BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL,

WESTERN ZONE BENCH PUNE AT PUNE .

ORIGINAL APPLICATION NO. 52 OF 2020 (WZ)

JIENDRA KHASNIS .. **APPLICANT**

Versus

THE SUB (DEPUTY) REGIONAL OFFICER, MPCB AND OTHERS .. **RESPONDENTS**

INDEX

Place-Pune

Date-25/02/2022

ADVOCATE FOR THE RESPONDENT NO-5

BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL,

WESTERN ZONE BENCH PUNE AT PUNE .

ORIGINAL APPLICATION NO.52 OF 2020 (WZ)

JITENDRA PRAKASH KHASNIS .. **APPLICANT**

V/s

SUB DEPUTY REGIONAL
OFFICER AND OTHERS .. **RESPONDENTS**

ADDITIONAL REPLY ON BEHALF OF RESPONDENT NO.5 M/S. CUMMINS INDIA LTD.

MAY IT PLEASE THE HON'BLE TRIBUNAL

1. The Respondent No.5 submits that, the Respondent No.5 has filed a detailed reply dated 12.07.2021 in the present proceeding. The Respondent refers to and relies to the statements, averments, and submissions made in the said reply which are hereby adopted and affirmed in order to avoid repetition.

2. The Hon'ble Tribunal during the course of the hearing on 20.09.2021 directed the Respondent No.5 to submit a further response pertaining to the details regarding the closure of the old ETP and the installation of the new ETP. In accordance to the said direction, the Respondent No.5 is filing the present additional reply.

3. As stated in the reply, the Respondent is engaged in the manufacturing of internal combustion engines and that the said manufacturing process involves machining of components, assembly, testing and painting of the engines. The Respondent No.5 has carried out the upgradation process at its plant and decided to upgrade the existing affluent treatment plan and the sewage treatment plant. The Respondent No.5 decided that in view of the compliance and the emerging regulations of 100% recycling of the waste water into the process, the Respondent No.5 formulated a “Planet 2050” plan and in that decided to implement the Zero Liquid Discharge policy at its plant.

4. In view of the said policy, the Respondent No.5 conducted a study with the assistance of KIT/ Thermax from July-December 2017. After submission of the report and study by the said consultant, the technical and commercial proposal was invited from various suppliers in August, 2018. A detailed technical presentation was made to the Respondent No.1. The said project was thus executed and implemented at the plant in various phases from January 2019 to November 2020.

5. The Respondent No.5 submits that, since December 2020 the Respondent No.5 has gained complete zero liquid discharge and

that the results have already been submitted to the Respondent no. 1 herein.

6. The Respondent No.5 has provided full-fledged affluent and sewage treatment plants with advanced technology to ensure that all the parameters mentioned in the consent to operate meet the compliance requirement. The study conducted by the consultants has helped the Respondent No.5 to improve the performance and recycling rate of treated waste water in various processes. A detailed report as prepared by the Respondent No.5 is annexed hereto and marked as **ANNEXURE – R-1**.

7. The Respondent No.5 submits that, the upgraded STP and ETP have helped the Respondent No.5 attain the zero liquid discharge status and the flowchart to that effect is annexed hereto and marked as **ANNEXURE – R-2**.

8. In view of the installation of the advanced technology, the waste water results have been maintained and have been found to be well within the parameters and mentioned in the consent to operate. The copies of the waste water samples as tested with a private laboratory which is recognised by the MOEF are annexed hereto and marked as **ANNEXURE – R-3**.

9. The upgradation of the existent affluent treatment plant was communicated by the Respondent No.5 to the Respondent no. 1 vide its letter dated 20.12.2018 which has been duly acknowledged by the Respondent No.1. During the submission of the said letter, the Respondent No.5 pointed out the treatability study done before finalisation of the upgradation scheme and that during the discussions it was concluded that the results of the upgradation system has helped the Respondent No.5 achieve the Zero Liquid Discharge target. The copy of the said letter is annexed hereto and marked as **ANNEXURE – R-4.**

10. As mentioned in the reply dated 12.07.2021, the Respondent No.5 states that the present application is nothing but an attempt by the Respondent No.1 to threaten and malign the image of the Respondent No.5. The Respondent No.5 submits that the authorities vide its report have also certified there has been no discharge from the premises of the Respondent No.5. It is thus repeated and urged before this Hon'ble Tribunal that, the present application may kindly be rejected with costs.

PUNE
DATE26/ 02/2022

ADVOCATE FOR RESPONDENT NO.5

NOTARY PRAKASH MARUTI DAMBRE, PUNE REGD.NO.10348 EXPIRY DATE 30/09/2023 GOVT. OF INDIA

BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL,

WESTERN ZONE BENCH PUNE AT PUNE .

ORIGINAL APPLICATION NO. 55 OF 2020 (WZ)

JIENDRA KHASNIS .. **APPLICANT**

Versus

THE SUB (DEPUTY) REGIONAL OFFICER, MPCB AND OTHERS .. **RESPONDENTS**

AFFIDAVIT IN SUPPORT OF THE REPLY

I, Mr. Luv Tanwani, Age: 33 years, Occu.: Service, R/at Wakad, Pune, the Authorised Signatory of the Respondent No.5 (Cummins India Limited) hereinabove, do hereby state on the solemn affirmation that: -

1. I say that I am working as General Manager (Legal) with the Respondent No.5 Company. I am duly authorised to file the present Affidavit. I am aware of the facts and circumstances of the present case and hence I am able to depose the same on oath.

2. That the Respondent No.5 is filing the present additional reply. The facts and circumstances are well set out in the main body of the reply. The Respondent No.5 adopts, confirms, maintains, repeats and reiterates whatever has been stated in the main body of the additional Reply and for the sake of brevity, convenience, and in order to avoid repetition, craves leave of this Hon'ble Tribunal to treat the statements, averments and submissions in the main body of the additional Reply as part and parcel of this Affidavit as if the

Cummins India Limited Pune

same are reproduced herein ad-seriatim, with a view to avoid repetition and for the sake of brevity.

3. I say that whatever stated in the additional reply and the present Affidavit is true and correct to the best of my knowledge, information and belief and the legal advice, which I believe to be true.

Solemnly Affirmed at Pune on this 23rd day of February 2022.

Affiant
Mr. Luv Tanwani

NOTARIAL NOTARIAL NOTARIAL NOTARIAL NOTARIAL

24 FEB 2022

NOTED AND REGISTERED AT
SERIAL NUMBER 3037/2022
24/02/2022

BEFORE ME

PRAKASH M. DAMBRE
NOTARY, GOVT. OF INDIA
PUNE

ANNEXURE-R-1

Cummins India Limited, Kothrud Pune

Agenda

01 | Introduction – Cummins India Limited, Kothrud

02 | CTE & CAC MOM

03 | Proposed Expansion Updates

04 | NGT Order Update

05 | Stakeholders Concerns

06 | JVS results updates- ETP/STP & Smoke Emission

Our Story

WHY WE EXIST

OUR MISSION

Making people's lives better by powering a more prosperous world

WHAT WE WANT TO ACCOMPLISH

OUR VISION

Innovating for our customers to power their success

Leadership Strategy and philosophy

HOW WE WILL DO IT

VALUES

INTEGRITY
Doing what you say you will do and doing what is right

DIVERSITY & INCLUSION
Valuing and including our differences in decision making is our competitive advantage

CARING
Demonstrating awareness and consideration for the wellbeing of others

EXCELLENCE
Always delivering superior results

TEAMWORK
Collaborating across teams, functions, businesses and borders to deliver the best work

LEADERSHIP CULTURE

Inspiring and encouraging all employees to achieve their full potential

BRAND PROMISE

Powering our customers through innovation and dependability

STRATEGY

Delivering value to all stakeholders

Environment:

Part of our mission and key to our strategy

Demanding that everything we do leads to a **cleaner, healthier, safer environment**

"Cummins must be a catalyst for environmental sustainability action. Our vision and mission demand it, our business success depends on it, and the ingenuity and energy of our employees can make it happen."

– Tom Linebarger

Cummins India Ltd. Business update

Cummins India Limited- Kothrud Engine Plant

Plant Area: -97 Acres

Plant Headcount : 1701

Max Annual Capacity: 17520 Engines

Current Capacity Utilization ~60%

Engine family	Install Capacity	
	per day	per Annum
KV	24	7008
K19/Q19	12	3504
V28	4	1168
NT/N14	20	5840
Total	60	17520

4 Engine Assembly lines

a) NTA 855BC & QSN, Power range 280 – 525 HP
b) K19 & QSk19, Power range 343 – 800 HP
c) V28 Power range 690 – 815 HP
d) K38,K50 & QSK50, Power range 750 – 2000 HP

Product Applications

- Genset
- Compressor
- Mining
- Locomotive / Rail
- Marine
- Fire Pump

Machine Shop : more than 2289 active part machining


Cylinder Block


Cylinder Head


Con-Rod


Camshaft


Fuel pump


Injectors


Gears


Misc parts…..

Quality Certification

ISO 9001:2015 with Added Scope of DG Set

ISO 140001 & 50001 Energy Management BVQI (UK)

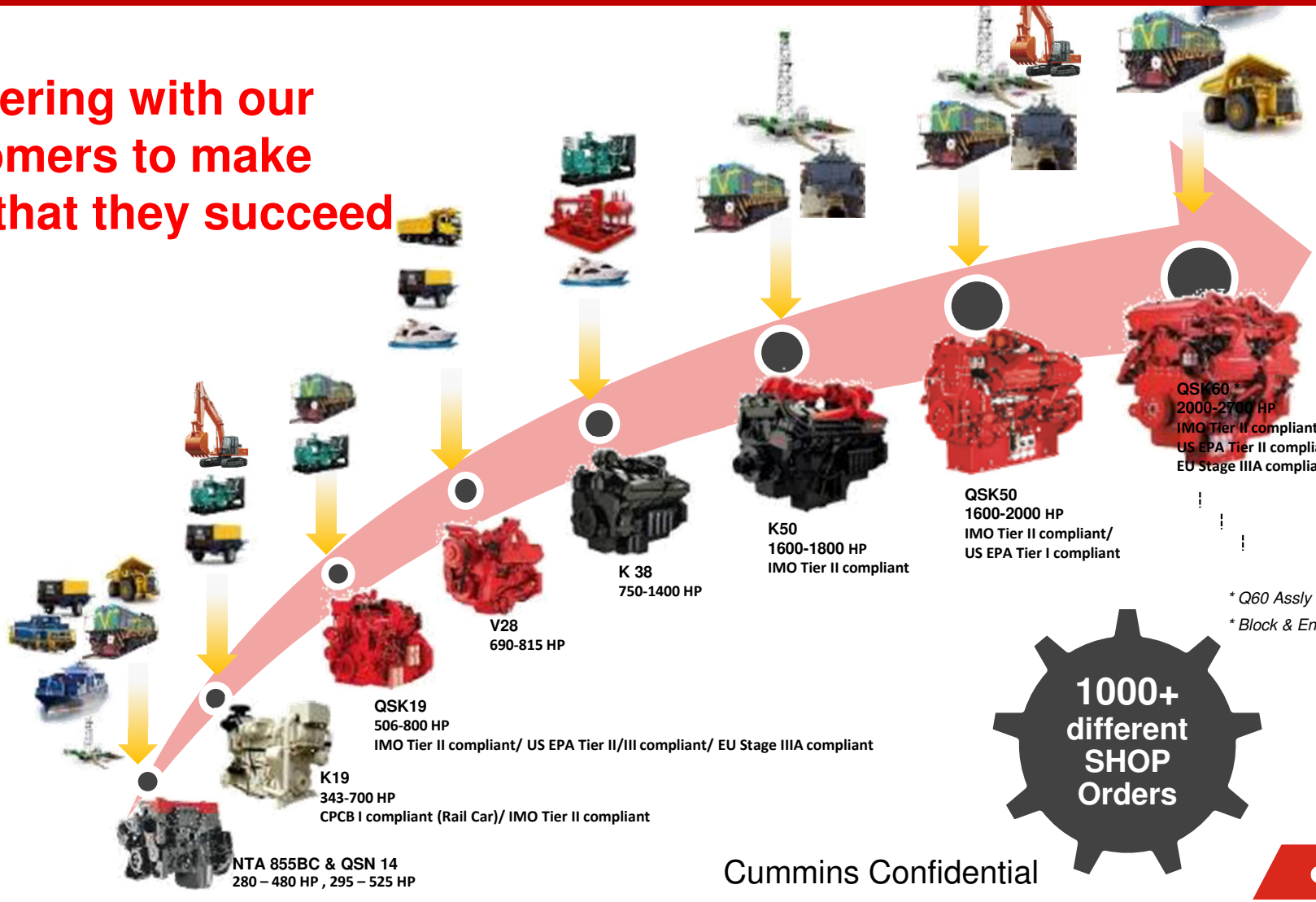
NABL

Lloyd's Register ABS

KOREAN REGISTER OF SHIPPING

Our Products- HMLD & HHP

Partnering with our customers to make sure that they succeed



NTA 855BC & QSN 14
280 – 480 HP , 295 – 525 HP

K19
343-700 HP
CPCB I compliant (Rail Car)/ IMO Tier II compliant

QSK19
506-800 HP
IMO Tier II compliant/ US EPA Tier II/III compliant/ EU Stage IIIA compliant

V28
690-815 HP

K 38
750-1400 HP

K50
1600-1800 HP
IMO Tier II compliant

QSK50
1600-2000 HP
IMO Tier II compliant/
US EPA Tier I compliant

QSK60 *
2000-2700 HP
IMO Tier II compliant/
US EPA Tier II compliant
EU Stage IIIA compliant

** Q60 Assly moved to PHP.*
** Block & Engine test at KEP*

1000+ different SHOP Orders

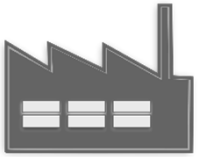
Our Products- HMLD & HHP

Markets We Serve

CPG Domestic & Exports

Telecom

Services



Manufacturing

Residential

Commercial

Infrastructure

Project Business

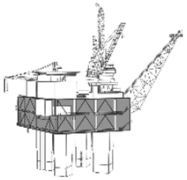
Rail

Mining

Marine

Defense

Pumps/ Fire Pumps



Oil and Gas

CPG: Cummins Power Generation

Corporate Responsibility at PSBU in 2020

Together 'We Will Win'

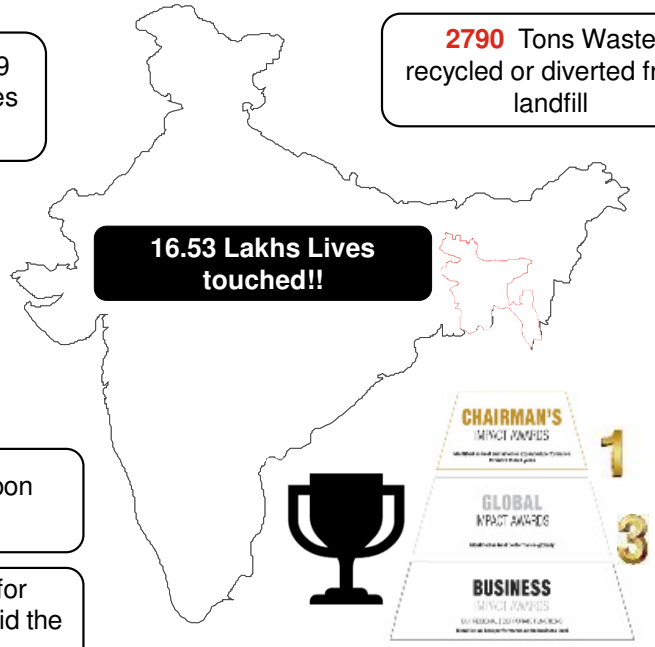
In spite of Challenges due to Covid-19 achieved **91%** EEEC. **3096** Employees contributed with **12,384** hours

10,200 trees planted, **75,326** maintained.

12819016 Kilo Litre of water conserved

Equivalent of **7356 MT** of carbon footprint avoided

Extended support to ABO-CR for caring for our communities amid the COVID-19 Pandemic



2790 Tons Waste recycled or diverted from landfill

338061 People Educated

2019 – Bagged **5 CEA Awards for PSBU** Lead projects [GreEngage, E-waste, Watershed (SRPF+Aundh)], Pune Water conservation, Model Village – Nandal & Manjarsumbha] and bagged **4 Awards for ABO-Lead** and PSBU Supported projects [Empowering Women, Phaltan Model Town, Empower Her (Entrepreneurship), Nurturing Brilliance]

Education

Environment

Equality of Opportunity

- **Water Neutrality (6)**
  - Khadakwasla Rejuvenation
  - Use Green Plates
  - SRPF
  - SPPU
  - Aundh
  - Water Hyacinth
- **NGO Development (1)**
  - Blind Girls School
- **Solid Waste Management (8)**
  - Nirmalya
  - Nirmalya to Agarbatti
  - Year round Nirmalya
  - Zero Garbage (Kothrud)
  - Zero Garbage (Baner Balewadi)
  - E-Waste-Reduce, Reuse, Recycle
  - Sagar Mitra" Plastic Waste Management
  - Kasar Amboli
- **Afforestation (5)**
  - 3 Hills (Hanuman Tekdi, Warje,, Baner Hill)
  - Aundh
  - SRPF
- **Local Community Development and Infrastructure Development (2)**
  - Community Development of Kothrud Slum
  - School Readiness to face Covid-19
- **Other than Pune Sites (10)**
  - Model Villages
    - Panoli, Ranjangaon
    - Daithanegunjal, Nagar
    - Manjarsumbha- Ahmadnagar
    - Devgaon - Ahamadnagar
    - Nimgaon Bhogi- Ranjangaon
    - Phalke Mala, Ranjangaon
    - Mulikwadi- Phaltan
    - Aradgaon, Phaltan
    - Taradgaon, Phaltan
    - Nandal, Phaltan

NGOs (3 Nos.)

- Mahatma Shikshan Sanstha – Phaltan
- Niwasi Mook Badhir Vidyalaya at Ranjangaon
- Sanjivani Hearing Impaired School, Nagar

35 Projects at PSBU India Level
22 at KEP and 13 at other sites

Also Support other entities for EEEC hours in PSBU projects

CTE Application Details

CTE Application & CAC MOM Update

CTE Application Details

CTE Application No:
MPCB-CONSENT-0000112868

CTE Application Date: 19th April 2021

CAC Cell MOM Points

9	MPCB-CONSENT-0000112868	Cummins India Limited, 3 to7, 37,38, 41,42 & 43 Dahanukar Colony, Kothrud Haveli	NOT APPROVED (Defer) Consent to establish for expansion	---	Committee noted that, PP has applied for consent to establish for expansion for additional new product namely manufacturing of electrical and electronics equipment for rolling stock applications and related components- 400 Units/Year, and Generator Set- 700 Units/Year. Committee also noted that, there is court case in Hon'ble NGT Original Application No. 52/2020 (WZ). Committee also noted that, performance of existing Effluent Treatment Plant & Sewage Treatment Plant is not satisfactory as JVS exceeded beyond the consented limit. Further, AAQM are exceeding the norms. After due deliberation, **it was decided to call the PP for technical presentation** on performance of the pollution control systems, JVS exceedance & status of NGT Original Application No. 52/2020 (WZ).

CAC Cell Ask:

Technical presentation on
- ✓ performance of the pollution control systems
- ✓ JVS exceedance
- ✓ status of NGT order

Proposed Expansion Update

New Product- Electrical & Electronics Equipment for Rolling Stack Applications

Electrical/electronic equipment for rolling stock application:

- Is used in Rolling stock (Railway) to distribute power to coaches as well as other accessories.
- Electric load i.e. loads for utilities in Rolling stock like Lights, fans, Air Conditioning & pantry car etc.
- Indian Railway is changing traditional End on Generation (EOG) technology to Head on Generation (HOG) system
- **to reduce carbon footprint, diesel dependency & cost of coaches**.
- Equipment converts power from 960V-1200V single phase to 750V three phase.
- Cummins has plan and develop manufacture Rolling stock Electrical/electronic equipment

Note: In the process of assembly & testing of this electrical equipment there will no increase in existing pollution load, however there will be generation of recycle waste which will disposed off as per law.

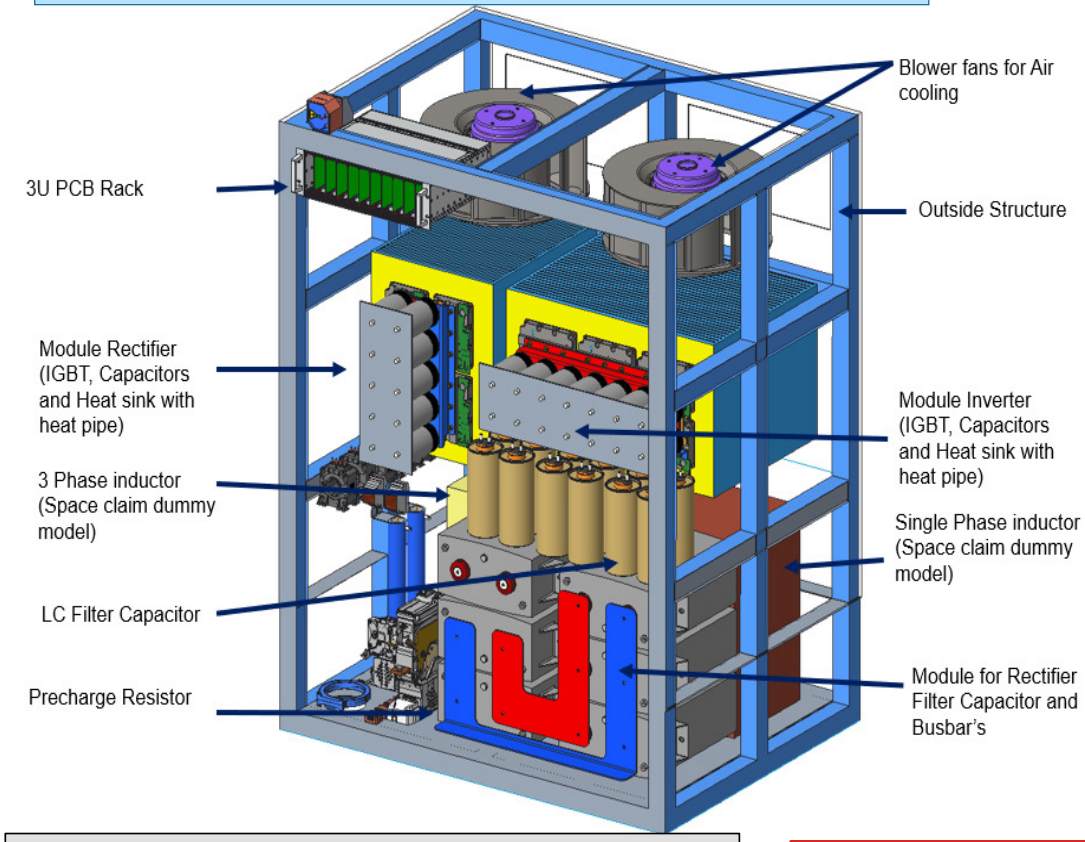
New Product- Manufacturing Flow & Image

Product : Electrical and Electronics Equipment for Rolling Stock Applications

Manufacturing Process Flow

1. Purchased Components (Rectifier, Invertor, blowers, air duct, sensors, cables, PCB Assembly)
2. Quality Inspection of Purchased Components
3. Assembly for Railway Electrical /electronic system
4. Testing of Railway Electrical /electronic system
5. Packaging with Kit Item(other components)
6. Final Inspection and Dispatch to Customer

Image of Product



Dimensions: Hight=1750mm , Width=1400mm Depth=1075mm

NGT Order Update

NGT Order Update

NGT Order

NGT Order No- 52/2020 (WZ)

NGT Compliant Date- November 09,2020

Complainant Name- Mr. Jitendra Prakash Khasnis

Allegations

Hazardous smell from Cummins plant causing environmental damage, air pollution.

Current status

Response submitted on July 12,2021

Odor is not from our ETP and STP process.

We have advanced technology for trade/ industrial and domestic effluent treatment.

Pollution Control Board Representative(Field Officer) has visited our company and witness that odor is not from ETP & STP

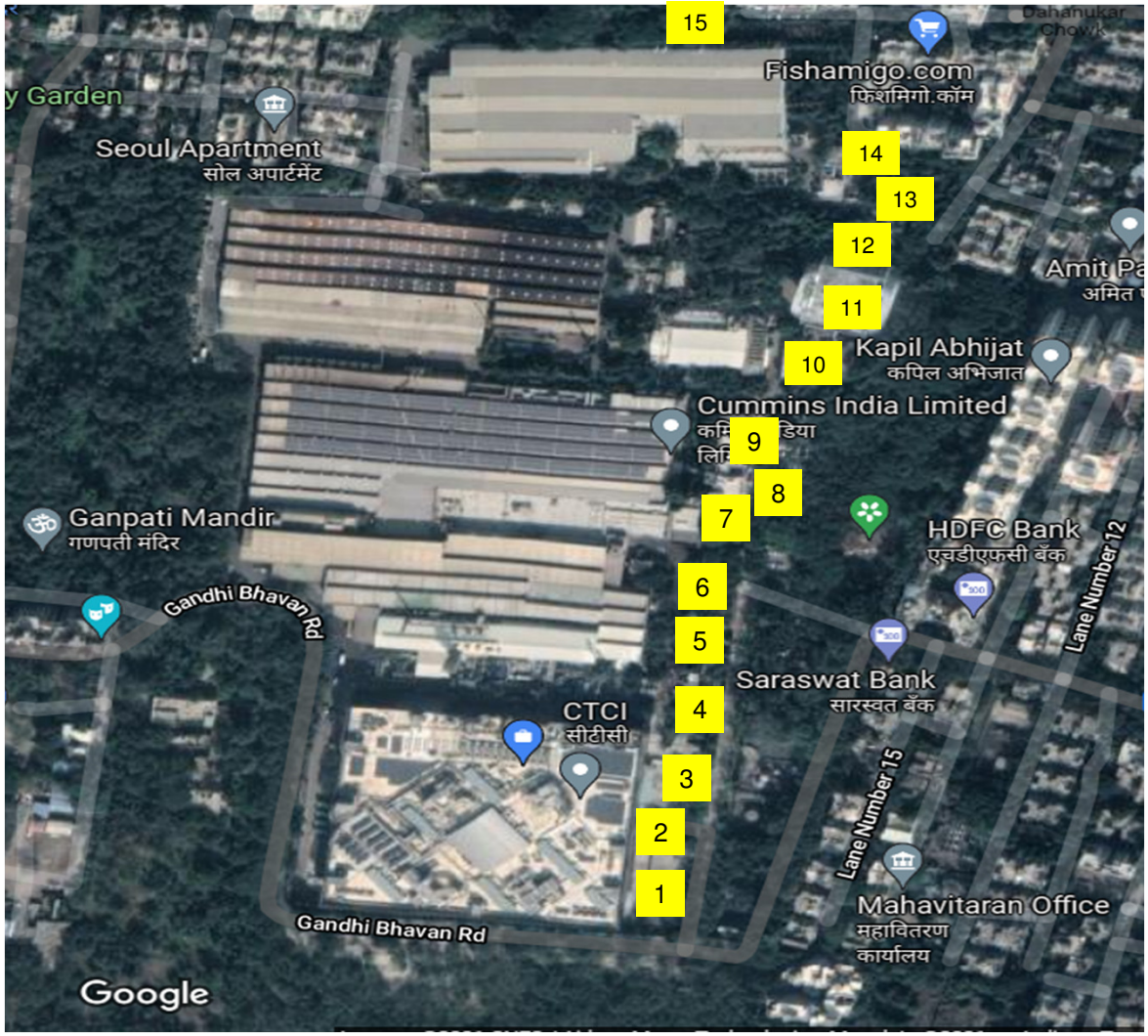
The matter is sub-judice and Jitendra Khasnis is yet to file the relevant papers before the NGT

Stakeholder Voices

Stakeholder Voices

Sr.No.	Stakeholder Voices	Action Taken
1	Smell/Odor from wastewater treatment plant.	✓ CIL ETP and STP upgradation 15 Cr –investment; to achieve ZLD. ✓ Ozonation, Close tanks, RO, MVR, Volute press and Eco dryer
2	Noise from Industry Operation	✓ Silent blower, acoustic to equipment's, closed tanks for wastewater treatment plant ✓ Acoustic enclosures to test cells, Fire pump house & DG Sets
3	Unburnt diesel smell from stacks	✓ Modification in testing cycle timing ✓ Continuous monitoring through CCTV to observe and control the emissions

Noise Mapping



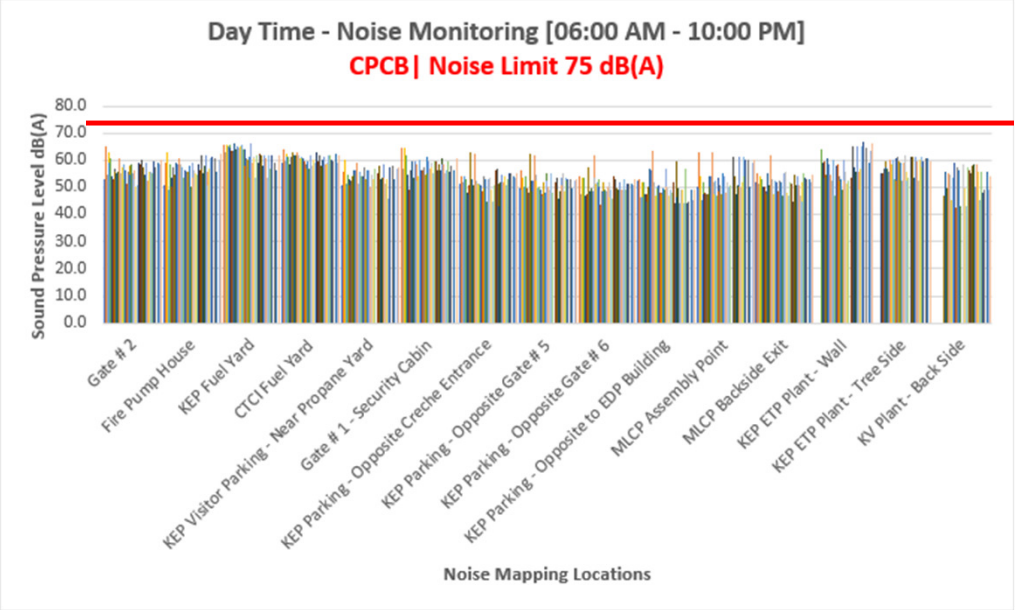
Point #	Locations
1	Cummins Gate # 2
2	Fire Pump House
3	Fuel Yard 1
4	Fuel Yard 2
5	Visitor Parking - Near Propane Yard
6	Gate # 1 - Security Cabin
7	Parking - Opposite Creche Entrance
8	Parking - Opposite Gate # 5
9	Parking - Opposite Gate # 6
10	Parking - Opposite to EDP Building
11	MLCP Assembly Point
12	MLCP Backside Exit
13	ETP Plant - Wall
14	ETP Plant - Tree Side
15	KV Plant - Back Side

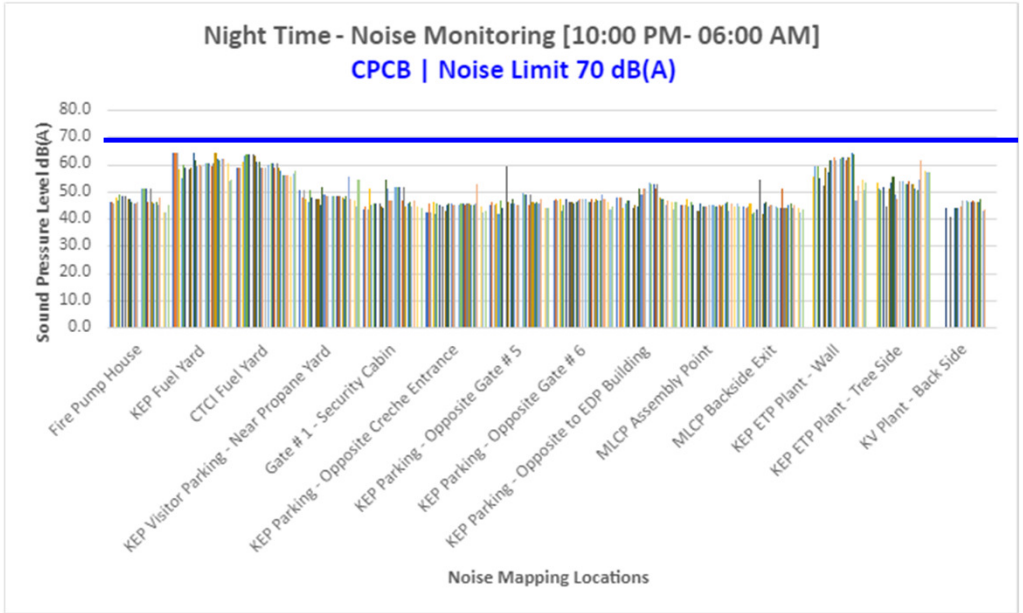
15 locations across boundary of Cummins India Ltd, Kothrud premises facing towards resident area are mapped and monitored on regular basis.

Noise Mapping Summary

15 locations noise mapping in day-time and night-time

Date Range - 17 Sep 21-16 Nov 21





Sound pressure levels (SPL) are within CPCB limits during day-time [75 dBA] and night-time [70 dBA]

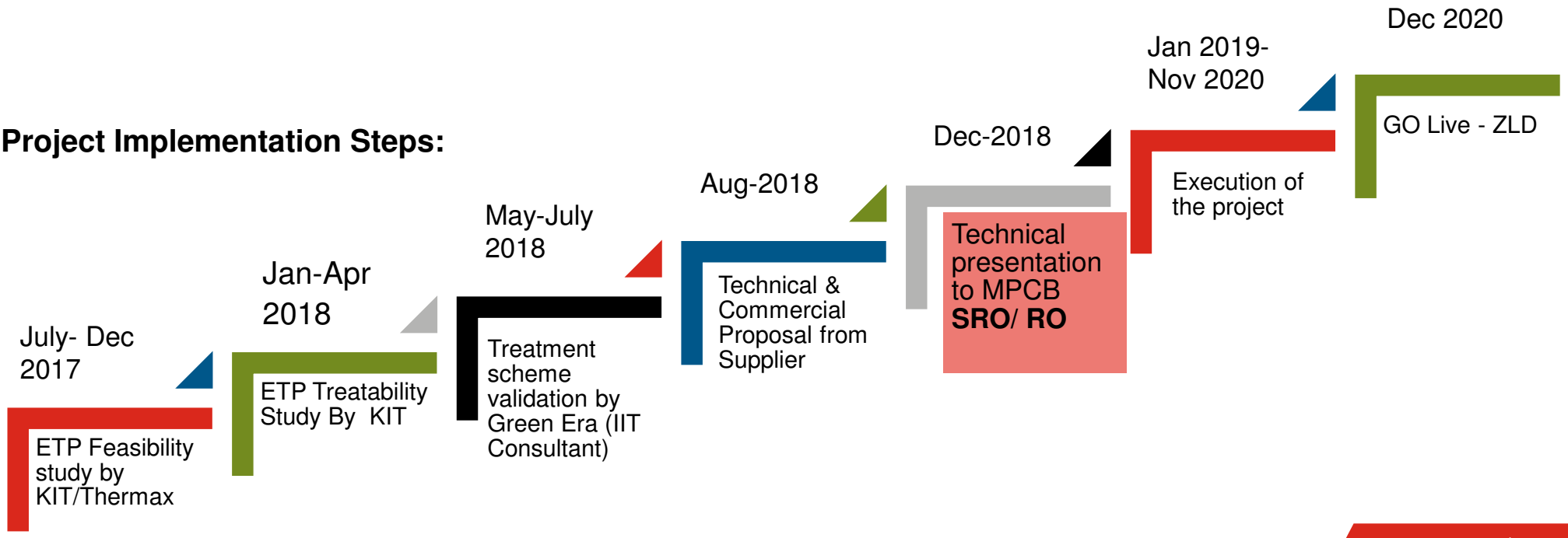
JVS Update

Zero Liquid Discharge (ZLD) Journey

Key Objective ZLD Projects: -

- Compliance with emerging regulation of **100% recycling** of the wastewater into process
- Cummins own **PLANET 2050** Requirement

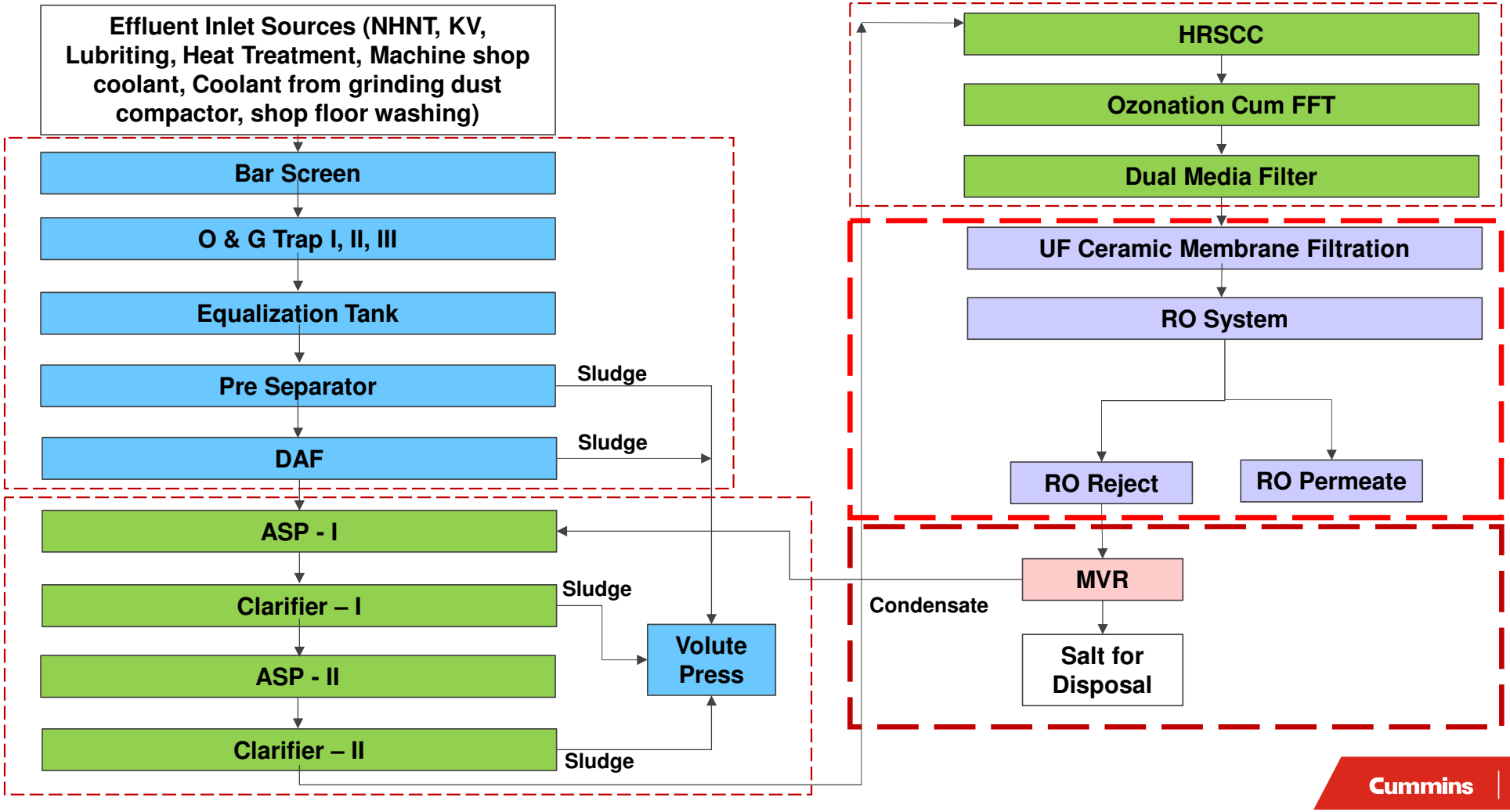
Project Implementation Steps:



EFFLUENT TREATMENT PLANT

ETP FLOW CHART

Primary Treatment | Secondary Treatment | Advanced Treatment



Primary Treatment

Function:
Removal of Free-Floating Oil

OIL SKIMMER

PRE SEPERATOR

Function:
To remove free floating O&G

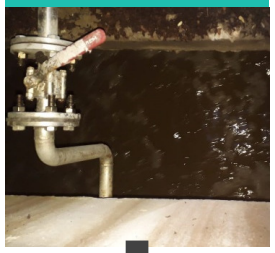
DAF UNIT

Function:
To remove emulsified O &G

Secondary Treatment

Function:
For Digestion of dissolved Organics (BOD & COD)

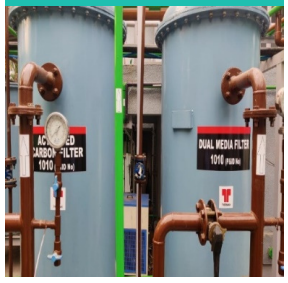
AERATION SYSYEM



HRSCC TANK

Function:
For removal of Reactive Silica

FILTERS



Function:
Polishing Unit.

Advanced Treatment

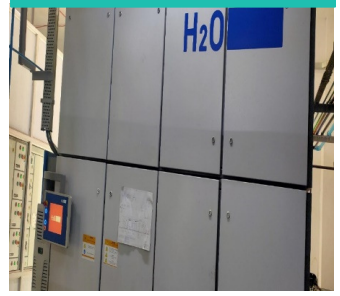
Function:
Polishing Unit

CERAMIC MEMBRANE

RO UNIT

Function:
Reduce TDS

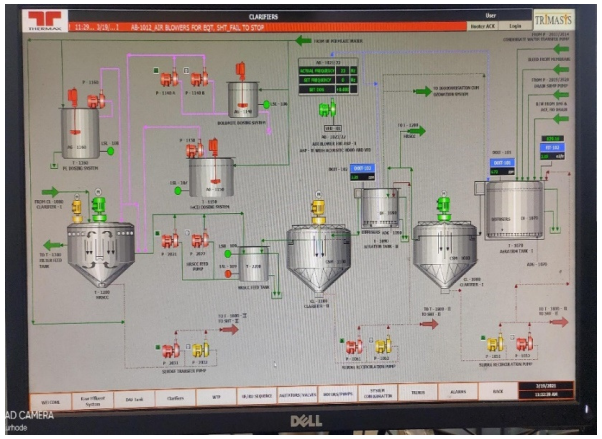
MVR



Function:
RO reject evaporation

EFFLUENT TREATMENT PLANT

Supervisory Control & Data Acquisition System (SCADA)



WATER SAMPLES

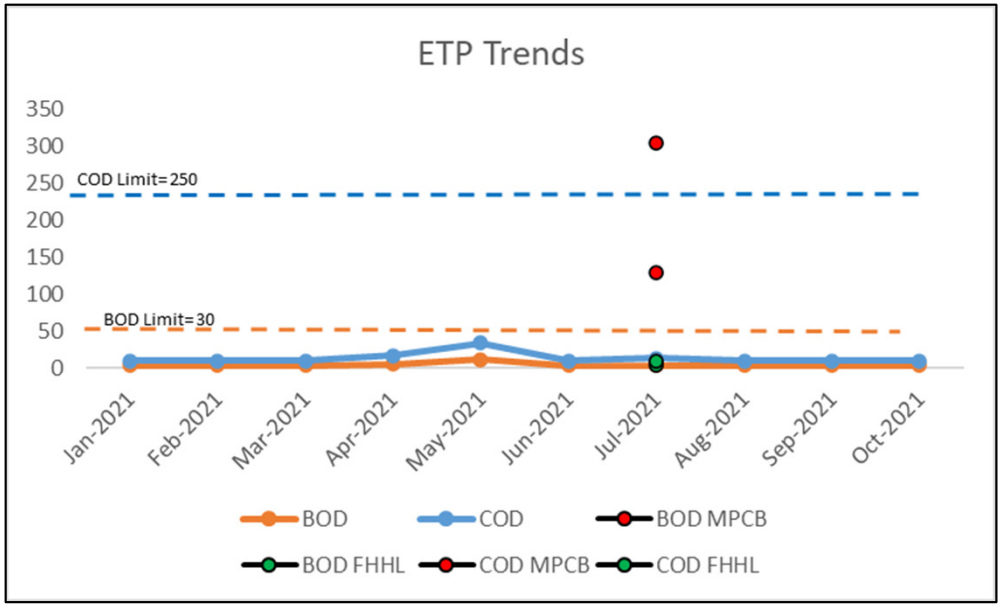
Xeriscape garden

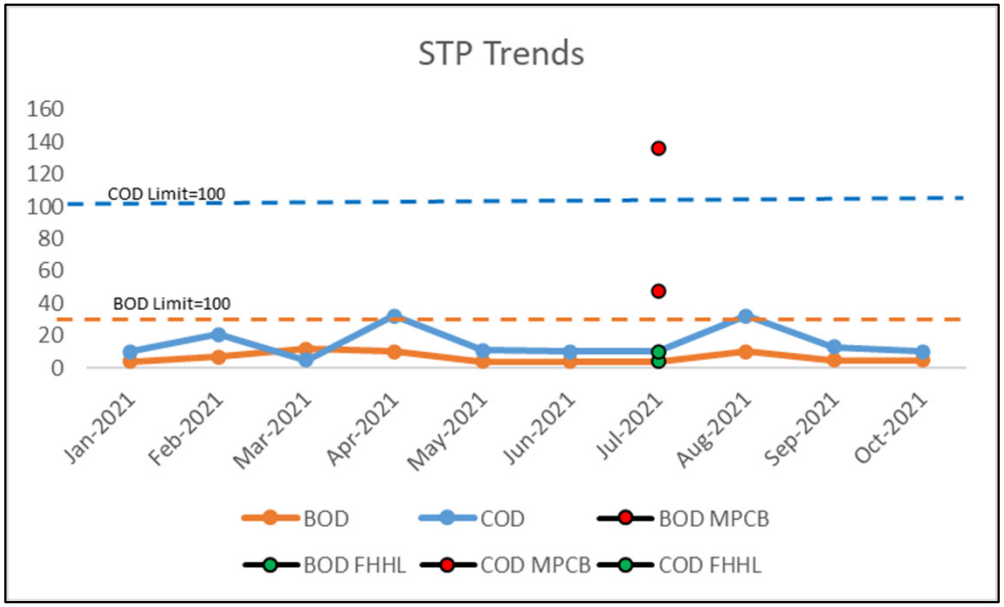
Bioassay test fish tank

JVS Reports- Wastewater

1. Cummins India Ltd. Kothrud provided full fledged Effluent & Sewage treatment plants with **advanced technology** to ensure all CTO parameters are meeting the compliance requirement.
2. **Proactivity** – Site has completed **Technological Assessment** and performance validation against the design criteria through **Kolhapur Institute of Technology**, Kolhapur which is a reputed technical institute also site has completed ETP **Technological Assessment** through **Green Era Management** (IIT Professionals).
3. This study has helped our company to improve **performance and recycling rate** of treated wastewater in various processes.
4. Recently we are experienced that **MPCB JVS reports received are exceeding the CTO limit** Vs the reports of **Third party MoEF & NABL approved lab** and internal lab reports which are **well within the limits.**

ETP and STP Trend





- ETP and STP parameters (BOD & COD) : out of CTO limits as per MPCB JVS reports (**COD: 304mg/lit & BOD: 130mg/lit**)
- ETP and STP parameters (BOD & COD) : within CTO limits (MoEF & NABL approved lab reports) (**COD:<10mg/lit & BOD:<4mg/lit**)

JVS Reports- Smoke Emissions

1. We experienced that **MPCB JVS reports of stack emission stating total particulate matters exceeding the CTO limit** Vs the reports of **Third party MoEF & NABL approved**
2. Company is **designing different capacities** and **types of engines ranging from 280 HP to 950HP** as per the latest advanced emission technologies and low emission products & systems, helping to reduce the pollution significantly.
3. As a part of manufacturing process, engines have been tested against different loads and time span as per established standard manufacturing practices and for smoke measurement.
4. We are following the **ISO 3046 OR Cummins New Engine Testing Standards** which are more stringent norms related to the smoke emission. Every engine tested as per those norms and the **smoke value** for those are **less than 2 FSN (Filter Smoke Number).** If any deviation observed in the process the immediate rectification done.
5. **Filter Smoke Number 1.5 FSN smoke is equal to Particulate Matter is 45 mg/nm3.**
6. Company has taken **actions** to **reduce** / **eliminate** smoke issues by **optimizing development cycles & test plans** for Engine Production Test operating process.
7. We are doing the quarterly monitoring of the stacks through MOEF & NABL Accredited Laboratory and the results of all the stacks/chimneys are well within limit and same are submitted to your good office


Cummins

Q+A


Cummins

PSBU India Plants

Kothrud Engine Plant
- *1666 Employees, 624 Contractual*

Cummins Power Generation SEZ
- *218 Employees, 80 Contractual*

Pirangut Plant *Projects Business* **(PPSP)**
- *383 Employees, 136 Contractual*

Phaltan High Horse Power Plant
- *383 Employees, 136 Contractual*

Cummins Power Generation Chennai
- *6 Employees, 14 Contractual*

KEP - Plant Scope

Cooling Towers
42 Nos

Compressors
29 Nos

Pump House
5 Nos

Pumps
294 Nos

Water Coolers and Purifiers
90 Nos

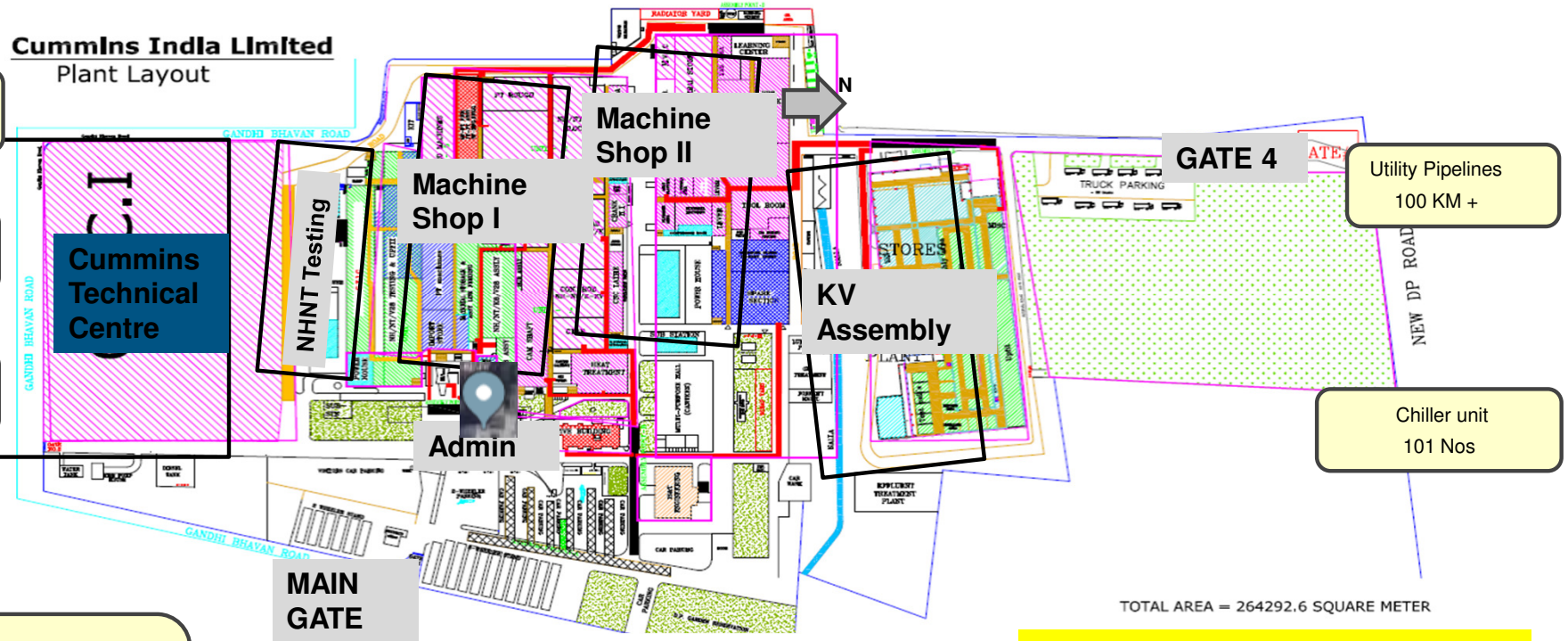
Water Tanks
UG – 12 Nos
OH – 60 Nos

DG Sets
15 Nos

Substations
11 Nos

Transformers
14 Nos

Air Circulators
900 Nos



Utility Pipelines
100 KM +

Chiller unit
101 Nos

Total Machines
458 Nos
CNC, SPM,
ROBO, manual, etc

Engine Test Cells 23 Nos

4 Engine Assly lines

Building Area (FSI): 98,600 Sq M
Site Area: 39.3 Hectares (97.1 acres)

PLANET 2050 ASPIRATIONS

COMMUNITIES ARE BETTER BECAUSE WE ARE THERE

2050 TARGETS:

- ☐ Net positive impact in every community where Cummins operates.
- ☐ Near zero local site environmental footprint.

DOING OUR PART TO ADDRESS CLIMATE CHANGE AND AIR EMISSIONS

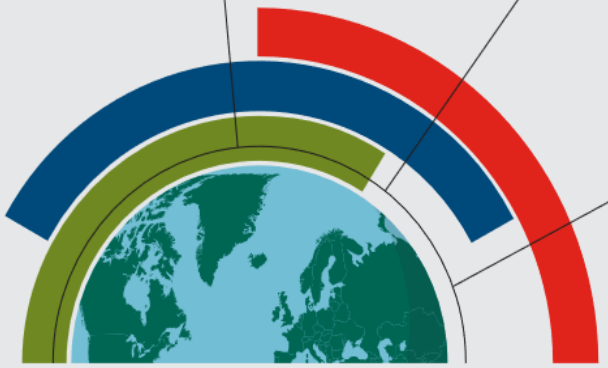
2050 TARGETS:

- ☐ Customer success is powered by carbon neutral technologies that address air quality.
- ☐ Carbon neutrality and near zero pollution in Cummins' facilities and operations.

USING NATURAL RESOURCES IN THE MOST SUSTAINABLE WAY

2050 TARGETS:

- ☐ Design out waste in products and processes
- ☐ Use materials again for next life
- ☐ Reuse water and return clean to the community



NOTE: Company facilities include all consolidated operations and joint ventures that are part of the Cummins Enterprise Environmental Management System. The company's strategy also includes addressing environmental needs in communities where Cummins employees live and work and where the company does business. Those goals are under development.

2030 GOALS

SCIENCE-BASED TARGETS

1. **Reduce absolute greenhouse gas (GHG) emissions from facilities and operations by 50%.**
2. **Reduce scope 3 absolute lifetime GHG emissions from newly sold products by 25%.**
3. **Partner with customers to reduce scope 3 GHG emissions from products in the field by 55 million metric tons.**
4. **Reduce volatile organic compounds emissions from paint and coating operations by 50%.**

CIRCULAR ECONOMY

5. **Create a circular life-cycle plan for every part to use less, use better, use again.**
6. **Generate 25% less waste in facilities and operations as a percent of revenue.**
7. **Reuse or responsibly recycle 100% of packaging plastics and eliminate single-use plastics in dining facilities, at employee events and as amenities.**
8. **Reduce absolute water consumption in facilities and operations by 30%.**

2030 KEY NUMBERS

50 *Percentage reduction goal for absolute GHG emissions from facilities and operations by 2030.*

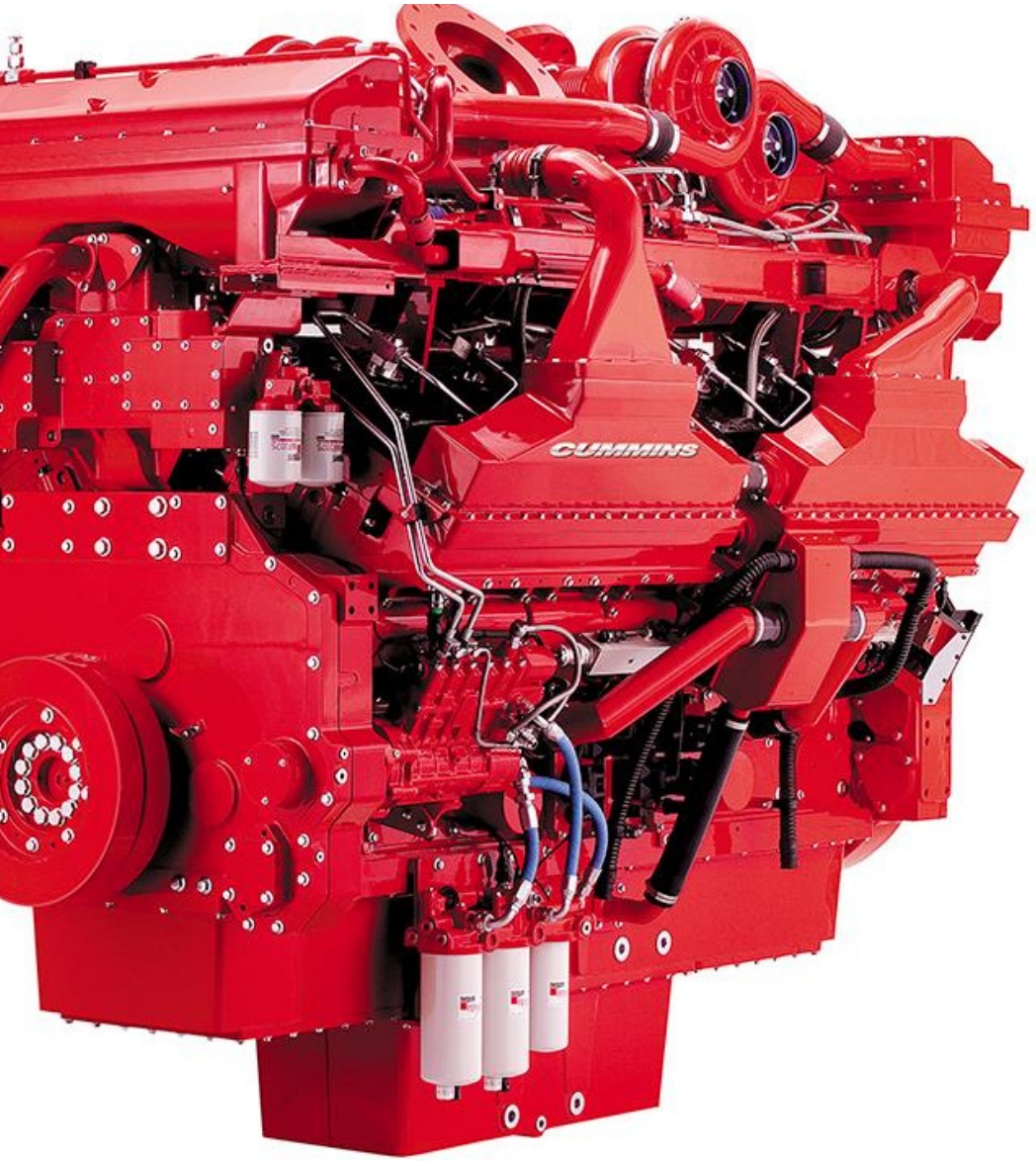
55 MILLION

Reduction goal for scope 3 GHG emissions from products in the field by 2030, partnering with customers.

25 *Percentage reduction goal for waste in facilities and operations as a percent of revenues by 2030.*

50 *Percentage reduction goal for volatile organic compound (VOC) emissions from paint and coating operations by 2030.*

100 *Percentage goal for recycling of packaging plastics and elimination of single use plastics in dining facilities by 2030.*



CR Overview

27 Nov 2021

Cummins CR Global Priority Areas,

Education

Environment

Equality of Opportunity

PSBU Projects

Water Neutrality

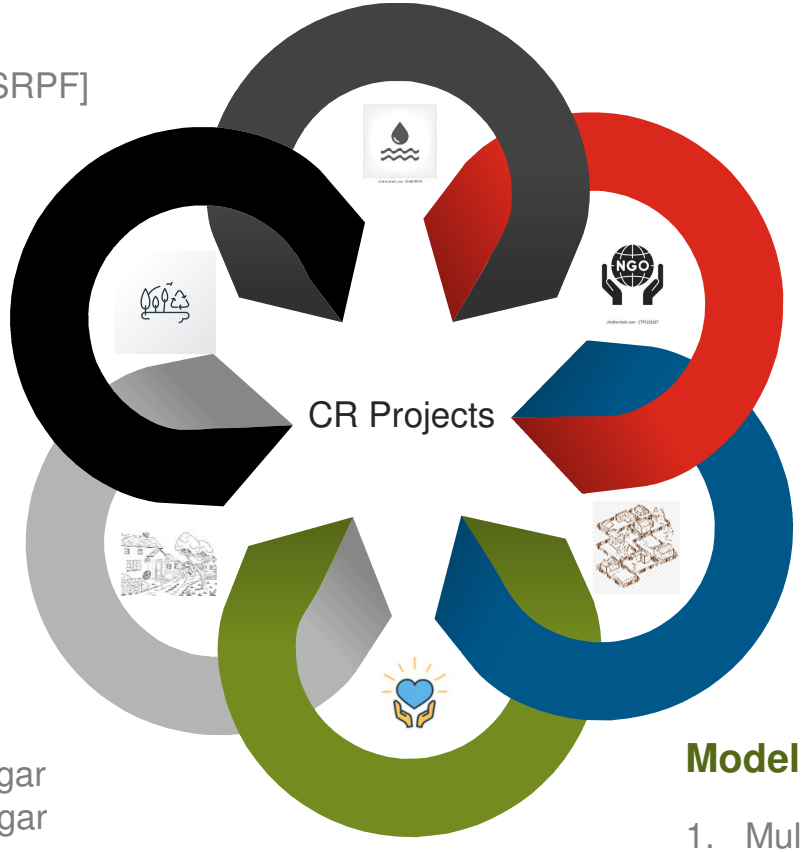
1. State Reserved Police Force [SRPF]
2. SPPU (Pune University)
3. Khadakwasla desilting
4. Aundh Military area
5. Water Hyacinth
6. Rain Water Harvesting

Afforestation

1. Baner Hill
2. Warje Hill
3. Aundh ARea
4. SRPF
5. Khadakwasla
6. Hauman Hill

Model Villages

1. Devgaon, Nagar
2. Manjarsumbha, Nagar
3. Daithanegunjal, Nagar
4. Panoli, Ranjangaon
5. Nimgaonbhogi, Ranjangaon
6. Phalke Mala, Ranjangaon



1. **Helping our society in fighting the COVID – 19 pandemic**
2. **School Readiness during Covid-19**

SWM

1. Nirmalya to Compost
2. Nirmalya to Agarbatti
3. E-waste
4. Plastic Waste
5. Zero Waste Slum at Kothrud
6. Eco-plates during Wari
7. Mask Recycle

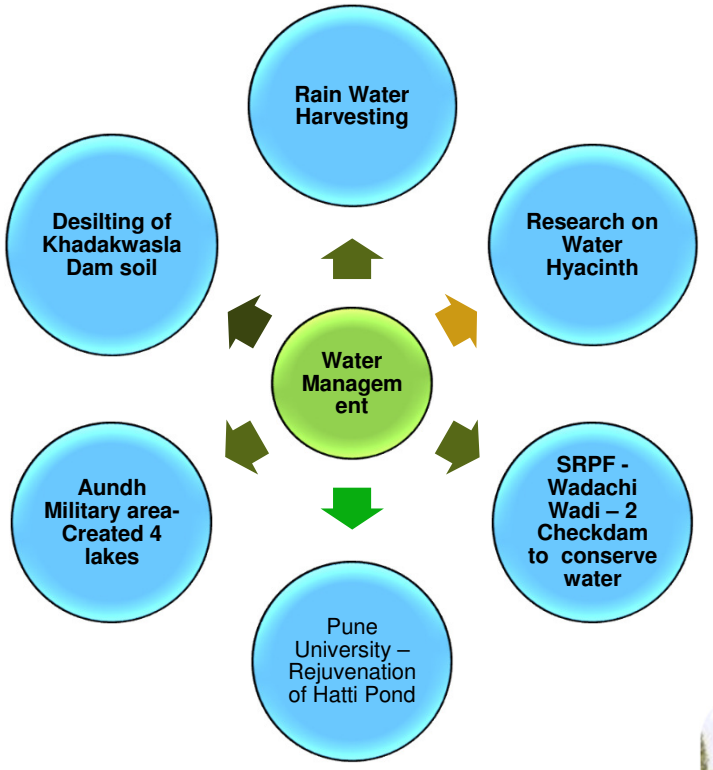
NGO Development

1. Blind Girls School, Pune
2. Nivasi Mukbadhir Vidyalaya, Ranjangaon
3. Apang Sanjeevani, Nagar
4. Mahatma Shikshan Sanstha, Phaltan
5. Snehawan, Pune

Model Villages

1. Mulikwadi- Phaltan
2. Aradgaon, Phaltan
3. Taradgaon, Phaltan
4. Nandal, Phaltan

Environment – Water Neutrality



Partners

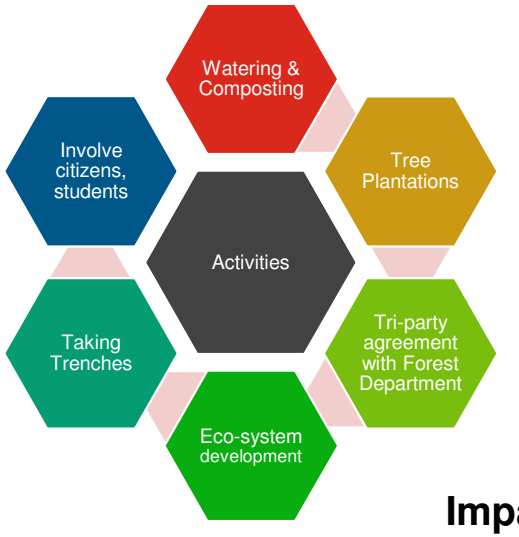
- Green Thumb
- Tree Public
- Shivdurga Savardhan
- Jeevit Nadi
- Aundh Military area
- Poornam Ecovision
- SRPF
- Forest Department
- PMC

Impact

- ✓ Overall impact since 2014 is 1 month supply of potable water harvested for citizens of Pune city.
- ✓ Borewell recharged thru Rain Water Harvesting **in 20 societies / NGOs**
- ✓ Water Hyacinth project research completed on biochar to purify water.
- ✓ Multiple Corporate and **government partnerships developed e.g. Tata Motors, Praj, Honeywell etc.**
- ✓ Eliminated need of water tankers.




Environment – Afforestation



Partners

- Green Thumb
- Vasundhara Abhiyan
- Tree Public
- Green Hill
- Forest Department
- PMC
- SRPF

Impact

- ✓ Planted & taking care of **80,000+ trees**
- ✓ Water conserved due to trenches
- ✓ Eco-system development
- ✓ **50+** new bird species, **fauna and fauna** observed
- ✓ Constructed water tanks of **1.60 Lakhs Litre Capacity**
- ✓ Involvement of community, students, corporates
- ✓ **Prevented encroachment / slum**

Environment – Solid Waste Management

Partners

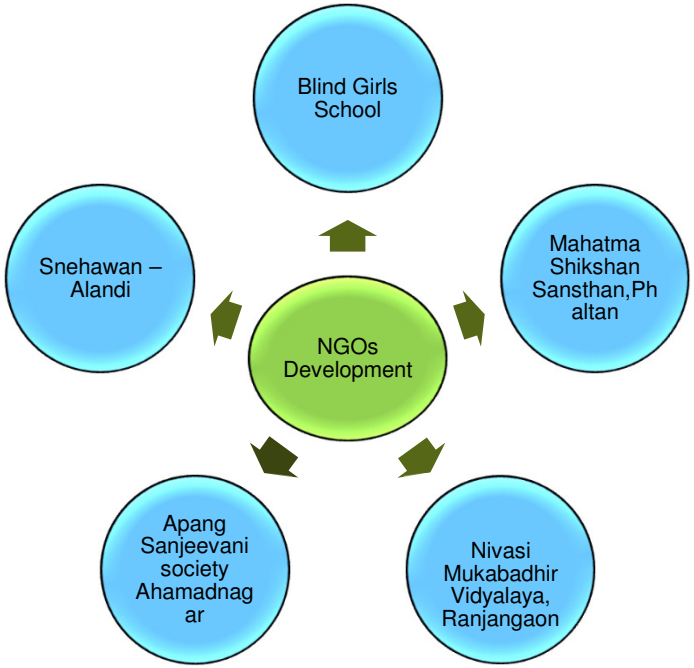
- Janawani
- Poornam Ecovision
- SWACH
- Harshadeep Fundation
- Thum Creative
- Sagarmitra
- Go-Vidnyan
- PMC

Impact

- ✓ Unique project – Nirmalya to Agarbatti. Sold more than 15000+ packets by SHG / NGO
- ✓ Nirmalya collected 250+ton per year & converted into compost
- ✓ Nirmalya : 1 Lakhs+ Ganesh Idols prevented going into river
- ✓ Plastic Waste : 125+ tons per year from schools, societies, shops & recycled
- ✓ E-waste : 45+ tones collected and scientifically recycled
- ✓ Awareness Student 1.5 Lakhs
- ✓ Use of 1.28 crores of Eco-Friendly plates & more than 2.50 crores of eco-friendly bowls during Pandharpur wari and at snacks centers in Pune
- ✓ 10000+ Mask recycled by active involvement of 2 societies as a Pilot



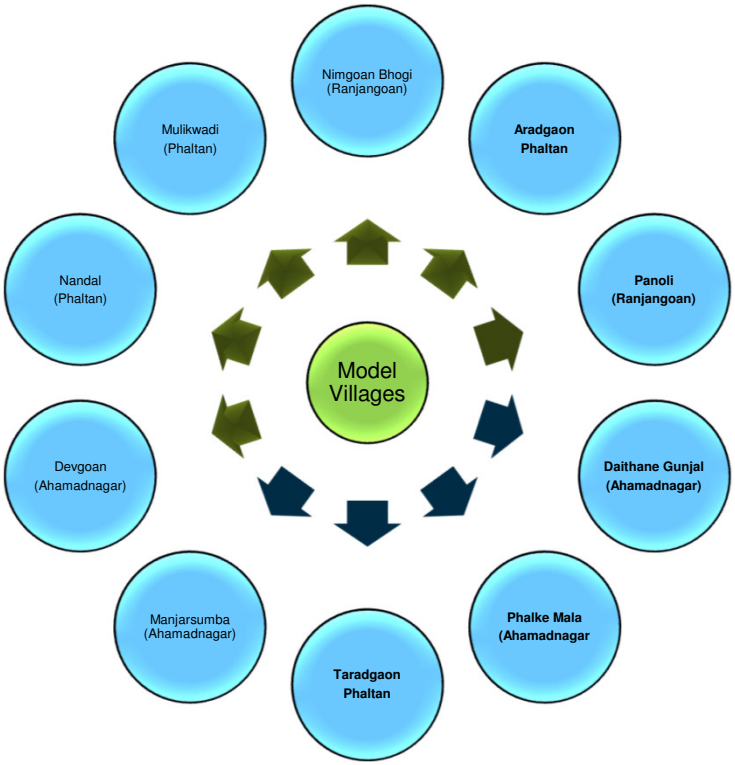

Equality of Opportunity – NGO Development

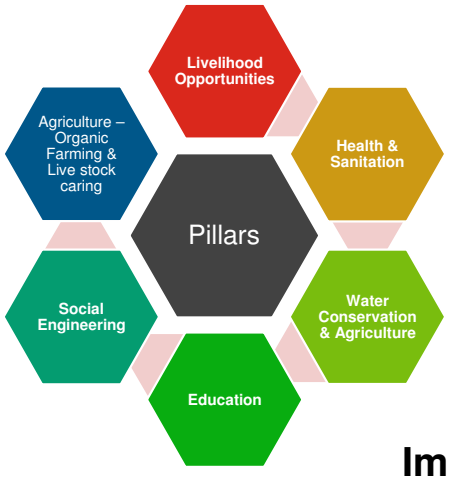


Impact

- ✓ Developed organic kitchen garden Saved Cost of vegetable
- ✓ Planted 100 fruits trees
- ✓ Rain Water Harvesting to recharge borewell, Solar Energy, LED Bulbs
- ✓ Repaired food waste bio gas, Compound wall
- ✓ HSE Audit & its compliances
- ✓ Infrastructure Development e.g. upgradation of building, Speech Therapy Room for hearing impaired, provide hearing aids, brail computer / printer,
- ✓ Speech Therapy Room for hearing impaired,
- ✓ Provide hearing aids, brail computer / printer,
- ✓ Toilets, Water purifier, Bunk Beds, cupboards, computer laboratory , building painting

Equality of Opportunity- Model Village





Partners

Aikya Seva Sangh
LAHS
GoVidnyan
Aarogya Bharati
Navjeevan Pratishthan
Grampanchayat

Impact

- ✓ Constructed 8 Check dams to conserve water
- ✓ Conserved 30+ Million Gallons of Water
- ✓ Converted 300+ Farmers and 210 Acers of Land into Organic farming & saved Rs 52.5 lacs which would have gone for chemicals.
- ✓ Upgraded 9 schools with E-Learnings, infrastructure, ISO Certification etc.
- ✓ Trees planted & maintained : 15000+
- ✓ Clean Cook Stoves distributed 2000+
- ✓ Poultry, Goat, Farming
- ✓ Bio Gas Units installed 185
- ✓ Vermicomposting Units 70+
- ✓ Soak Pits installed

Model Village - Glimpses

School Readiness on Covid background

- **Objective** : To support needy schools with students from lower strata of society. Keep school ready on the background of Covid-19 and provide Safe, Healthy atmosphere.
- This schools readiness project is implemented in **32 schools**. Out of these 2 schools we extended comprehensive support and at 30 schools material support.

Schools readiness plan

1. Infrastructure.
1.1. Social distancing marking- At Class room, Office, Bus, Ground
1.2. Foot operated facility – For water cooler, washroom taps, sanitizer stand.
1.3. COVID-19 isolation room for suspected students.

2. Disinfection.
2.1. Chemical use for disinfection-
2.2. Disinfection cycle time –
2.3. Disinfection person PPE-

Our HSE Team extended support to design this program

3. Screening Process.
3.1 Screening gun selection-
3.2. Screening location selection-
3.3. Screener PPE -
3.4. Screener training

4. COVID-19 Waste management.
4.1. Waste bin selection and labelling-
4.2. Waste handling PPE-
4.3. Waste storage location-
4.4. Waste disposal.

5.Communication and Awareness-
5.1. Communication Plan/schedule.
5.2. Communication awareness training module.
5.3. Precaution while communication.

School Readiness : Photos

Foot operated water taps

Social distrance marks

Foot operated sanitizers

Isolation Room

School Readiness : Photos

Mobile stand - training

PPEs

Oxy-meter

Training to Students

Foot operated water taps

Thermal Screening

Signages for awareness

Training to Teachers

Caring for our Communities amid the COVID-19 Pandemic

Areas of Intervention

FRONTLINE WARRIORS

- **Healthcare workers** – doctors, nurses, paramedics etc.
- **Sanitation workers** – People involved in collection, transport and disposal of waste
- **Police Force**– Police personnel on duty in our communities

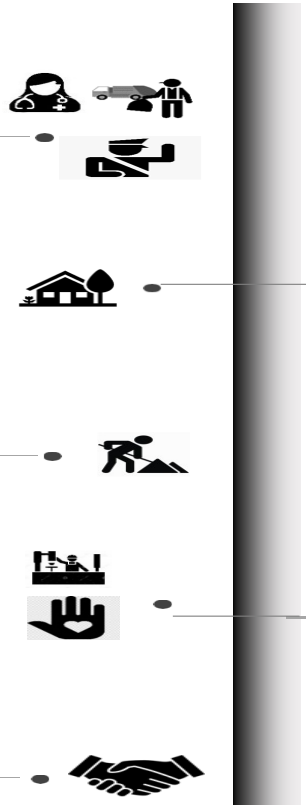
Support by distribution of PPE

DAILYWAGE EARNERS

- **Provision of dry basic ration kits** with rice/wheat , oil, sugar , tea leaves, salt, dal etc
- **Provision of cooked meals** – for migrant workers who have no income

PARTNERSHIPS WITH INDUSTRY ASSOCATIONS

- **MCCIA and CII –** Contribution to central funds - to procure and **distribute critical equipment to hospitals**
- Testing Kits, Ventilators, Personal Protective Equipment (PPE), sanitisers, etc. for the medical professionals



VILLAGE SANITATION

- **Spraying of sodium hypochlorite** solutions across our model villages using adapted 'sanitizer spraying' tankers
- *This is planned to expand to the slum areas as per need*

EMPLOYEE ENGAGEMENT AND LEVERAGING TECHNICAL EXPERTISE

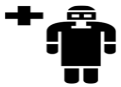
- **Donation Match Program Activated**
- Every rupee donated by our employees for COVID19 support to the Cummins India Foundation, will be matched equally by a grant from the Foundation to support local needs.
- **Leveraring Internal Technical Expertise** to provide innovative solutions for COVID

Caring for our Communities amid the COVID-19 Pandemic

Our Impact Till Date

25,000+ 3 Ply masks donated to hospitals

20,000+ Protection kits (masks, gloves, sanitizers) to police, sanitation and health officials



2,500+ Full Body PPE suits donated to hospitals

10,100+ Face shields donated to hospitals and police force in our communities

250+ Health centres and 2 hospitals provided with **6000+** sanitizers and hand wash materials

8,350+ N95 masks donated to hospitals

35,000+ Cooked meals served to **migrant laborers and homeless**

12,100+ Daily wage earning families benefited through dry ration kits (rice, wheat, pulses, salt etc.)

7,000+ Litres of Disinfectant donated to Pune and Phaltan Municipal Bodies and model villages

Partnered with CII and MCCIA for life- saving medical equipment

**PPE distributed are not part of Cummins inventories. They are sourced separately from Government authorized suppliers*

Caring for our Communities amid the COVID-19 Pandemic

Team from NGO Thum Creative loading PPE kits for distribution

Volunteers from Arogya Bharati NGO preparing the ration kits for distribution

Daily wagers availing cooked meals distributed near Ranjangaon

Aarohanum team overseeing grocery kits distribution at Phaltan

First lot of kits handed to Mr. Molak, jt. Commissioner, SWM, PMC

Distribution of grocery kits to daily wage earners near Warje in Pune

Daily wagers availing cooked meals distributed near Ranjangaon

Handing of PPE to Phaltan Nagar Parishad teams

Emission Norms For Genset Engine

	Power 75 to 800 kW	Power > 800 kW
Norms	CPCB-II	CPCB Stack
Emission Measurement	Engine out emissions at NTP with controlled boundary conditions and measurements in a test cell 5 mode D2 cycle weighted emission as per ISO8178 D2 cycle	Single point emission data from stack on site at more than 85 % load Normalize PM, CO, NMHC to 25 °C and 101.3 kPA, dry (0% moisture) basis Correct all emissions for 15 % O2
Emission Limit		
Certification & Control	CPCB-II certification from ARAI Voluntarily internal audits COP witness by ARAI every 1000 nos Production cycle average smoke <1.4 FSN	Internal Audits Internal certification External certification and audit at site every 6 month as regulated by state pollution control boards

D2 5 mode cycle for Emission

Torque %	100	75	50	25	10
Weightage	0.05	0.25	0.30	0.30	0.10

	NOx	HC	NOx + HC	CO	PM
	g/kW-hr				
CPCB-I	9.2	1.3	-	3.5	0.3
CPCB-II			4	3.5	0.2

Genset commissioning	NOx	NMHC	CO	PM
	ppmV	mg/Nm3		
Before 1 Jul 03	1100	150	150	75
1Jul 03 – 1Jul 05	970	100	150	75
After 1Jul 05	710	100	150	75

Controls

- All genset engines are bound to follow the prevalent CPCB-II emission norms
- Internal audits on sample basis by Cummins every year for genset engines
- Multiple COP (Conformity of Production) audit every year for all regulated engines – witnessed by ARAI
- 100% engines are checked for performance with smoke as PM indicator
- Engineering co-relation (approximate) for internal controls :
  - 1.5 FSN smoke is approx. 45 mg/m3 and 3 FSN is approx. 150mg/m3
- CPCB-II particulate matter emission norm (0.2 g/kW-hr for D2 5 mode cycle) and Stack emission PM norms (75 mg/Nm3 corrected) are stringent than the MPCB stack out regulation of PM (150 mg/Nm3)
- Plant audit conducted as per MPCB norms

Ambient Noise Reduction Actions At Potential Sources

To be reviewed

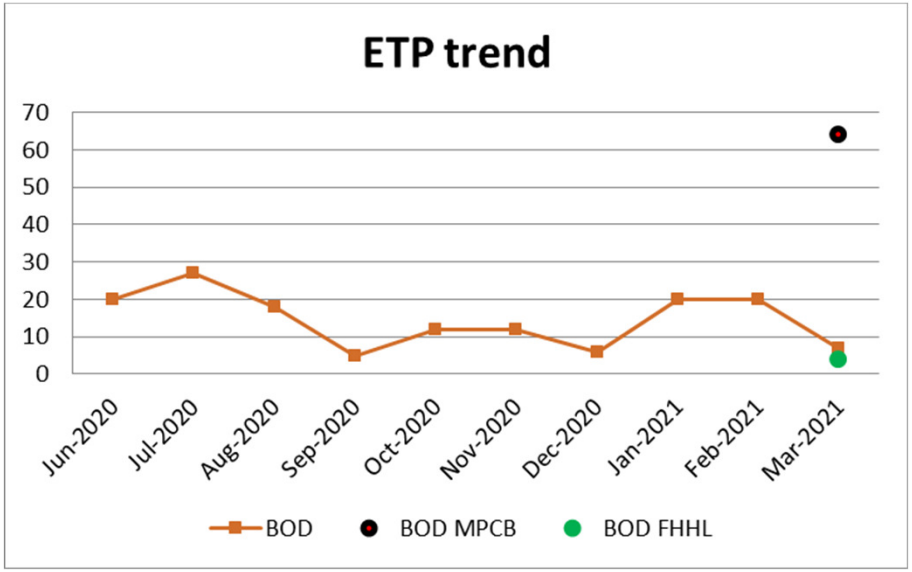
- The data **represents** the overall reduction of noise levels in certain area post acoustic treatment.
- Insulation work at fire pump house is completed. The noise level at fire pump house area has not crossed 57 dB(A) post insulation.
- Noise from forklift reverse hooter is reduced from 73.76 dB to 64.1 dB by adjusting the volume switch.
- The noise level at KEP fuel farm area has not exceeded 60 dB post providing acoustic enclosure.
- Improvement action on rising of noise levels in KEP ETP and backside area of KV plant are in progress.
- External areas are monitored regularly by HSE team to observe and capture abnormal noise.
- Training provided to site HSE and security team.
- A WhatsApp group is created with in relevant team members to get the updates frequently.
- In case of complaint , shift HSE person will measure the noise level at reported location, record the same for team's update and further action.
- Gate no. 2 security teams were connected and made aware to observe and report abnormal noise in the WhatsApp group immediately.
- HSE team members are instructed to be vigilant from gate no. 2 to turnstile gate and not to allow any activities in between 1 to 4 pm.
- The same is being mentioned in the work permits.

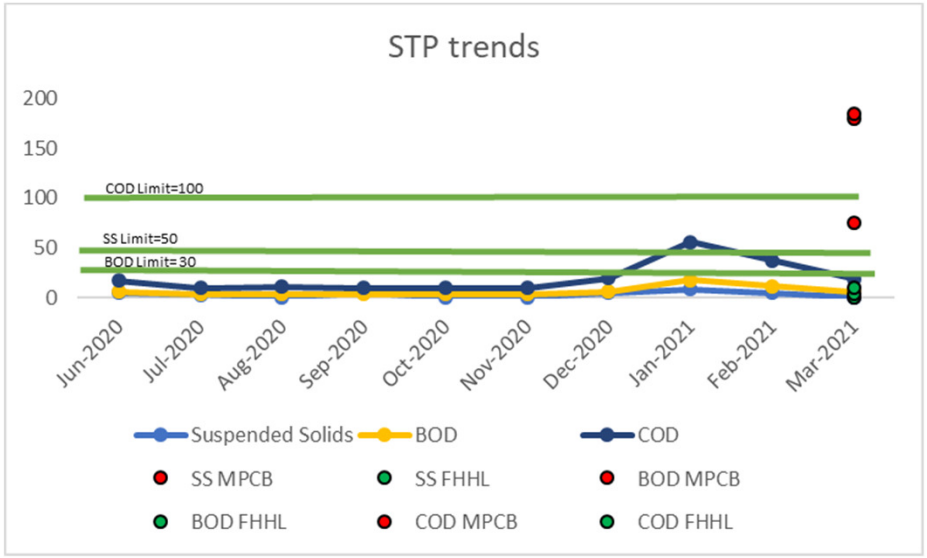
Jitendra Khasnis Complaint to NGT on bad smell/odor from Cummins KEP Facility

Particulars/Background on the matter	Status
The Complainant, Shri. Jitendra Prakash Khasnis is a businessman who is running his business at his residential address located in the residential zone. He is residing at Amit Park, Tejas Society, S No. 29, Dahanukar Colony, Kothrud, Pune 411038. He has filed an Application before NGT against Cummins plant at Kothrud regarding environmental pollution caused by (alleged) illegal waste water treatment process adopted by the plant causing an unbearable, nostalgic and poisonous smell resulting in air pollution and suffocation in breathing and possibility of lung ailments in the residents of nearby societies. The Complainant states that he has approached the Company through multiple emails about the issue raised in the Application and no action was taken to control the pollution till date. Further, he has made multiple representations to the MPCB but the authority ruled out his concern time and again. On failure of the aforementioned, the Applicant send us a legal notice dated 07.12.19. To which, the Company had sent a detailed reply denying all the allegations made. Thus, due to such denial of all the allegations, the Applicant has filed the current Application claiming for appointment of committee to inspect and resolve the issue. Also, inspection and stoppage of the activity by the Company is prayed for in the complaint.	The company has received the Petition through its Advocate Saurabh Kulkarni on the subject matter. The chronology and the details of the events are mentioned in the word file. The copy of the petition is also attached herewith. It was informed by the Advocate that first the matter will be investigated by MPCB. MPCB shall be required to submit the report and then only we will get summons. Legal has appointed Adv. Saurabh Kulkarni to appear as its counsel whenever the matter appears before NGT Petition filed before NGT Document

JVS compilation

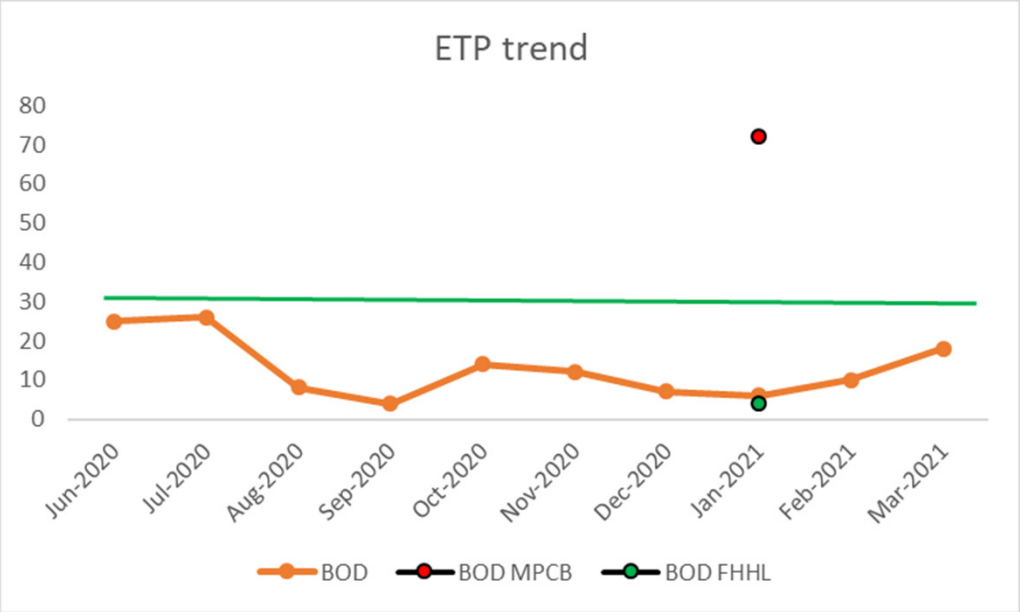
PCP 1





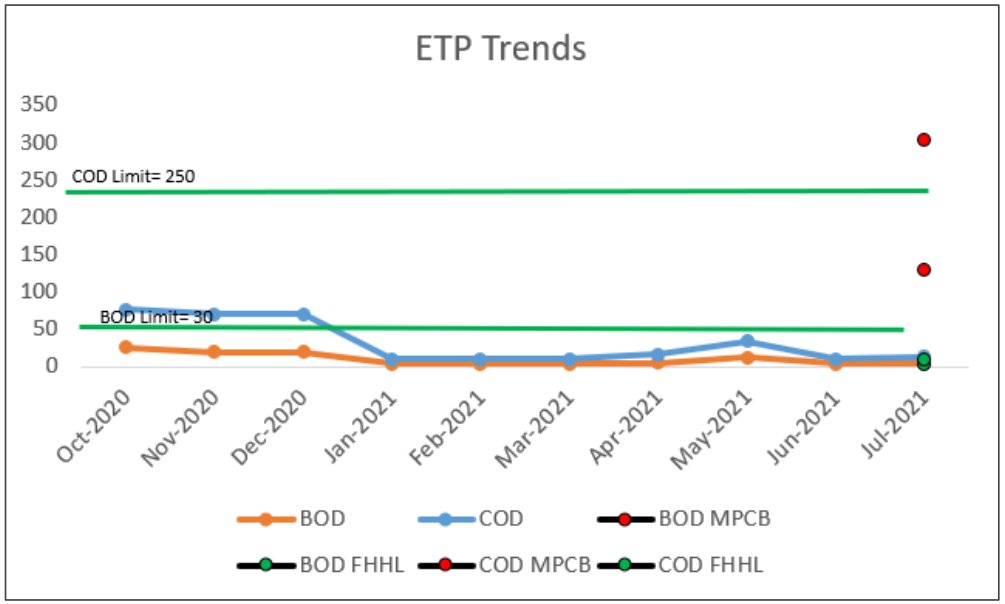
Site Name	Date of sample collection by MPCB	Date of sample collection by FHHL	Date on which reports received by FHHL	Date on which MPCB reports received	Remarks
PCP 1	31st March	31st March	9th April	13th August	BOD & COD (STP) BOD (ETP) out of limit

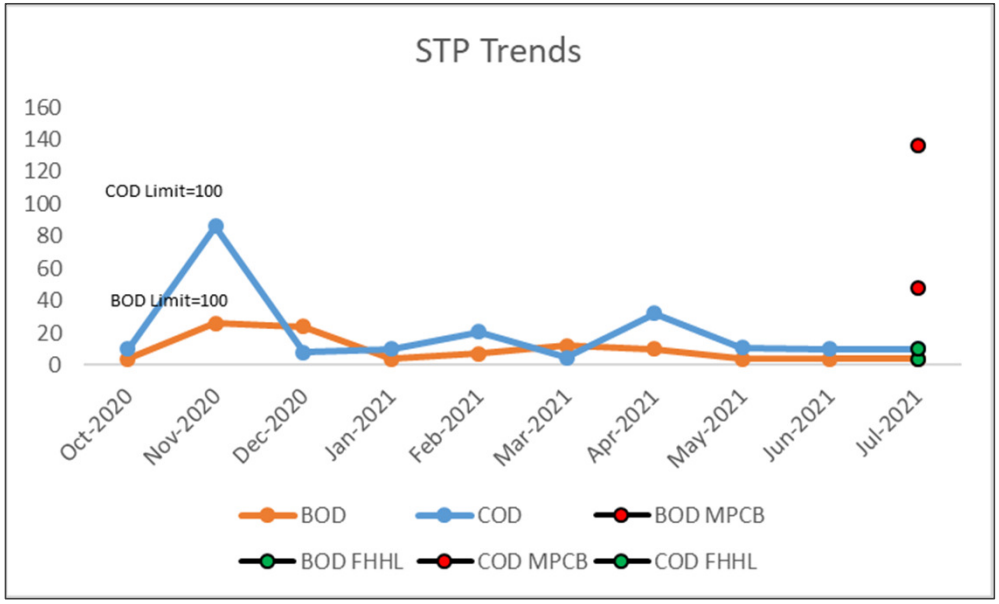
ReCon DTA



Site Name	Date of sample collection by MPCB	Date of sample collection by FHHL	Date on which reports received by FHHL	Date on which MPCB reports received	Remarks
ReCon DTA	27th Jan			11th June	BOD out of limit
ReCon DTA	20th September	20th September		Not received yet	

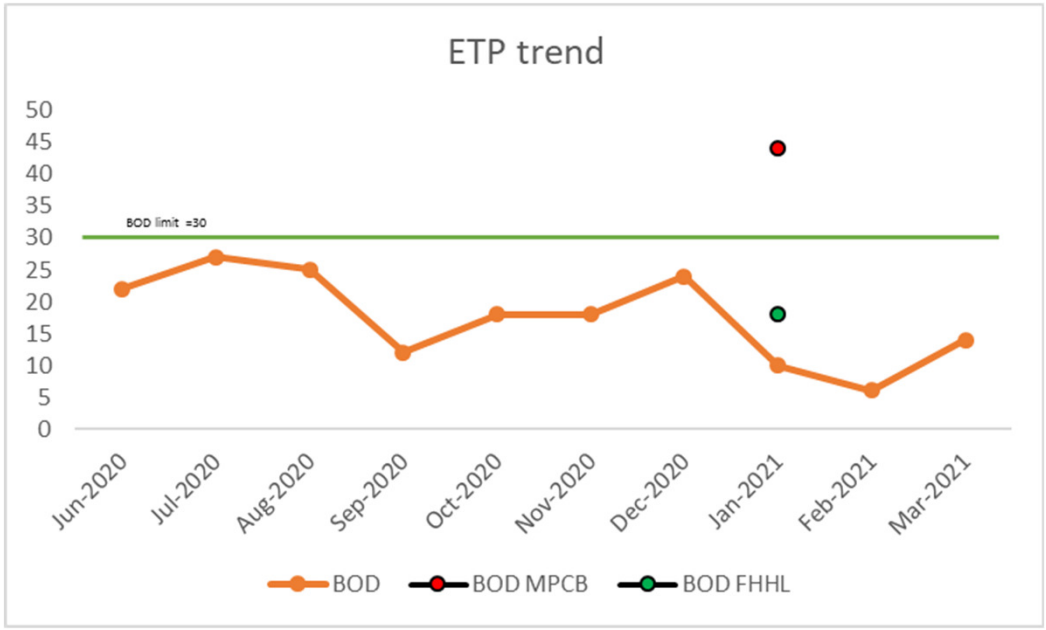
KEP





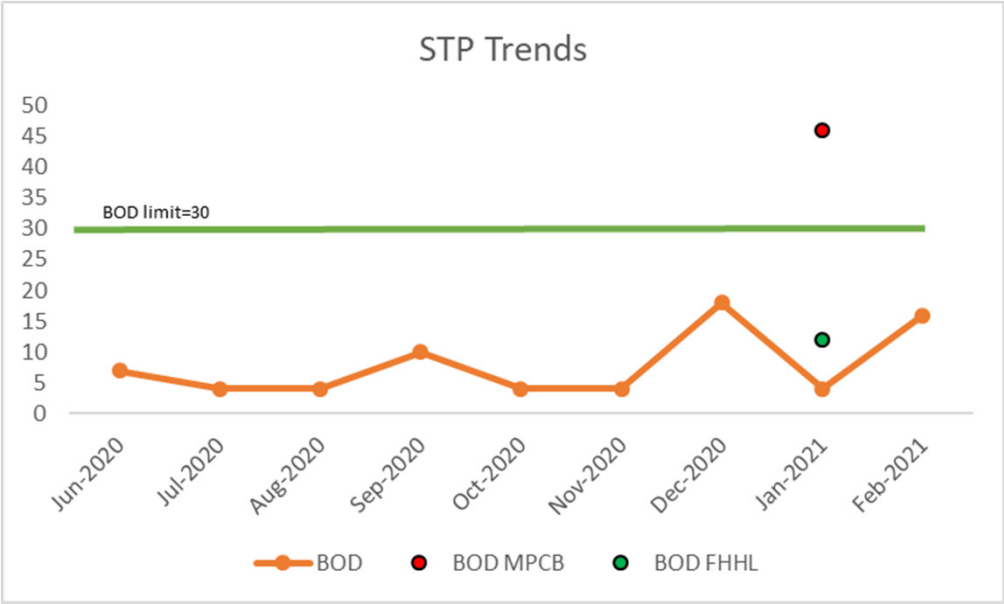
Site Name	Date of sample collection by MPCB	Date of sample collection by FHHL	Date on which reports received by FHHL	Date on which MPCB reports received	Remarks
KEP	15th July	15th July	22nd July	22nd September	BOD, COD & Stack out of limit

TCL 2



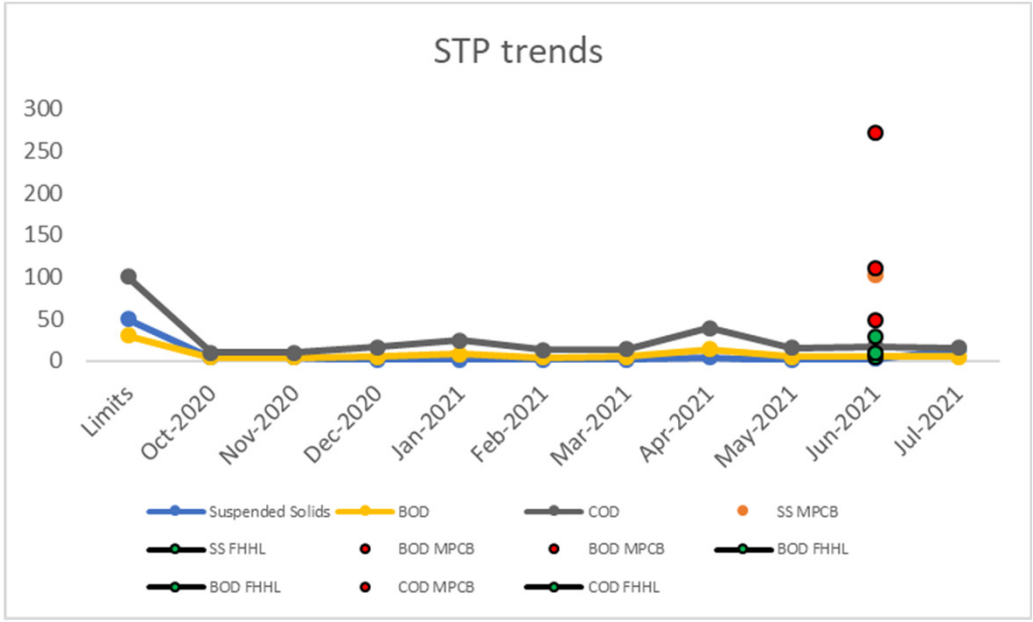
Site Name	Date of sample collection by MPCB	Date of sample collection by FHHL	Date on which reports received by FHHL	Date on which MPCB reports received	Remarks
TCL 2	27th Jan	27th Jan		29th July	BOD out of limit
TCL 2 & 3	16th July	17th July	July	Not received yet	FHHL reports in limit

TCL 3



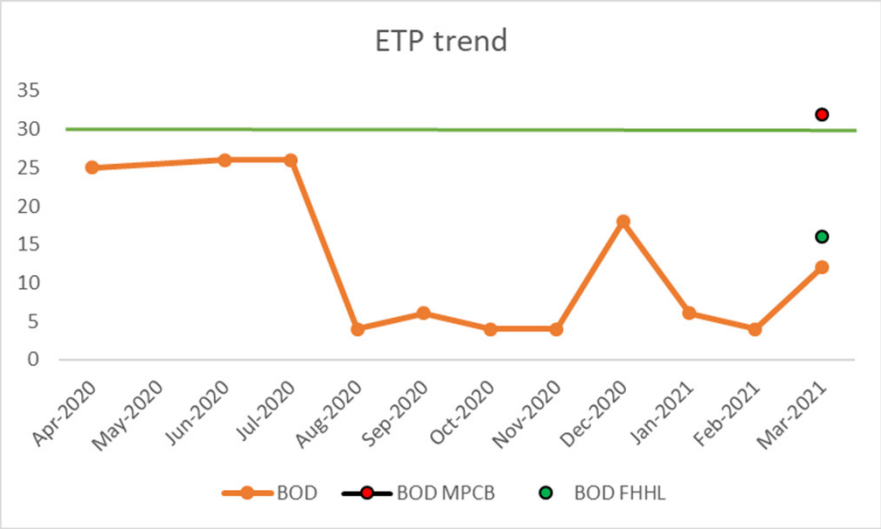
Site Name	Date of sample collection by MPCB	Date of sample collection by FHHL	Date on which reports received by FHHL	Date on which MPCB reports received	Remarks
TCL 3	27th Jan	27th Jan	4th Feb	26th June	BOD & COD out of limit

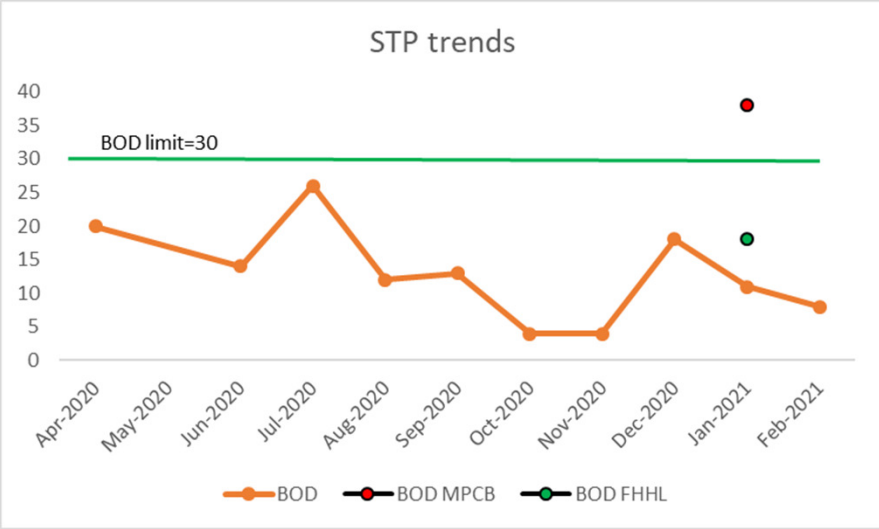
DBU TTC



Site Name	Date of sample collection by MPCB	Date of sample collection by FHHL	Date on which reports received by FHHL	Date on which MPCB reports received	Remarks
DBU TTC	31st March	31st March	9th April	6th August	BOD out of limit
DBU TTC	15th June	15th June	23rd June	6th August	BOD, COD & SS out of limit
DBU TTC	3rd August	3rd August	10th August	Not received yet	In limit
DBU TTC	28th September	28th September	4th October	Not received yet	In limit

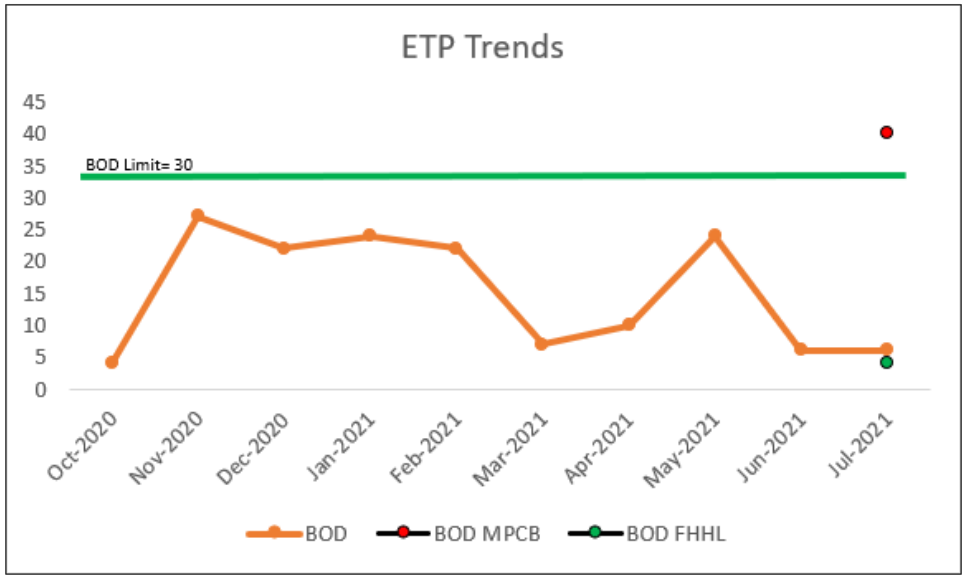
PHP

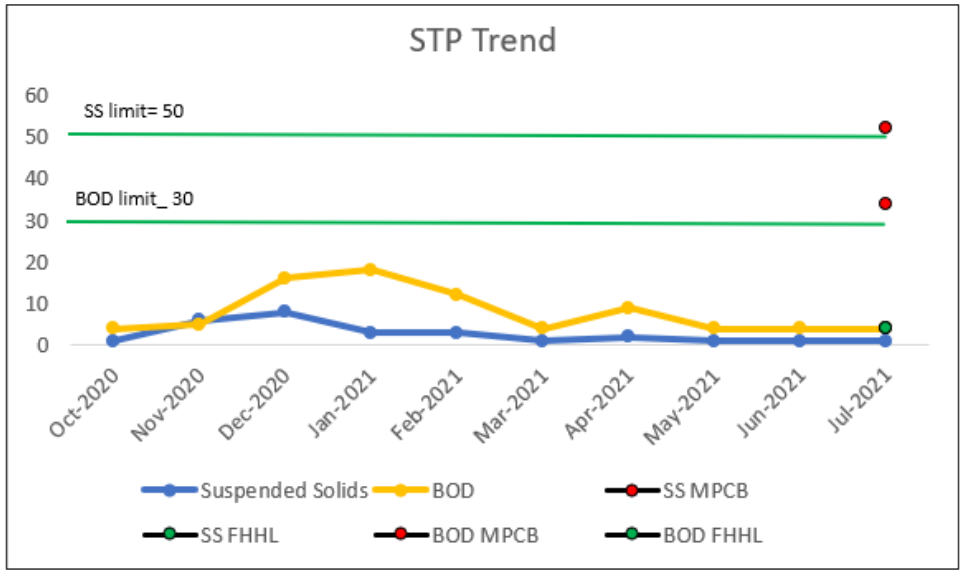




Site Name	Date of sample collection by MPCB	Date of sample collection by FHHL	Date on which reports received by FHHL	Date on which MPCB reports received	Remarks
PHP	8th March	8th March	17th March	17th September	BOD out of limit
PHP	26th August	26th August	1st September	Not received yet	In limit
PHP	28th September	28th September	2nd October	Not received yet	In limit

CTCI

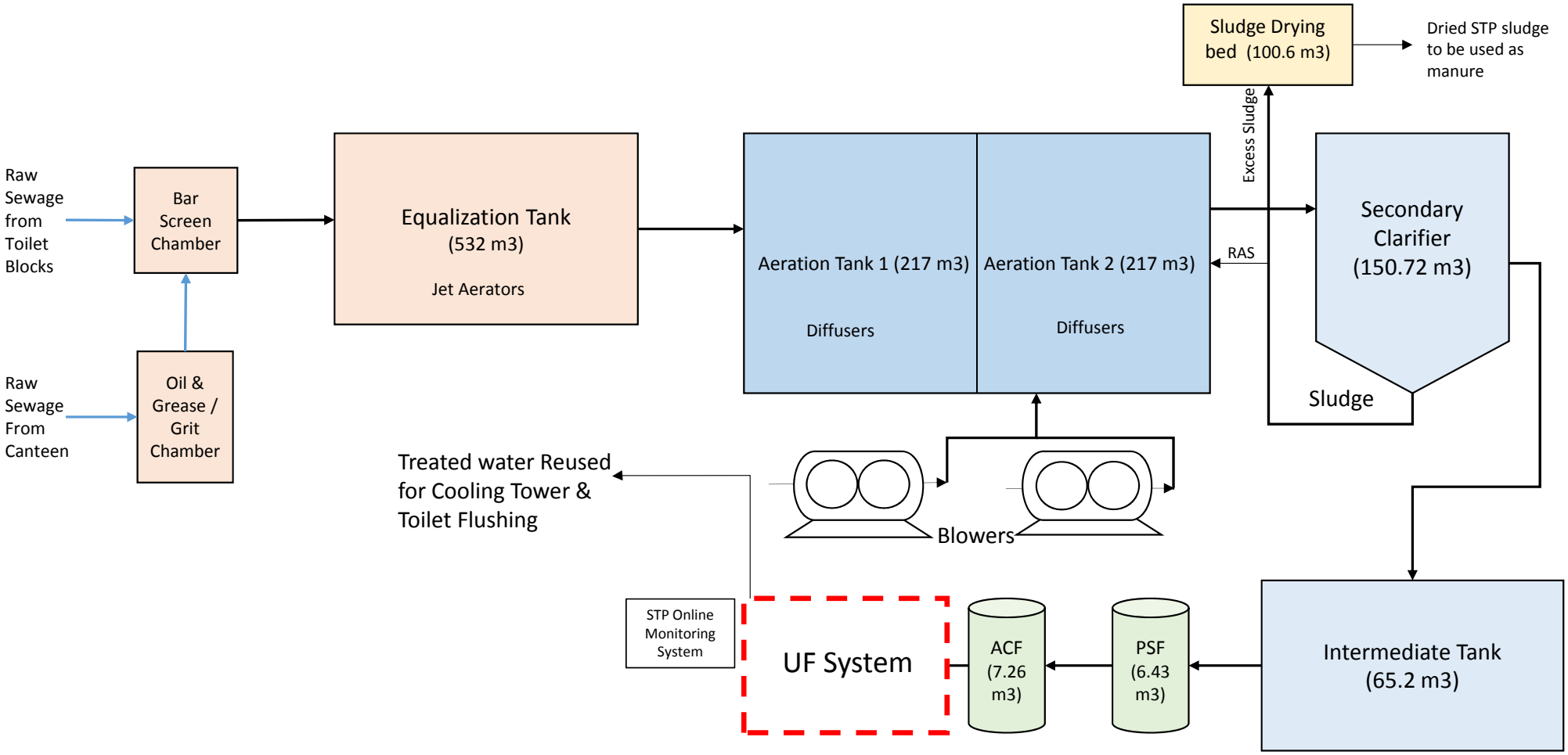




Site Name	Date of sample collection by MPCB	Date of sample collection by FHHL	Date on which reports received by FHHL	Date on which MPCB reports received	Remarks
CTCI	15th July	15th July	22nd July	22nd September	BOD and TSS out of limit (ETP and STP) Ambient and stack out of limit

ANNEXURE-R-2

STP Flow Diagram



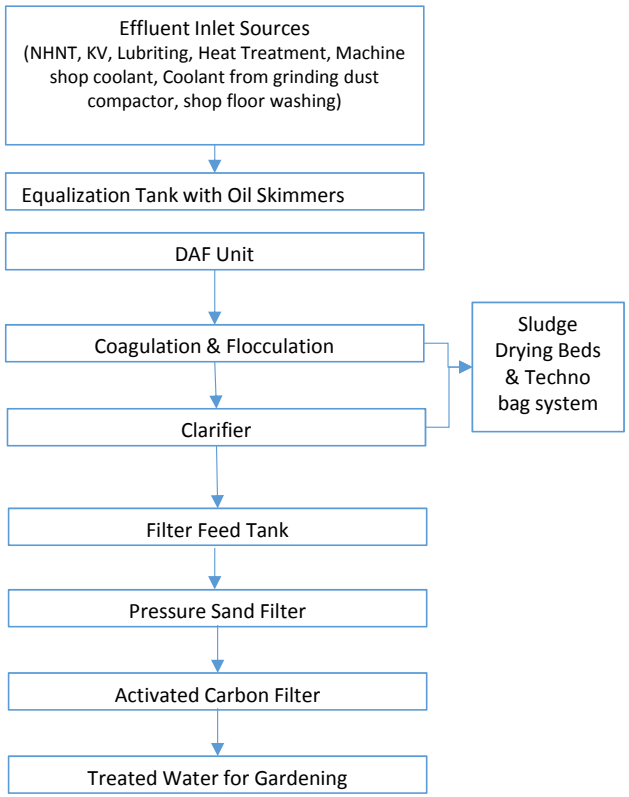
Note: The Red highlighted is the upgraded part of STP

KEP – Effluent Treatment Plant

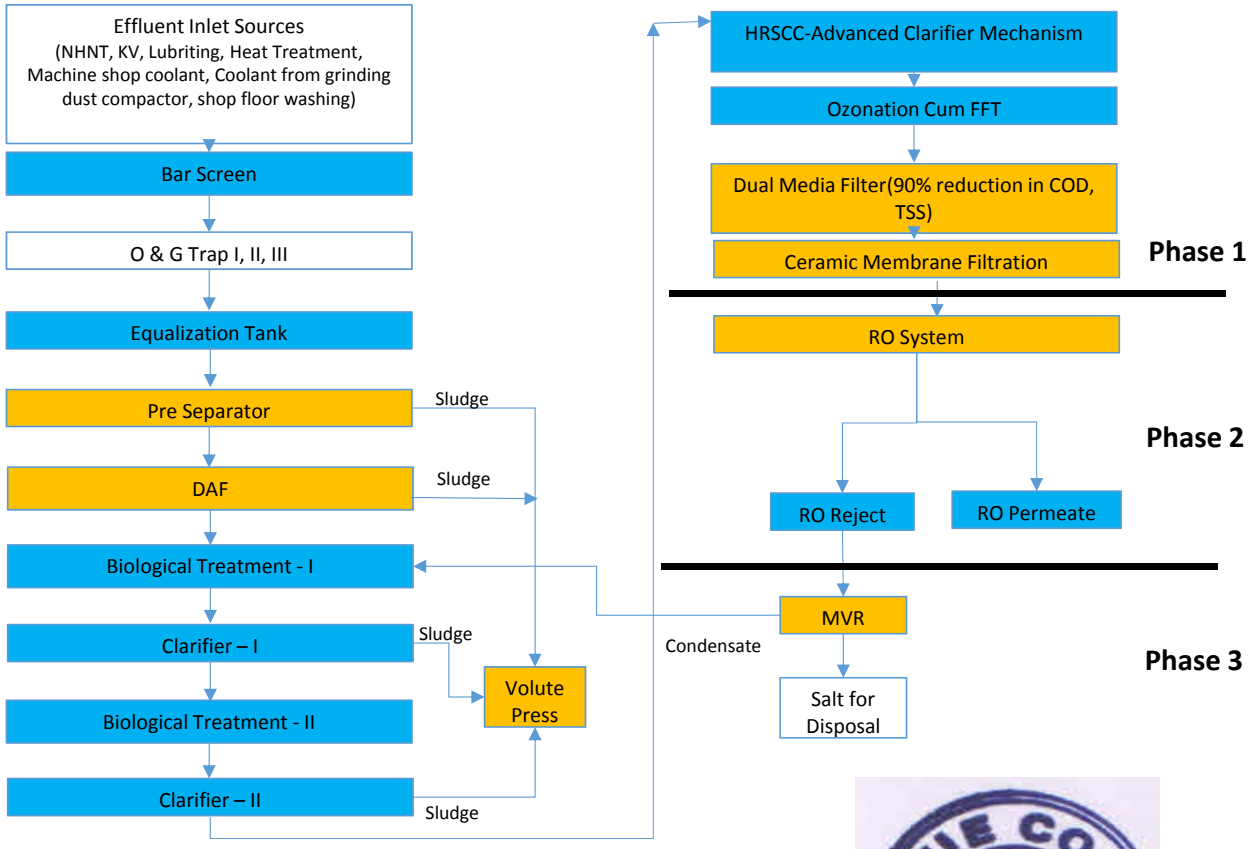
Civil Unit

Equipment

Current Process



Upgraded Design



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ANNEXURE-R-3

Laboratory Recognized by Ministry of Environment Forest & Climate Change (MoEF & CC) under EPA 1986 Vide Gazette of India Notification S.O.1953 (E), dated 02/06/2016. & Letter No. Q-15018/17/2019-CPW dated 23/12/2020
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TC-5931

TEST REPORT — **Report Date:- 27/08/2021**

Test Report No: - FHHL/2108/WW/063-6 — Page No. :- **1 of 1**

Customer Name & Address :- **Cummins India Ltd.**
Dahanukar Colony, Kothrud,
Pune-411038.

Customer Reference Letter No. & date:- **19/08/2021**

Description of Sample :-- Waste water Sample

a] Sample Marked As :- **R.O. Permeate Water**

b] Packing: - Plastic Can

c] Quantity of sample received: - 1 Lit. × 3 No's

d] Preservation:- At 2° to 8° C

e] Sample collected by :- Lab Representative

Date of Sample Receipt in the Lab. :- **19/08/2021**

Date(s) of testing :- **19/08/2021 to 27/08/2021**

Location of test performance :- In-house

Discipline:- Chemical Testing

Group:- Pollution & Environment

Sr. No.	Test Done	Result	Unit	Test Method
01	pH	6.9	-	IS 3025 (part 11)
02	TDS	829	mg/l	IS 3025 (part 16)
03	Oil & Grease	<1.0	mg/l	IS 3025 (part 39)
04	Total Suspended Solids	<1.0	mg/l	IS 3025 (Part 17)
05	Phosphates	0.92	mg/l	APHA 4500-P C
06	COD	<10.0	mg/l	APHA - (5220 B)
07	BOD 3 days at 27°C	<4.0	mg/l	IS 3025 (Part 44)
08	Chloride (as Cl)	141.96	mg/l	APHA 4500-Cl⁻ B
09	Sulphate as SO_4	1.29	mg/l	IS 3025 (part 24)

End of Report

Checked by

SINCE 1998 FHHL

Seema Bakde
Authorised Signatory
Chemical Testing

Laboratory Address : Sr. NO. 126/10, Plot No. 1, Hadapsar Industrial Estate, Hadapsar, Pune - 411 013.
Mob. : +91-9881237321, +91-8380074695
E-mail : info@fhhl.in / environment@fhhl.in **Website** : www.fhhl.in

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TEST REPORT — **Report Date:- 22/07/2021**

Test Report No: - FHHL/2105/RD/045-2 — Page No. :- **1 of 1**

Customer Name & Address :- **Cummins India Ltd.**
Dahanukar Colony, Kothrud,
Pune-411038.

Customer Reference Letter No. & date:- **06/07/2021**

Description of Sample :-Waste Water Sample

a] Sample Marked As :- **RO Permeate Water(MPCB-JVS)**

b] Preservation:- At 2° to 8° C

d] Packing :- Plastic Can

c] Quantity of sample received :- 1.0L × 3 No's

e] Sample collected by :- Lab Representative

Date of Sample Receipt in the Lab. :- **06/07/2021**

Date(s) of testing :- 06/07/2021 to 22/07/2021

Location of test performance :- In-house

Discipline:- Chemical Testing

Group:- Pollution & Environment

Sr. No	Test Done	Result	Unit	Test Method
01	pH	8.2	-	IS 3025 (part 11)
02	TDS	236	mg/l	IS 3025 (part 16)
03	Oil & Grease	1.0	mg/l	IS 3025 (part 39)
04	Total Suspended Solids	<1.0	mg/l	IS 3025 (Part 17)
05	Phosphates	<0.1	mg/l	APHA 4500 P-C
06	COD	<10.00	mg/l	APHA (5220 B)
07	BOD 3 days at 27°C	<4.00	mg/l	IS 3025 (Part 44)
08	Chloride (as Cl)	65.98	mg/l	APHA 4500-Cl^- B
09	Sulphate as SO_4	15.63	mg/l	IS 3025 (part 24)

End of Report.

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Authorised Signatory
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TEST REPORT

Report Date:- 22/07/2021

Test Report No: - FHHL/2105/RD/044-9 | Page No. :- **1 of 1**

Customer Name & Address :- **Cummins India Ltd.**
Dahanukar Colony, Kothrud,
Pune-411038.

Customer Reference Letter No. & date:- **06/07/2021**

Description of Sample :-- Waste water Sample
a] Sample Marked As :- **R.O. Permeate Water**
b] Packing: - Plastic Can
c] Quantity of sample received: - 1 Lit. × 3 No's
d] Preservation:- At 2° to 8° C
e] Sample collected by :- Lab Representative

Date of Sample Receipt in the Lab. :- **06/07/2021**
Date(s) of testing :- 06/07/2021 to 22/07/2021
Location of test performance :- In-house
Discipline:- Chemical Testing
Group:- Pollution & Environment

Sr. No.	Test Done	Result	Unit	Test Method
01	pH	7.3	-	IS 3025 (part 11)
02	TDS	824	mg/l	IS 3025 (part 16)
03	Oil & Grease	<1.0	mg/l	IS 3025 (part 39)
04	Total Suspended Solids	1.0	mg/l	IS 3025 (Part 17)
05	Phosphates	<0.1	mg/l	APHA 4500-P C
06	COD	13.52	mg/l	APHA - (5220 B)
07	BOD 3 days at 27°C	<4.00	mg/l	IS 3025 (Part 44)
08	Chloride (as Cl)	456.00	mg/l	APHA 4500-Cl^- B
09	Sulphate as SO_4	62.00	mg/l	IS 3025 (part 24)

End of Report

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TEST REPORT — **Report Date:- 28/06/2021**

Test Report No: - FHHL/2106/RD/182-9 — Page No. :- **1 of 1**

Customer Name & Address :- **Cummins India Ltd.**
Dahanukar Colony, Kothrud,
Pune-411038.

Customer Reference Letter No. & date:- **19/06/2021**

Description of Sample :-- Waste water Sample
a] Sample Marked As :- **R.O. Permeate Water**
b] Packing: - Plastic Can
c] Quantity of sample received: - 1 Lit. × 3 No's
d] Preservation:- At 2° to 8° C
e] Sample collected by :- Lab Representative

Date of Sample Receipt in the Lab. :- **19/06/2021**
Date(s) of testing :- **19/06/2021 to 28/06/2021**
Location of test performance :- In-house
Discipline:- Chemical Testing
Group:- Pollution & Environment

Sr. No.	Test Done	Result	Unit	Test Method
01	pH	8.8	-	IS 3025 (part 11)
02	TDS	1274	mg/l	IS 3025 (part 16)
03	Oil & Grease	<1.0	mg/l	IS 3025 (part 39)
04	Total Suspended Solids	<1.0	mg/l	IS 3025 (Part 17)
05	Phosphates	2.14	mg/l	APHA 4500-P C
06	COD	<10.00	mg/l	APHA - (5220 B)
07	BOD 3 days at 27°C	<4.00	mg/l	IS 3025 (Part 44)
08	Chloride (as Cl)	382.60	mg/l	APHA 4500-Cl^- B
09	Sulphate as SO_4	52.00	mg/l	IS 3025 (part 24)

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TC-5931

TEST REPORT **Report Date:- 07/06/2021**

Test Report No: - FHHL/2105/WW/076-9 Page No. :- **1 of 1**

Customer Name & Address :- **Cummins India Ltd.**
Dahanukar Colony, Kothrud,
Pune-411038.

Customer Reference Letter No. & date:- **26/05/2021**

Description of Sample :-- Waste water Sample
a] Sample Marked As :- **R.O. Permeate Water**
b] Packing: - Plastic Can
c] Quantity of sample received: - 1 Lit. × 3 No's
d] Preservation:- At 2° to 8° C
e] Sample collected by :- Lab Representative

Date of Sample Receipt in the Lab. :- **26/05/2021**
Date(s) of testing :- 26/05/2021 to 07/06/2021
Location of test performance :- In-house
Discipline:- Chemical Testing
Group:- Pollution & Environment

Sr. No.	Test Done	Result	Unit	Test Method
01	pH	7.1	-	IS 3025 (part 11)
02	TDS	1840	mg/l	IS 3025 (part 16)
03	Oil & Grease	<1.0	mg/l	IS 3025 (part 39)
04	Total Suspended Solids	3.0	mg/l	IS 3025 (Part 17)
05	Phosphates	5.20	mg/l	APHA 4500-P C
06	COD	34.00	mg/l	APHA - (5220 B)
07	BOD 3 days at 27°C	12.00	mg/l	IS 3025 (Part 44)
08	Chloride (as Cl)	496.30	mg/l	APHA 4500-Cl^- B
09	Sulphate as SO_4	60.00	mg/l	IS 3025 (part 24)

End of Report

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TEST REPORT **Report Date:- 27/04/2021**

Test Report No: - FHHL/2104/WW/050-2 Page No. :- **1 of 1**

Customer Name & Address :- **Cummins India Ltd.**
Dahanukar Colony, Kothrud,
Pune-411038.

Customer Reference Letter No. & date:- **17/04/2021**

Description of Sample :-- Waste water Sample
a] Sample Marked As :- **RO Permeate Water**
b] Packing: - Plastic Can
c] Quantity of sample received: - 1 Lit. × 3 No's
d] Preservation:- At 2° to 8° C
e] Sample collected by :- Lab Representative

Date of Sample Receipt in the Lab. :- **17/04/2021**
Date(s) of testing :- 17/04/2021 to 27/04/2021
Location of test performance :- In-house
Discipline:- Chemical Testing
Group:- Pollution & Environment

Sr. No.	Test Done	Result	Unit	Test Method
01	pH	6.0	-	IS 3025 (part 11)
02	TDS	274	mg/l	IS 3025 (part 16)
03	Oil & Grease	<1.0	mg/l	IS 3025 (part 39)
04	Total Suspended Solids	<1.0	mg/l	IS 3025 (Part 17)
05	Phosphates	0.92	mg/l	APHA 4500-P C
06	COD	16.64	mg/l	APHA - (5220 B)
07	BOD 3 days at 27°C	5.0	mg/l	IS 3025 (Part 44)
08	Chloride (as Cl)	87.97	mg/l	APHA 4500-Cl^- B
09	Sulphate as SO_4	4.10	mg/l	IS 3025 (part 24)

End of Report

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Chemical Testing

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TEST REPORT				Report Date:- 24/03/2021
Test Report No: - FHHL/2103/WW/059-7				Page No. :- 1 of 1
Customer Name & Address :-	**Cummins India Ltd.** Dahanukar Colony, Kothrud, Pune-411038.			Customer Reference Letter No. & date:- **13/03/2021**
Description of Sample :-- Waste water Sample a] Sample Marked As :- **R.O. Permeate Water** b] Packing: - Plastic Can c] Quantity of sample received: - 1 Lit. × 3 No's			d] Preservation:- At 2° to 8° C e] Sample collected by :- Lab Representative	
Date of Sample Receipt in the Lab. :- **13/03/2021** **Date(s) of testing :- 13/03/2021 to 24/03/2021**				
Location of test performance :- In-house				
Discipline:- Chemical Testing				
Group:- Pollution & Environment				
Sr. No.	**Test Done**	**Result**	**Unit**	**Test Method**
01	pH	7.8	-	IS 3025 (part 11)
02	TDS	104	mg/l	IS 3025 (part 16)
03	Oil & Grease	<1.0	mg/l	IS 3025 (part 39)
04	Total Suspended Solids	<1.0	mg/l	IS 3025 (Part 17)
05	Phosphates	<0.1	mg/l	APHA 4500-P C
06	COD	<10.00	mg/l	APHA - (5220 B)
07	BOD 3 days at 27°C	<4.00	mg/l	IS 3025 (Part 44)
08	Chloride (as Cl)	16.99	mg/l	APHA 4500-Cl⁻ B
09	Sulphate as SO_4	5.00	mg/l	IS 3025 (part 24)
10	Total Hardness	<2.00	mg/l	IS 3025 (part 21)
11	Conductivity at 25°C	148.75	µS/cm	IS 3025 (Part 14)
12	Turbidity	0.3	NTU	IS 3025 (Part 10)
End of Report				

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TC-5931

TEST REPORT — **Report Date:- 23/02/2021**

Test Report No: - FHHL/2102/WW/045-7 — Page No. :- 1 of 1

Customer Name & Address :- **Cummins India Ltd.**
Dahanukar Colony, Kothrud,
Pune-411038.

Customer Reference Letter No. & date:- **13/02/2021**

Description of Sample :-- Waste water Sample

] Sample Marked As :- **R.O. Permeate Water**

b] Packing: - Plastic Can

c] Quantity of sample received: - 1 Lit. × 3 No's

d] Preservation:- At 2° to 8° C

e] Sample collected by :- Lab Representative

Date of Sample Receipt in the Lab. :- **13/02/2021**

Date(s) of testing :- 13/02/2021 to 23/02/2021

Location of test performance :- In-house

Discipline:- Chemical Testing

Group:- Pollution & Environment

Sr. No.	Test Done	Result	Unit	Test Method
01	pH	6.0	-	IS 3025 (part 11)
02	TDS	44	mg/l	IS 3025 (part 16)
03	Oil & Grease	<1.0	mg/l	IS 3025 (part 39)
04	Total Suspended Solids	<1.0	mg/l	IS 3025 (Part 17)
05	Phosphates	<0.1	mg/l	APHA 4500-P C
06	COD	<10.00	mg/l	APHA - (5220 B)
07	BOD 3 days at 27°C	<4.00	mg/l	IS 3025 (Part 44)
08	Chloride (as Cl)	12.00	mg/l	APHA 4500-Cl^- B
09	Sulphate as SO_4	1.90	mg/l	IS 3025 (part 24)

End of Report

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TC-5931

TEST REPORT — **Report Date:- 25/01/2021**

Test Report No: - FHHL/2101/WW/049-10 — Page No. :- **1 of 1**

Customer Name & Address :- **Cummins India Ltd.**
Dahanukar Colony, Kothrud,
Pune-411038.

Customer Reference Letter No. & date:- **16/01/2021**

Description of Sample :-- Waste water Sample

a] Sample Marked As :- **R.O. Permeate Water**

b] Packing: - Plastic Can

c] Quantity of sample received: - 1 Lit. × 3 No's

d] Preservation:- At 2° to 8° C

e] Sample collected by :- Lab Representative

Date of Sample Receipt in the Lab. :- **16/01/2021**

Date(s) of testing :- 16/01/2021 to 25/01/2021

Location of test performance :- In-house

Discipline:- Chemical Testing

Group:- Pollution & Environment

Sr. No.	Test Done	Result	Unit	Test Method
01	pH	6.4	-	IS 3025 (part 11)
02	TDS	60	mg/l	IS 3025 (part 16)
03	Oil & Grease	<1.0	mg/l	IS 3025 (part 39)
04	Total Suspended Solids	1.0	mg/l	IS 3025 (Part 17)
05	Phosphates	<0.1	mg/l	APHA 4500-P C
06	COD	<10.00	mg/l	APHA - (5220 B)
07	BOD 3 days at 27°C	<4.00	mg/l	IS 3025 (Part 44)
08	Chloride (as Cl)	5.00	mg/l	APHA 4500-Cl^- B
09	Sulphate as SO_4	4.00	mg/l	IS 3025 (part 24)

End of Report

SRaskar
Checked by

FHHL

Sushma Thorat
Authorised Signatory
Chemical Testing

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TC-5931

TEST REPORT	Report Date:- 27/08/2021
Test Report No: - FHHL/2108/WW/063-9	Page No. :- 1 of 1
Customer Name & Address :- **Cummins India Ltd.** Dahanukar Colony, Kothrud, Pune-411038.	Customer Reference Letter No. & date:- **19/08/2021**

Description of Sample :-- Waste Water Sample
a] Sample Marked As :- **STP Outlet Water**
b] Preservation: - At 2° to 8° C
c] Packing: - Plastic Bottle
d] Quantity of sample received: - 1 Lit. × 3 No's
e] Sample collected by :- Lab Representative

Date of Sample Receipt in the Lab. :- **19/08/2021**
Date(s) of testing :- **19/08/2021 to 27/08/2021**
Location of test performance :- In-house
Discipline:- Chemical Testing
Group:- Pollution & Environment

Sr. No.	Test Done	Result	Unit	Requirements as per MPCB	Test Method
01.	Total Suspended Solids	<1.0	mg/l	50, Max	IS 3025 (Part 17)
02.	COD	32.24	mg/l	100, Max	APHA - (5220 B)
03.	BOD 3 days at 27°C	10.0	mg/l	30, Max	IS 3025 (Part 44)

Remark: - Based upon results of above parameter the water **sample conforms** to the **MPCB** Requirements.

End of Report

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TEST REPORT	Report Date:- 22/07/2021
Test Report No: - FHHL/2105/RD/045-1	Page No. :- 1 of 1
Customer Name & Address :- **Cummins India Ltd.** Dahanukar Colony, Kothrud, Pune-411038.	Customer Reference Letter No. & date:- **06/07/2021**

Description of Sample :-Waste Water Sample

a] Sample Marked As :-- **STP Outlet water (MPCB-JVS)**

b] Preservation:- At 2° to 8° C

d] Packing :- Plastic Can

c] Quantity of sample received :- 1.0L × 3 No's

e] Sample collected by :- Lab Representative

Date of Sample Receipt in the Lab. :- **06/07/2021**

Date(s) of testing :- 06/07/2021 to 22/07/2021

Location of test performance :- In-house

Discipline:- Chemical Testing

Group:- Pollution & Environment

Sr. No	Test Done	Result	Unit	Requirements As Per MPCB	Test Method
01	pH	8.7	-	Not Specified	IS 3025 (part 11)
02	TDS	514	mg/l	Not Specified	IS 3025 (part 16)
03	Oil & Grease	<1.0	mg/l	Not Specified	IS 3025 (part 39)
04	Total Suspended Solids	1.0	mg/l	50, Max	IS 3025 (Part 17)
05	Phosphates	<0.1	mg/l	Not Specified	APHA 4500 P-C
06	COD	<10.00	mg/l	100, Max	APHA (5220 B)
07	BOD 3 days at 27°C	<4.00	mg/l	30, Max	IS 3025 (Part 44)
08	Chloride (as Cl)	114.96	mg/l	Not Specified	APHA 4500-Cl^- B
09	Sulphate as SO_4	48.00	mg/l	Not Specified	IS 3025 (part 24)

Remark: - Based upon results of above parameters the water **sample conforms** to the **MPCB** requirement.

End of Report.

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• Environmental Monitoring & Analysis • Packaging Material

Laboratory Recognized by Ministry of Environment Forest & Climate Change (MoEF & CC) under EPA 1986 Vide Gazette of India Notification S.O.1953 (E), dated 02/06/2016. & Letter No. Q-15018/17/2019-CPW dated 23/12/2020
Recognition valid upto 29/03/2024 • ISO 14001:2015. • ISO 45001 : 2018.

TEST REPORT — **Report Date:- 22/07/2021**

Test Report No: - FHHL/2105/RD/044-2 — Page No. :- **1 of 1**

Customer Name & Address :- **Cummins India Ltd.**
Dahanukar Colony, Kothrud,
Pune-411038.

Customer Reference Letter No. & date:- **06/07/2021**

Description of Sample :-- Waste Water Sample
a] Sample Marked As :- **STP Outlet Water**
b] Preservation: - At 2° to 8° C
c] Packing: - Plastic Bottle
d] Quantity of sample received: - 1 Lit. × 3 No's
e] Sample collected by :- Lab Representative

Date of Sample Receipt in the Lab. :- **06/07/2021**
Date(s) of testing :- 06/07/2021 to 22/07/2021

Location of test performance :- In-house

Discipline:- Chemical Testing

Group:- Pollution & Environment

Sr. No.	Test Done	Result	Unit	Requirements as per MPCB	Test Method
01.	Total Suspended Solids	3.0	mg/l	50, Max	IS 3025 (Part 17)
02.	COD	<10.00	mg/l	100, Max	APHA - (5220 B)
03.	BOD 3 days at 27°C	<4.00	mg/l	30, Max	IS 3025 (Part 44)

Remark: - Based upon results of above parameter the water **sample conforms** to the **MPCB** Requirements.

End of Report

Checked by

SINCE 1998 FHHL

Sachin Bakde
Authorised Signatory
Chemical Testing

FOOD HYGIENE & HEALTH LABORATORY

FHHL

Testing of • Food & Processed Food Products • Water
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Recognition valid upto 29/03/2024 • ISO 14001:2015. • ISO 45001 : 2018.

TEST REPORT **Report Date:- 28/06/2021**

Test Report No: - FHHL/2106/RD/182-2 Page No. :- **1 of 1**

Customer Name & Address :- **Cummins India Ltd.**
Dahanukar Colony, Kothrud,
Pune-411038.

Customer Reference Letter No. & date:- **19/06/2021**

Description of Sample :-- Waste Water Sample
a] Sample Marked As :- **STP Outlet Water**
b] Preservation: - At 2° to 8° C
c] Packing: - Plastic Bottle
d] Quantity of sample received: - 1 Lit. × 3 No's
e] Sample collected by :- Lab Representative

Date of Sample Receipt in the Lab. :- **19/06/2021**
Date(s) of testing :- **19/06/2021 to 28/06/2021**
Location of test performance :- In-house
Discipline:- Chemical Testing
Group:- Pollution & Environment

Sr. No.	Test Done	Result	Unit	Requirements as per MPCB	Test Method
01.	Total Suspended Solids	<1.0	mg/l	50, Max	IS 3025 (Part 17)
02.	COD	<10.00	mg/l	100, Max	APHA - (5220 B)
03.	BOD 3 days at 27°C	<4.00	mg/l	30, Max	IS 3025 (Part 44)

Remark: - Based upon results of above parameter the water **sample conforms** to the **MPCB** Requirements.

End of Report

Checked by

SINCE 1998 FHHL

Seema Bakde
Authorised Signatory
Chemical Testing

FOOD HYGIENE & HEALTH LABORATORY

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Recognition valid upto 29/03/2024 • ISO 14001:2015. • ISO 45001 : 2018.

TC-5931

TEST REPORT — **Report Date:- 07/06/2021**

Test Report No: - FHHL/2105/WW/076-2 — Page No. :- **1 of 1**

Customer Name & Address :- **Cummins India Ltd.**
Dahanukar Colony, Kothrud,
Pune-411038.

Customer Reference Letter No. & date:- **26/05/2021**

Description of Sample :-- Waste Water Sample
a] Sample Marked As :- **STP Outlet Water**
b] Preservation: - At 2° to 8° C
c] Packing: - Plastic Bottle
d] Quantity of sample received: - 1 Lit. × 3 No's
e] Sample collected by :- Lab Representative

Date of Sample Receipt in the Lab. :- **26/05/2021**

Date(s) of testing :- **26/05/2021 to 07/06/2021**

Location of test performance :- In-house

Discipline:- Chemical Testing

Group:- Pollution & Environment

Sr. No.	Test Done	Result	Unit	Requirements as per MPCB	Test Method
01.	Total Suspended Solids	<1.0	mg/l	50, Max	IS 3025 (Part 17)
02.	COD	11.00	mg/l	100, Max	APHA - (5220 B)
03.	BOD 3 days at 27°C	<4.00	mg/l	30, Max	IS 3025 (Part 44)

Remark: - Based upon results of above parameter the water **sample conforms** to the **MPCB** Requirements.

End of Report

Checked by

SINCE 1998 FHHL

Seema Bakde
Authorised Signatory
Chemical Testing

FHHL
& HEALTH LABORATORY
Testing of • Food & Processed Food Products • Water
• Environmental Monitoring & Analysis • Packaging Material

Laboratory Recognized by Ministry of Environment Forest & Climate Change (MoEF & CC) under EPA 1986 Vide Gazette of India Notification S.O.1953 (E), dated 02/06/2016. Recognition valid upto 29/03/2021 • ISO 14001:2015. • OHSAS 18001:2007.

TC-5931

TEST REPORT	Report Date:- 24/03/2021
Test Report No: - FHHL/2103/WW/059-11	Page No. :- **1 of 1**
Customer Name & Address :- **Cummins India Ltd.** Dahanukar Colony, Kothrud, Pune-411038.	Customer Reference Letter No. & date:- **13/03/2021**

Description of Sample :-- Waste Water Sample
a] Sample Marked As :- **STP Outlet Water**
] Preservation: - At 2° to 8° C
c] Packing: - Plastic Bottle
d] Quantity of sample received: - 1 Lit. × 3 No's
e] Sample collected by :- Lab Representative

Date of Sample Receipt in the Lab. :- **13/03/2021**
Date(s) of testing :- **13/03/2021 to 24/03/2021**
Location of test performance :- In-house
Discipline:- Chemical Testing
Group:- Pollution & Environment

Sr. No.	Test Done	Result	Unit	Requirements as per MPCB	Test Method
01.	Total Suspended Solids	<1.0	mg/l	50, Max	IS 3025 (Part 17)
02.	COD	12.00	mg/l	100, Max	APHA - (5220 B)
03.	BOD 3 days at 27°C	4.8	mg/l	30, Max	IS 3025 (Part 44)

Remark: - Based upon results of above parameter the water **sample conforms** to the **MPCB** Requirements.

nd of Report

Checked by

SINCE 1998 FHHL

Sushma Tapa
Assistant Secretary
Testing

& HEALTH LABORATORY

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TC-5931

TEST REPORT — **Report Date:- 23/02/2021**

Test Report No: - FHHL/2102/WW/045-3 — Page No. :- **1 of 1**

Customer Name & Address :- **Cummins India Ltd.**
Dahanukar Colony, Kothrud,
Pune-411038.

Customer Reference Letter No. & date:- **13/02/2021**

Description of Sample :-- Waste Water Sample

a] Sample Marked As :- **STP Outlet Water**
b] Preservation: - At 2° to 8° C
c] Packing: - Plastic Bottle
d] Quantity of sample received: - 1 Lit. × 3 No's
e] Sample collected by :- Lab Representative

Date of Sample Receipt in the Lab. :- **13/02/2021**
Date(s) of testing :- **13/02/2021 to 23/02/2021**
Location of test performance :- In-house
Discipline:- Chemical Testing
Group:- Pollution & Environment

Sr. No.	Test Done	Result	Unit	Requirements as per MPCB	Test Method
01.	Total Suspended Solids	<1.0	mg/l	50, Max	IS 3025 (Part 17)
02.	COD	20.80	mg/l	100, Max	APHA - (5220 B)
03.	BOD 3 days at 27°C	7.00	mg/l	30, Max	IS 3025 (Part 44)

Remark: - Based upon results of above parameter the water **sample conforms** to the **MPCB** Requirements.

End of Report

Checked by

SINCE 1998 FHHL

Seema Bakde
Authorised Signatory
Chemical Testing

TRUE COPY ADVOCATE

ANNEXURE-R-4

By Hand/By R.P.A.D

December 20, 2018

The Sub-Regional Officer
Maharashtra Pollution Control Board
Jog Centre, 2nd Floor
Wakdewadi, Pune-411 003.

Kind Attn: Mr. Nitin Shinde

Sub: Upgradation of Existing Effluent Treatment Plant

Cummins India Ltd, S. No.31/, 3 To 6, 31/70, 30/5, 32, 35/1, 2, 37, 41 To 45, Dahanukar Colony, Kothrud, Haveli, Pune – 411038 ("Cummins")

Ref: 1. Discussion with Mr. Nitin Shinde, dated 5th October 2018 and 27th November 2018 regarding Effluent Treatment Plant ("ETP") Upgradation

Dear Sir,

With reference to the subject-matter and the above referred discussion, it was suggested by your good offices to do treatability study before finalization of the upgradation scheme. Accordingly, we would like to mention that we have carried out the treatability study at the supplier end.

During the discussion with your good offices regarding the results of the treatability study, it was concluded that anaerobic treatment is not feasible and Cummins will move forward with its preliminary system that is in existence.

In connection with above, we wish to inform you that we are in the process of initiating the ETP upgradation of our existing ETP with advance technology that will meet the consent requirement of maximum recycle and reuse of the treated effluent and to tune with new emerging regulation of "Zero Liquid Discharge" (ZLD). This advance technology will help us to improve the waste water quality for maximum recycling of the wastewater for the industrial process purpose.

A copy of the process details and layout are attached herewith for your ready reference.

Kindly request you to take a note of our submission.

Thanking you.
Yours truly,
For **Cummins India Limited**

Rajendra S Kulkarni
(Factory Manager)

Encl: Annexure 1

Received
SR
21/12/18
for Clerk
Regional Office
M.P.C.B. Pune

Cummins India Limited
Registered Office
Cummins India Office Campus
Tower A, 5th Floor, Survey No. 21, Balewadi
Pune 411 045 Maharashtra, India
Phone +91 20 67067000
Fax +91 20 67067015
cumminsindia.com
CIN : L29112PN1962PLC012276

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ADVOCATE