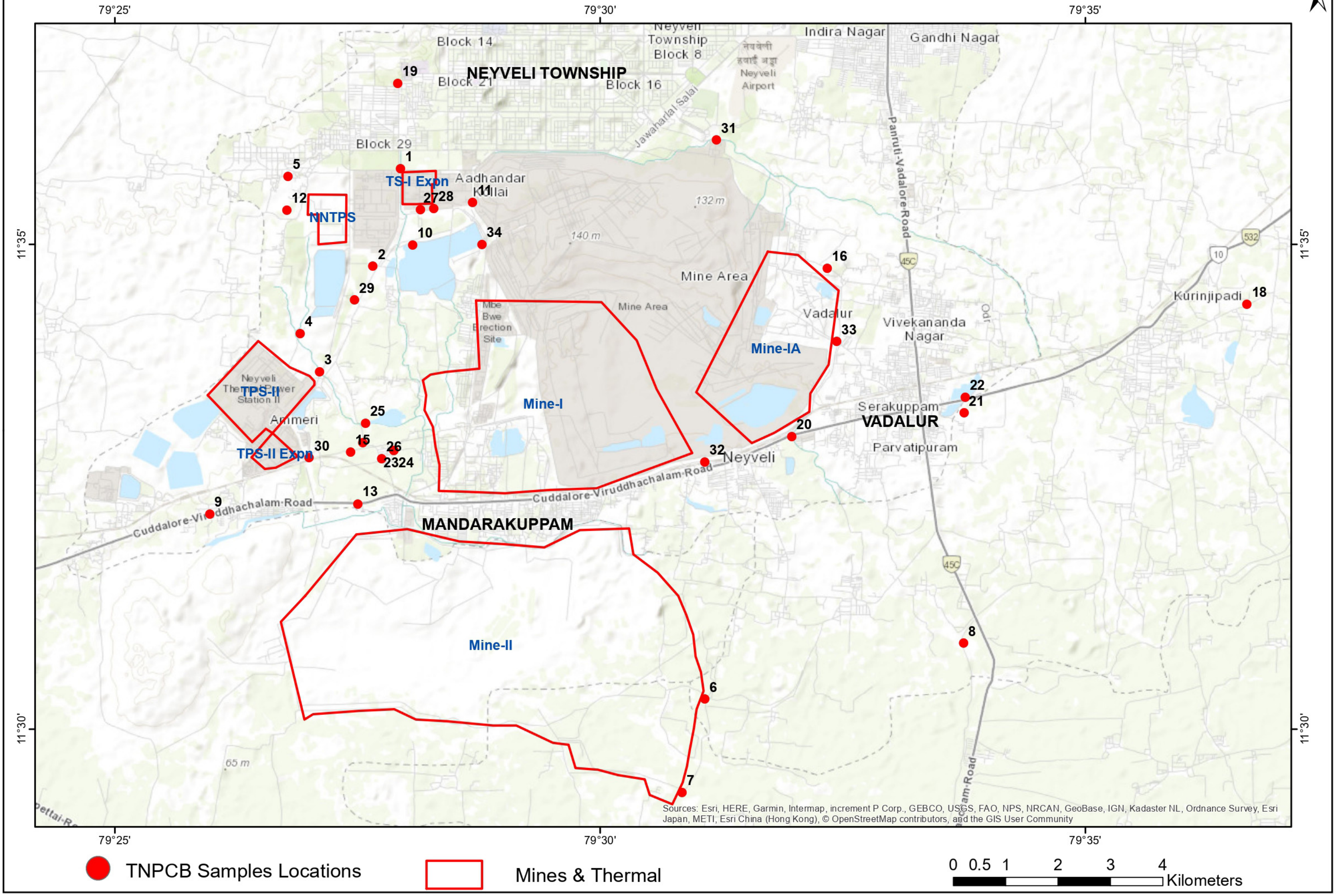
| | | | |
|---|---|---|---|
| | at 1.08 PM | Lat : 11.5464224°<br>Long : 79.462478° | |
| 27 | 16.08.2023<br>at 3.00 PM | TPS I expansion - Effluent outlet at the boundary of the plant<br>Lat : 11.589242°<br>Long : 79.469104° | Surface Water |
| 28 | 16.08.2023<br>at 3.16 PM | Strom water drain (opp to TPS I exp RCC bunker)<br>Lat : 11.589435°<br>Long : 79.471444° | Surface Water |
| 29 | 16.08.2023<br>at 3.30 PM | Discharge from TPS I exp at karuvetti village<br>Lat : 11.573758°<br>Long : 79.457836° | Surface Water |
| 30 | 16.08.2023<br>at 3.50 PM | TPS II expansion - Strom water drain near STP & junction tower 5<br>Lat : 11.546642°<br>Long : 79.450058° | Surface Water |
| 31 | 16.08.2023<br>at 4.30 PM | MSTP Outflow & MINE I Seepage confluence point (to kanniyakoilodai)<br>Lat : 11.601228°<br>Long : 79.520014° | Surface Water |
| 32 | 16.08.2023<br>at 05.00 PM | Mine l A Seepage discharge point to sengulam&anbarasankulam lake<br>Lat: 11 deg 32'45.209 N<br>Long : 79 deg 31' 4. 6084 E | Surface Water |
| 33 | 16.08.2023<br>at 5.12 PM | Mine I A Seepage Discharge point into Ayan lake<br>Lat : 11.516503°<br>Long : 79.745177° | Surface Water |
| 34 | 16.08.2023<br>at 5.45 PM | Mine I Seepage lake<br>Lat : 11 deg 34' 59.7399 N<br>Long : 79 deg 28' 46. 7760 E | Surface Water |

**M/S IL& FS TAMIL NADU POWER COMPANY LIMITED**

| Sample code No | Date and Time | Place, Latitude & Longitude | Type of Sample |
|---|---|---|---|
| 1. | 16.08.2023<br>at<br>9.53 AM | Karikuppam Village<br>Lat: 11.515833$^{o}$<br>Long: 79.742616$^{0}$ | Groundwater |
| 2. | 16.08.2023<br>at<br>10.00 AM | Karikuppam Village Fish Pond<br>Lat: 11.516401$^{o}$<br>Long: 79.74471$^{0}$ | Surface water |
| 3. | 16.08.2023<br>at<br>10.12 AM | Pudukuppam Village (Owner Mr. Vedhavan)<br>Lat: 11.523577$^{o}$<br>Long: 79.762972$^{0}$ | Groundwater |

| | | | |
|---|---|---|---|
| 4. | 16.08.2023<br>at<br>10.16 AM | Pudukuppam Village-<br>Pipe Water<br>Lat: 11.525248$^{o}$<br>Long: 79.762342$^{0}$ | Piped water |
| 5. | 16.08.2023<br>at<br>10.43 AM | Canal near the Thermal Power Plant (Water Discharge from the plant time to time )<br>Lat: 11.51545$^{o}$<br>Long: 79.740301$^{0}$ | Surface water |
| 6. | 16.08.2023<br>at<br>10.51 AM | Karikuppam village agricultural land near Thermal Power Plant<br>Lat: 11.51955$^{o}$<br>Long: 79.743695$^{0}$ | Soil |
| 7. | 16.08.2023<br>at<br>11.00 AM | KarikuppamPanchayat union middle school<br>Lat: 11.516482$^{o}$<br>Long: 79.745192$^{0}$ | Ground Water |

# PLAN SHOWING THE LOCATIONS OF WATER & SOIL SAMPLES COLLECTED BY TNPCB



## Annexure -30

## Additional Sampling Locations proposed surrounding the NLCIL based on earlier EIA Study reports

| Tube wells | | | | |
|---|---|---|---|---|
| **Sl no** | **Well ID** | **Well Location** | **Latitude** | **Longitude** |
| 1 | SAL-12 | Rajakuppam | 11.5415583 | 79.5776250 |
| 2 | SAL-22 | Madhanagopalapuram | 11.6475900 | 79.6042017 |
| 3 | MI/31A | TS-II Out side | 11.5547069 | 79.4384814 |
| 4 | X0/34 | Block-3 | 11.6259700 | 79.5113717 |
| 5 | CST-4 | Block-15 | 11.6161033 | 79.4564633 |
| 6 | Block-24 | Block-24 (Near 8 road) | 11.599025 | 79.502952 |
| 7 | RO/13A | Block-7 | 11.6205517 | 79.4749533 |
| 8 | MIII-48 | Erumboor | 11.460055 | 79.525113 |
| 9 | HS-III/1 | Kammapuram | 11.4779217 | 79.4217417 |
| 10 | HS-III/2A | Chinnakottumulai | 11.4498667 | 79.4496683 |
| 11 | HS-II/1 | Arasakuzhi | 11.5279850 | 79.3909467 |
| 12 | NRO/13 | Karunkuzhi | 11.52255833 | 79.538765 |
| **Total No. of Tube Well samplings** | | | | **12** |

| Dug wells | | | | |
|---|---|---|---|---|
| **Sl no** | **Well ID** | **Well Location** | **Latitude** | **Longitude** |
| 1 | D-5 | Block-28 Mariyamman koil | 11.5961900 | 79.4735011 |
| 2 | D-6 | Block-9 Ragavendira koil | 11.6131833 | 79.5077133 |
| 3 | D-7 | Vadakuthu | 11.5999433 | 79.5510556 |
| 4 | D-11 | Vadalur Sabai | 11.5482117 | 79.5460567 |
| 5 | D-13 | Karunkuzhi temple | 11.5221667 | 79.5442500 |
| 6 | D-16 A | Veppankurichi | 11.5327283 | 79.4790017 |

| | | | | |
|---|---|---|---|---|
| 7 | D-18 A | Kunamkurichi Field | 11.5484383 | 79.4354783 |
| 8 | D-28 | Pudukoorapettai | 11.5228133 | 79.3586433 |
| 9 | D-29 | Veerasingakuppam | 11.6553433 | 79.4701583 |
| 10 | D-33 | Arasakuzhi church | 11.5237350 | 79.3923217 |
| 11 | D-130 | Kaikalaikuppam (Thandapani koil) | 11.5950800 | 79.4489600 |
| 12 | D-42 | Melakuppam (chettiyar st) | 11.5704558 | 79.4417133 |
| **Total No. of Dug Well samplings** | | | | **12** |

**STATUS OF AFFORESTATION IN RECLAIMED AREA OF MINE I, M/S. NLC INDIA LTD., (as on Aug 2023) – PLATE – 1**

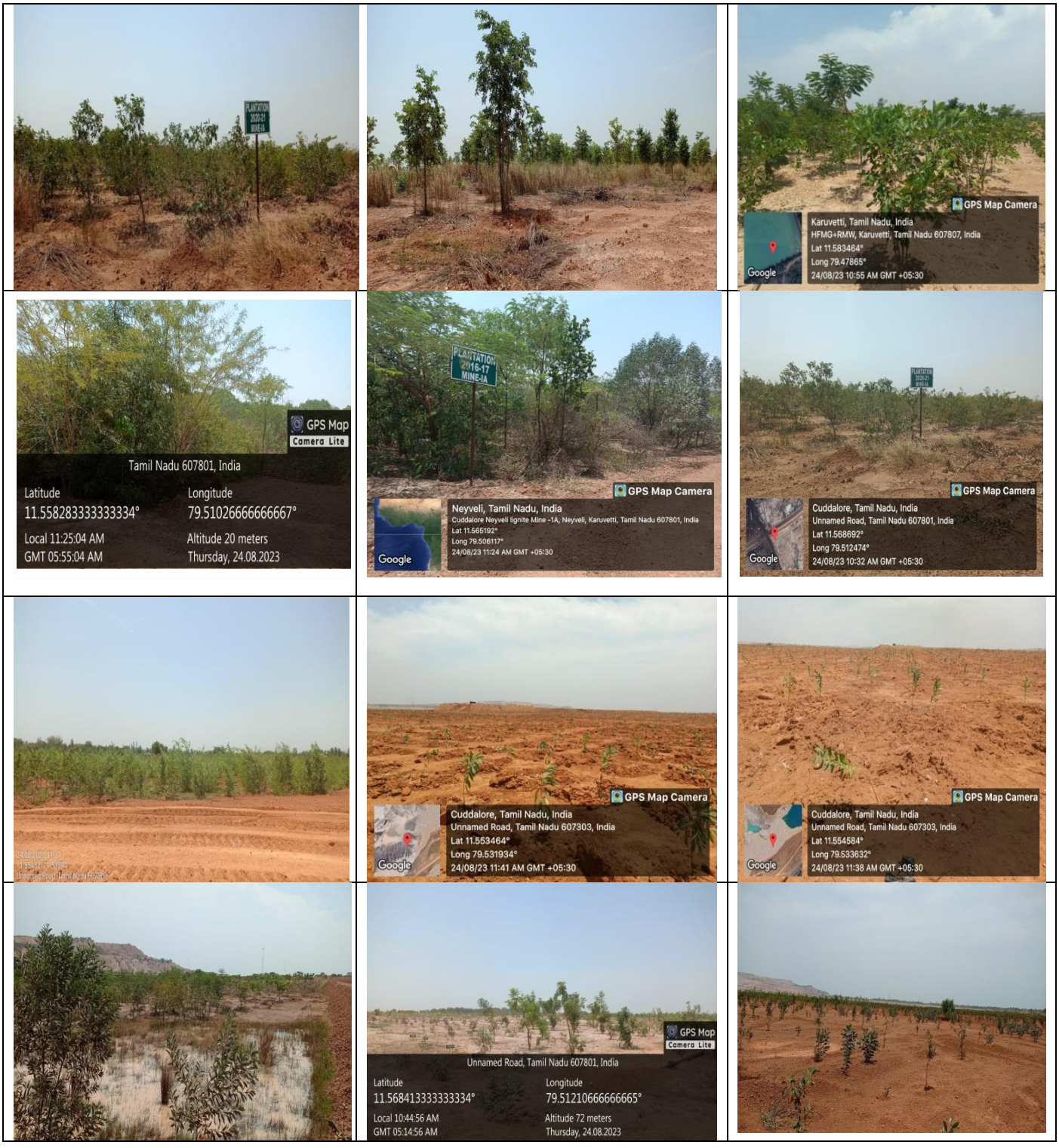
| Mine Project area (Hectares) | Area mined out since inception till 2023 (Hectares) | Area Reclaimed since inception till 2023 (Hectares) | Total afforestationdeveloped in Hectares | No. of Trees in approx. |
|---|---|---|---|---|
| 3635.4 | 2484.6 | 1240.6 | 1100.15 | 1200000 |


**Inference:**

The afforestation in the reclaimed area of Mine I, NLC INDIA LIMITED has been well established, with the plants growing as a dense forest. The remaining accessible land could be used for further plantations.

**STATUS OF AFFORESTATION IN RECLAIMED AREA OF MINE IA, M/S. NLC INDIA LTD., (As on Aug 2023) – PLATE – 2**

| Mine Project area (Hectares) | Area mined out since inception till 2023 (Hectares) | Area Reclaimed since inception till 2023 (Hectares) | Total afforestation developed in Hectares | No. of Trees in approx. |
|---|---|---|---|---|
| 2005.8 | 778.1 | 360.69 | 298.78 | 135000 |




**Inference:**

Out of the 370 ha of total reclaimed area, 298 ha were planted with trees as part of the afforestation project. So, until sufficient development is achieved, plantations need to be improved along with adequate care. The unit may enhance and expand the green belt area for the benefit of the environment because there are surplus water and topsoil sources accessible for greater green belt development.

**STATUS OF AFFORESTATION IN RECLAIMED AREA OF MINE - II, M/S. NLC INDIA LTD., (As on Aug 2023) – PLATE – 3**

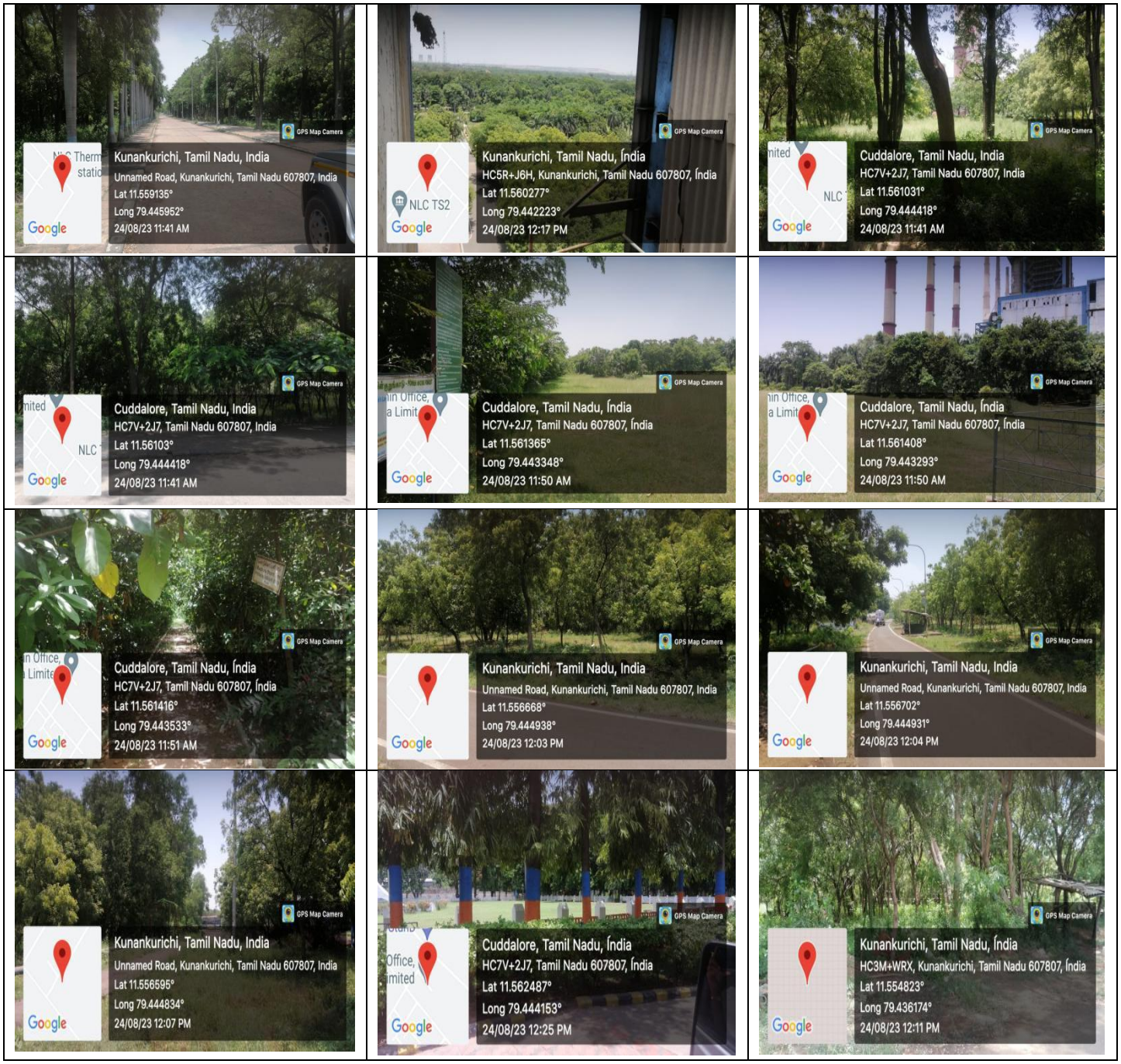
| Mine Project area (Hectares) | Area mined out since inception till 2023 (Hectares) | Area Reclaimed since inception till 2023 (Hectares) | Total Greenbelt Developed in Hectares | No. of Trees in approx. |
|---|---|---|---|---|
| 7193.975 | 2544.71 | 1171.9 | 896.7 | 1200000 |


**Inference:**

Out of the 1171 ha of total reclaimed area, 896 ha were planted with trees as part of the afforestation project. So, until sufficient development is achieved, plantations need to be improved along with adequate care.It is observed that an invasive plant species named Acacia Auriculiformis has spread over one third of reclaimed area of Mine II, NLC IL. It is an invasive species, native of Australia. This plant is harmful for the soil health through reduction of soil moisture, soil fertility, atmospheric moisture and undergrowth. It forms as monoculture eventually affects the Native Biodiversity of the area. This fast growing invasive plant displaces native vegetation and can shade out rare plants. Hence, the Mine II unit may take initiative to eradicate this invasive vegetation including Acacia nilotica and replanting with natural wild & fruit bearing species can be proceeded at the earliest so it can help to attract more birds.

## STATUS OF GREEN BELT DEVELOPMENT OF TPS - II, M/S. NLC INDIA LTD., (As on Aug 2023) – PLATE – 4

| As per EC Area Allotted (Hectares) | Actual Area acquired (Hectares) | Greenbelt Developed inside the unit |
|---|---|---|
| 210 | 210 | 70,000 |

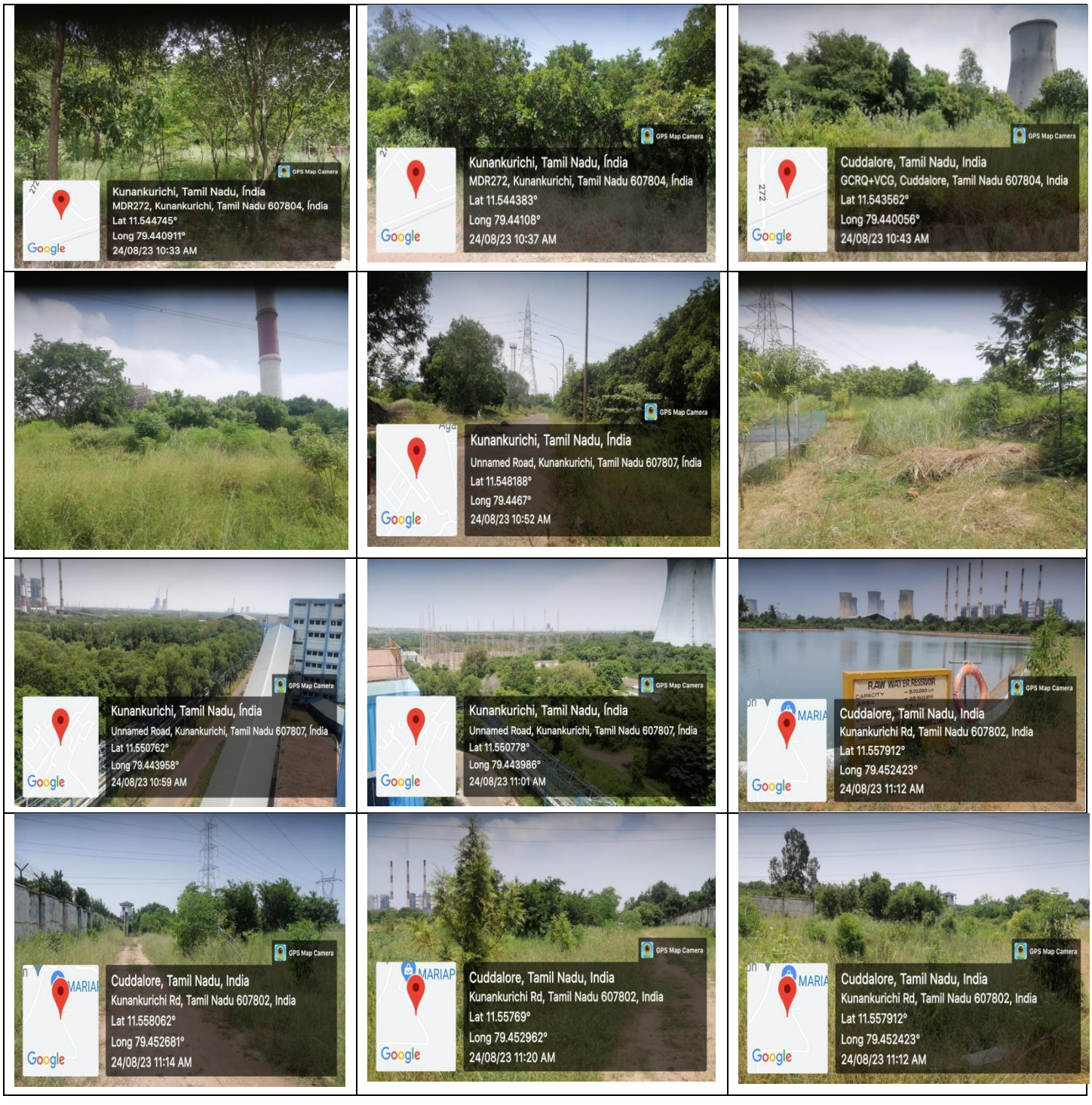



**Inference:**

**Out of the 210 ha of total acquired area, approximately 140 ha area is utilized for power generation process, buildings and road transport etc. So, 70 ha of huge land area is available for green belt development. In which, green belt developmental progress has been done with approximately 70,000 trees and plants. This unit may enhance and expand the green belt because there are plenty of water, topsoil sources and land areaavailable for green belt coverage.**

## STATUS OF GREEN BELT DEVELOPMENT OF TPS – II EXPANSION, M/S. NLC INDIA LTD., (As on Aug 2023) – PLATE – 5

| As per EC Area Allotted (Hectares) | Actual Area acquired (Hectares) | Green belt Developed inside the unit |
|---|---|---|
| 147 | 147 | 40,000 |

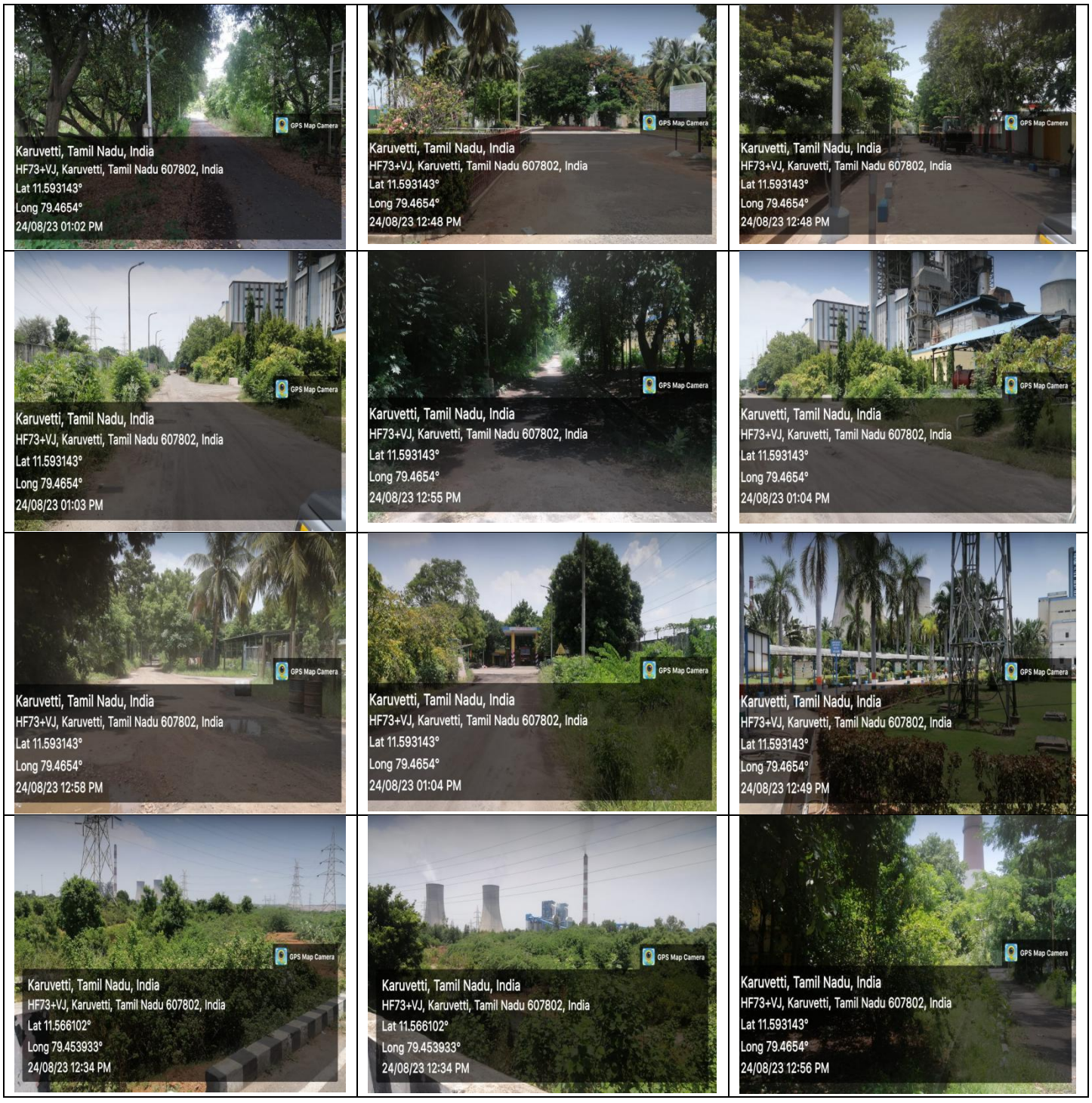



**Inference:**

**Out of the 147 ha of total acquired area, approximately 117 ha area is utilized for power generation process, Lake, buildings and road transport etc. So, nearly 30 ha of actual land is available for green belt development. In which, green belt developmental progress has been done with approximately 40,000 trees and plants. In this location, more plantation cover need to be improved along with adequate careuntil sufficient plant growth is achieved for better green mass covering .**

## STATUS OF GREEN BELT DEVELOPMENT OF TPS – I EXPANSION, M/S. NLC INDIA LTD., (As on Aug 2023) – PLATE – 6

| As per EC Area Allotted (Hectares) | Actual Area acquired (Hectares) | Green belt Developed inside the unit |
|---|---|---|
| 40 | 40 | 2000 |

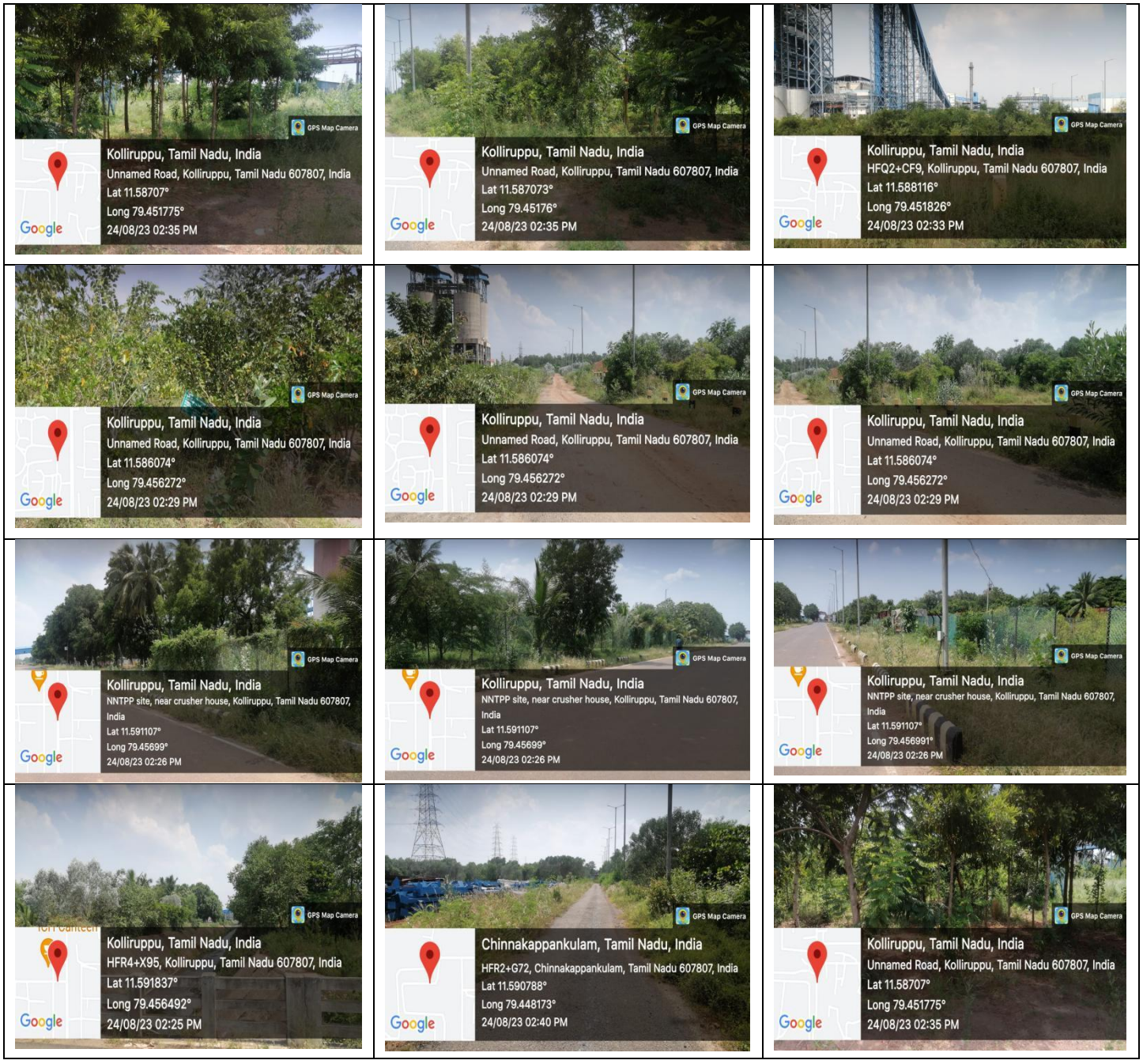



**Inference:**

**Out of the 40 ha of total acquired area, approximately 35 ha area is utilized for power generation process, buildings and road transport etc. So, only 5 ha of actual land is available for green belt development. In which, greenbelt developmental progress has been done with approximately 2,000 plants. In this location, plantations need to be improved along with adequate careuntil sufficient development is achieved for better green mass.**

## STATUS OF GREEN BELT DEVELOPMENT OF NNTPS, M/S. NLC INDIA LTD., (As on Aug 2023) – PLATE – 7

| As per EC Area Allotted (Hectares) | Actual Area acquired (Hectares) | Green belt Developed inside the unit |
|---|---|---|
| 210 | 160 | 35,000 |




**Inference:**

**Out of the 160 ha of total acquired area, approximately 100 ha area is utilized for power generation process, buildings and road transport etc. So, approximately 60 ha of actual land is available for green belt development. In which, greenbelt developmental progress has been done with approximately 35,000 trees and plants. The unit may improveand expand the green belt area for the benefit of the environment because there are surplus water, topsoil sources and land areaavailable for green belt development.**

**Samples Collected by the TNPCB's Committee visit Plate - 8**


**Ground water Sample collected on 16.08.2023 @ Tholkappier Nagar nearer to M/s. NLC Limited**


**Surface water Sample collected on 16.08.2023 @ Iyyan Lake nearer to M/s. NLC Limited**


**Surface water Sample collected on 11.08.2023 @ River Paravanar nearer to M/s. NLC Limited.**


**Surface water Sample collected on 16.08.2023 @ River Paravanar nearer to M/s. NLC Limited Mine IA.**


**Soil sample collected on 11.08.2023 @ vadakkuvellur byepass nearer to M/s. NLC India Limited.**


**Soil sample collected on 11.08.2023 @ agricultural land nearer to Iyaan lake nearer to M/s. NLC India Limited.**


**Water sample collected on 16.08.2023 @ Karrikuppam Village Fish pond nearer to M/s. IL& FS Tamilnadu Power Company Limited.**


**Soil sample collected on 16.08.2023 @ Karrikuppam nearer to M/s. IL& FS Tamilnadu Power Company Limited.**

**BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL SOUTHERN ZONE, CHENNAI**

**Original Application No.107 of 2023 (SZ)**

Suo Motu based on the news item published in The New Indian Express, dt. 09.08.2023, under the caption "Huge pollution risk in 8 Km around NLC" and in The Times of India, Chennai Edition dt. 09.08.2023 under the caption "Water near NLC full of Mercury".

**Vs.**

The Managing Director NLC India Limited, Chennai and Ors.

…Respondents

**REPORT OF THE TAMIL NADU POLLUTION CONTROL BOARD (5TH RESPONDENT) AS PER THE ORDERS OF THE HON'BLE NGT(SZ) DATED 10.08.2023.**

**Advocate for Respondent: TNPCB**
**Thiru.Sai Sathya Jith,**
**Advocate, Chennai.**

**Date:25.08.2023.**

**Date of hearing on:28.08.2023.**