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

Original Application No. 180 of 2024

Tribunal on its own motion - SUO MOTU
based on the news item Published in
Dinamalar, Chennai Edition dt 20.05.2024
titled "A Fire at a Chemical waste dump
engulfed villages with toxic fumes".

And

Tamil Nadu Pollution Control Board,
Through its Member Secretary,
Chennai and
Ors. ...Respondents.

INDEX

S.No	Description	Page No.
1.	REPORT FILED ON BEHALF OF THE FIRST RESPONDENT - TAMIL NADU POLLUTION CONTROL BOARD	1 - 10
2.	ANNEXURES	11 - 66

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

BEFORE THE NATIONAL GREEN TRIBUNAL, SOUTHERN ZONE,

CHENNAI

Original Application No.180 of 2024

IN THE MATTER OF:

Tribunal on its own motion - SUO MOTU
based on the news item Published in
Dinamalar, Chennai Edition dt 20.05.2024
titled "A Fire at a Chemical waste dump
engulfed villages with toxic fumes".

And

Tamil Nadu Pollution Control Board,
Through its Member Secretary,
Chennai and Ors. ...Respondents.

REPORT FILED ON BEHALF OF THE FIRST RESPONDENT

- TAMIL NADU POLLUTION CONTROL BOARD.

I, M.Vijayalakshmi, D/o. K.R.Muthaiah, aged about 59 years, having office at No.76, Mount Salai, Guindy, Chennai-600 032, do hereby solemnly affirm and sincerely stated as follows:-

2. I submit that I am working as the Additional Chief Environmental Engineer, Tamil Nadu Pollution Control Board, Chennai and I am authorised to file this report on behalf of the first respondents, (TNPCB) and as such I am well

M. Vijayalakshmi 22/10/2024
ADDITIONAL CHIEF ENVIRONMENTAL ENGINEER
TAMIL NADU POLLUTION CONTROL BOARD
No.76, MOUNT SALAI, GUINDY,
CHENNAI-600 032.

acquainted with the facts of the case from the office records available in our office.

3. It is submitted that on 28.5.2024, the Hon'ble National Green Tribunal (SZ), Chennai has taken as a Suo Mottu based on the News Item published in Tamil Daily viz., 'Dinamalar', Chennai Edition dated 20.05.2024 under the caption "A fire at a Chemical waste dump engulfed villages with toxic fumes" alleging that on 19.05.2024 at around 2:00 p.m., a heap of chemical waste caught fire at a toxic waste management plant viz., ReSustainable IWM Solutions Limited which is functioning at SIPCOT premises in Gummidipoondi. On the same day, the Hon'ble Tribunal has directed the first respondent - (Tamil Nadu Pollution Control Board) to file a report, after making a spot inspection and as per the direction the report is submitted herein.

4. It is submitted that the Common Hazardous Waste Treatment and Disposal Facility of M/s. RE Sustainability IWM Solutions Limited (Formerly Tamil Nadu Waste Management Limited) located at Plot Nos. 1 to 33 & 124 to 150, SIPCOT Industrial Complex, Gummidipoondi, Pappankuppam Village, Gummidipoondi Taluk and Tiruvallur District is in existence since 2007 carrying out the management of Industrial Hazardous Waste through Secure Landfill and Incineration. It is submitted that the unit has earlier obtained Environmental Clearance for their proposed expansion vide F.No. 10-43/2018-IA-lll, Ministry of Environment, Forest and Climate Change (IA.lll Section), Government of India, dated 16.11.2018 for its expansion and subsequently obtained Consent to Establish for Expansion vide Board's Proceedings dated 10.11.2020.

M. Vijayalakshmi 22/11/2024

ADDITIONAL CHIEF ENVIRONMENTAL ENGINEER
TAMIL NADU POLLUTION CONTROL BOARD
No.76, MOUNT SALAI, GUINDY,
CHENNAI-600 032.

5. It is submitted that the said unit obtained consent to operate for expansion

vide Proceeding dated:14.12.2022 with validity up to 31.03.2027 (Enclosed as Annexure- I) for Secured Landfill (SLF) & Landfill After Treatment (LAT) Waste 300000 TPA, Alternate Fuel and Raw Material Facility (AFRF) of 50000 TPA and Common Incinerator for Hazardous Wastes and Biomedical Waste 1.5 TPH and to discharge Sewage of 0.7 KLD on their own land and the leachate generated from the Secured land Fills and the Bleed Off from the scrubber provided with the Incinerator, to the tune of 42 KLD is disposed through Agitated Thin Film Drier (ATFD) and Spray Dried in the incinerator, for quenching. For the control of the air pollution, the Incinerator is provided with Spray dryer, Multi Cyclones, Lime & Activated Carbon Dry Scrubber, Bag Filters, Wet Alkali Scrubber followed by a Stack, the 3T/hour Boiler provided to meet the steam requirements for the Agitated Thin Film Drier is provided with Dust collectors followed by Stack, and the 500 KVA Capacity Diesel Generator Set is provided with Acoustic enclosures and stack.

6. It is submitted that there is no direct condition imposed in the consent orders to address the measures to be taken to avert fire accident. However, one condition prescribed. Both in the consent orders under the Water Act (Additional Condition No: 11) and under the Air Act (Additional Condition No.: 9), viz. "The unit shall not mix non compatible wastes together" is aiming the address to possibility of various haphazard, including the

M. Vijayalakshmi 22/12/2024

ADDITIONAL CHIEF ENVIRONMENTAL ENGINEER
TAMIL NADU POLLUTION CONTROL BOARD
No.76, MOUNT SALAI, GUINDY,
CHENNAI-600 032.

occurrence of fire. In the instant case, the above condition was not found to have deviated.

7. It is submitted that the incinerator is having a designed Capacity of

1.5T/hour, which could be used for the incineration of both hazardous Wastes as well as Biomedical Wastes. However, in this incinerator, incineration of hazardous waste alone is carried out. Biomedical Waste is disposed in the Common Bio-Medical Waste Treatment Storage and Disposal Facility, which is located near to this facility has obtained separate consent orders.

8. It is submitted that the facility, so far developed 11 Cells for the disposal of Hazardous Waste, of which Cells 1,2,3,4,5,6,7 and 8 have reached their designed volumes/capacities and hence closed. Presently the Facility is operating Cells 8A & 9. Cell No.: 10 are under establishment. Of the 8 Cells, which have reached their design capacity, Cells 1,2,3,4, and 6 are capped and closed. In the case of Cells 7 & 8 the Permanent Capping is under progress, after the maturation period is over and the works related to soil covering is to be carried out. In the case of Cell 4, the consolidation work is commenced and the permanent capping would be carried out after the consolidation work is completed. In the case of functional cells and the cells where waste consolidation is carried out, HDPE Liners are used to cover the Cells, during the rains and during the monsoon.

9. It is submitted that the unit had stocked the waste materials such as scraped HDPE Liners, scrapped geo-textiles, cut liners, HDPE liners removed from the Cells used for waste covering, scrapped HDPE Drums and Fiber

M. Vijayalakshmi 22/2/2024
ADDITIONAL CHIEF ENVIRONMENTAL ENGINEER
TAMIL NADU POLLUTION CONTROL BOARD
No.76, MOUNT SALAI, GUINDY,
CHENNAI-600 032.

Reinforced Plastic waste in the Southern side of Cell1, over an area of around 1400 sq.m., weighing about 60 MT in total. It is informed that the wastes are intended to be shredded and sent to Cement Kilns for Co-Processing/ to be used as Alternate Fuel Resource, in view of the highly calorific value of these wastes.

10. It is submitted that on 19.05.2024, at around 1.00 p.m., the above stored materials got fired and was noticed by the employee and tried to douse the fire with Dry Chemical Powder. Since the fire was at the center of the stored area, and spreading towards the periphery, the location at which the flames are active was not accessible, and hence the fire hydrant was deployed to extinguish the fire. Meanwhile, the fire started spreading and hence the services of Tamil Nadu Fire and Rescue Services Department at SIPCOT Industrial Complex was sought at around 2.10 p.m., Three Fire Fighting teams along with their Fire Fighting Engines arrived shortly and started extinguishing fire from three directions. The Assistant Engineer, Tamil Nadu Pollution Control Board also reached the spot at about 4.15 p.m.

11. It is submitted that as the materials got fire are of polymers having high molecular weight, a situation of oxygen short supply condition arose, resulted in thick dense black. The smoke was spreading towards North East direction. The Fire Engines were controlling the fire using water from three locations. The fire engines were continuously replenished with the water stored in water storage tank of the facility and also sourced from the SIPCOT Industrial Estate water supply system through metered pipeline. As the fire was very intense, the same could not be doused completely with water alone. Hence, foam was also mixed to extinguish the fire. Even though, this attempt yielded some positive impact, the flames reappears

M. Vijayalakshmi 22/8/2024
ADDITIONAL CHIEF ENVIRONMENTAL ENGINEER
TAMIL NADU POLLUTION CONTROL BOARD
No.76, MOUNT SALAI, GUINDY,
CHENNAI-600 032.

again once there is wind action, thereby the Oxygen availability increases. As the fire was not able to be contained with the help of water and the Dry Chemical Powder (DCP) and Aqueous Film Forming Foam (AFFF), and as personnel could not access the point in which fire flames, it was decided that in order to cut the Oxygen availability, thereby dousing the flames/fires is the only way to ensure that the flames/fire did not re-appear, it was decided to spread sand over burning material so as to cut off oxygen supply, thereby containing the fire. This approach yielded fairly good results, even though the progress was not anticipated.

12. It is submitted that the sand kept available for the construction of Cell 10 was lifted through earth movers and filled near the firing area using tipper lorries and four earth movers were used to dump/spread the sand over the burning material to suppress the smoke and fire. This attempt started giving some positive results. The spreading/dumping of sand was carried out from the periphery, towards the center, and because of that the fire and smoke came to be reduced and controlled to the tune of over 90% by 8.30 p.m.,, and the dumping/spreading soil over the center of fire continued. The fire and smoke were completely extinguished by around 10.30 p.m., and sprinkling of water was continued over the sand/soil, so as to cool the burnt materials and no further fire could emanate. After making sure that the fire and smoke has been extinguished, then only the Assistant Engineer of Tamil Nadu Pollution Control Board left the Facility.

13. It is submitted that because of the incidence and the consequent spreading of smoke, no person injured or subjected to any physical discomfort, or no one has reported to have any health issues. However, the Public from the

M. Vijayalakshmi 22.10.2024

ADDITIONAL CHIEF ENVIRONMENTAL ENGINEER
TAMIL NADU POLLUTION CONTROL BOARD
No.76, MOUNT SALAI, GUINDY,
CHENNAI-600 032.

nearby habitations informed that the black smoke deposited at their residences. The actual cause for the fire could not be confirmed. However, it is ascertained from the people present at the site, during the incident, that the type of waste present contains scrap FRP material. There is possibility that the volatile matter present in the adhesive used in the FRP got vaporized, led to spontaneous ignition in view of the very high temperature prevailed due to very hot climate, and led to fire. There is no material to presume that the incident was manmade.

14. It is submitted that even though Fire and Rescue Services Department is the competent agency to assess and comment on the adequacy of measures for the mitigation and containment of fire accidents, it is felt that the longer time taken to put off of the fire, of about 9 hours, suggest that if the Facility is equipped with more measures for the containment, the fire could have controlled and put-off early. Therefore, the Facility Authorities present were advised to recommence the activities/ operation after carrying out as Assessment of the Fire mitigation and control measures installed in the facility, by engaging Experts in this field and in consultation with the Fire and Rescue Services Department, implement the augmentation/ recommendation of the Assessment Report. They agreed for the same.

15. It is submitted that the Facility was inspected on 20.05.2024, 21.05.2024 and 22.05.2024, and ensured that the facility is not operated. It is also observed that the area where the fire incidence occurred is completely covered with the soil, and no smoke or any such thing is coming out of the heap. It is informed that the same will be opened in due course of time, the

M. Vijayalakshmi 22/6/2024
ADDITIONAL CHIEF ENVIRONMENTAL ENGINEER
TAMIL NADU POLLUTION CONTROL BOARD
No.76, MOUNT SALAI, GUINDY,
CHENNAI-600 032.

ash would be collected and land filled and the un-burnt material, if any, would be further processed and send to cement industries for co-processing.

16. It is submitted that the values of NOx and PM_{10}, recorded in the Continuous Ambient Air Quality Monitoring Station maintained by the Facility during the occurrence of fire, indicated that ambient air quality in the vicinity of the Facility (Hourly average values) exceeded the standards prescribed (daily average) during occurrence of fire.

17. It is submitted that, in view of the incidence occurred at the Facility on 19.05.2024, thereby resulting in exceedance of the standards prescribed, as shown above, is considered to be a violation of the provisions of Section 22 of the Air (prevention and Control of Pollution) Act, 1981, as amended, wherein it states that *"No person operating any industrial plant, in any air pollution control area shall discharge or cause or permit to be discharged the emission of any air pollutant in excess of the standards laid down by the State Board under clause (9) of sub-section (1) of section 17".*

18. It is submitted that for the deficiency observed and for the non-compliance of the provisions of Section 22 of the Air (prevention and Control of Pollution) Act, 1981, as amended, a Show-Cause Notice was issued to the unit of M/s. RE Sustainability WM Solutions Limited vide proceedings dated 21.05.2024. (Enclosed as Annexure –II). Further, the unit was also advised to resume the operation, only after augmenting their preparedness to avert such incidence in future.

M. Uthayalakshmi 22/10/2024

ADDITIONAL CHIEF ENVIRONMENTAL ENGINEER
TAMIL NADU POLLUTION CONTROL BOARD
No.76, MOUNT SALAI, GUINDY,
CHENNAI-600 032.

19. It is submitted that the Hourly average levels of NOx and PM_{10}, recorded in the Continuous Ambient Air Quality Station maintained at the Facility, were found to be over and above the daily average values prescribed; However, the daily average values, have not exceeded the standards prescribed. The subsequent values showed that the values are normal, and there was not exceedance. Presently the Facility is neither receiving the wastes nor carrying out any waste processing and disposal activities. The Facility would be monitored continuously and it would be ensured that the augmentation on the fire mitigation and containment measures would be in place.

20. It is submitted that the unit of M/s. RE Sustainability WM Solutions Limited submitted its reply for the Show Cause Notice issued by the Board on 21.05.2024 (Enclosed as Annexure - III) and stated that "the unit takes this incident very seriously and is committed to taking proactive steps to prevent any such recurrence. We have entrusted the fire safety adequacy assessment to M/s. FET (Fire, Explosion, and Toxics) Solutions Pvt Ltd which is a premier, Global Safety Consulting and Training firm that specializes in Organizational, process and Behaviour Safety working in Hazard Identification, Risk Assessment, Risk Management, and Safety Culture transformation" and expecting the recommendation by 1.6.2024 and we will do the needful on a priority basis".

21. It is submitted that the report was submitted by the M/s. FET (Fire, Explosion, and Toxics) Solutions Pvt Ltd on 7.7.2024 to the Unit on fire adequacy audit and fire load calculation. (Enclosed as Annexure - IV).

M. Vijayalakshmi 22/10/2024

ADDITIONAL CHIEF ENVIRONMENTAL ENGINEER
TAMIL NADU POLLUTION CONTROL BOARD
No.76, MOUNT SALAI, GUINDY,
CHENNAI-600 032.

22. It is submitted that, based on the study report, the addition of hardware recommended for firefighting is put in place, improvements on procedures recommended are enforced, and the periodical training/drill to workmen are being followed. The same were verified and confirmed during subsequent inspections. Therefore, it is decided not to proceed further on the show cause notice issued.

Therefore, it is humbly prayed that this Hon'ble National Green Tribunal (Southern Zone) may be pleased to pass such order or further or other orders as this Hon'ble Tribunal may deem fit and proper in the facts and circumstances of this case and thus render justice.

M. Vijayalakshmi 22/10/2024
ADDITIONAL CHIEF ENVIRONMENTAL ENGINEER
TAMIL NADU POLLUTION CONTROL BOARD
No.76, MOUNT SALAI, GUINDY,
CHENNAI-600 032.

VERIFICATION

I, M.Vijayalakshmi, D/o. K.R.Muthaiah, working as Additional Chief Environmental Engineer, having office at No. 76, Mount Salai, Guindy, Chennai - 600 032, do hereby submit that the above contents are true to the best of my knowledge and belief through records.

M. Vijayalakshmi 22/10/2024
ADDITIONAL CHIEF ENVIRONMENTAL ENGINEER
TAMIL NADU POLLUTION CONTROL BOARD
No.76, MOUNT SALAI, GUINDY,
CHENNAI-600 032.

Category of the Industry :

RED

CONSENT ORDER NO. 2207136597157 DATED: 14/12/2022.

PROCEEDINGS NO.T2/TNPCB/F.0086GMP/RL/GMP/W/2022 DATED: 14/12/2022

SUB: Tamil Nadu Pollution Control Board –CONSENT TO OPERATE FOR EXPANSION-I -M/s. RE SUSTAINABILITY IWM SOLUTIONS LIMITED (PHASE I) , S.F.No. Plot No. Plot No. 1 to 33 & 124 to 150, PAPPANKUPPAM villageGummidipoondi Taluk and Tiruvallur District - Consent for the operation of the plant and discharge of sewage and/or trade effluent under Section 25 of the Water (Prevention and Control of Pollution) Act, 1974 as amended in 1988 (Central Act 6 of 1974) – Issued- Reg.

REF: 1. CTE – Expansion PROCEEDINGS NO.T2/TNPCB/F.0086GMP/RL/GMP/ W&A/2020 DATED: 10.11.2020
2. Application No. 36597157 dt: 18.02.2022 and resubmitted on 07.11.2022 for CTO Expansion Phase I
3. DEE/GMP IR.No : F.0086GMP/RL/DEE/GMP/2022 dated 07.11.2022
4. Minutes of CCC item No.: 302-30 dt: 07.12.2022

CONSENT TO OPERATE FOR EXPANSION is hereby granted under Section 25 of the Water (Prevention and Control of Pollution) Act, 1974 as amended in 1988 (Central Act, 6 of 1974) (hereinafter referred to as "The Act") and the rules and orders made there under to

Regional Manager,
M/s . RE SUSTAINABILITY IWM SOLUTIONS LIMITED (PHASE I)
S.F No.Plot No. Plot No. 1 to 33 & 124 to 150,
PAPPANKUPPAM Village,
Gummidipoondi Taluk,
Tiruvallur District.

Authorising the occupier to make discharge of sewage and /or trade effluent.

This is subject to the provisions of the Act, the rules and the orders made there under and the terms and conditions incorporated under the Special and General conditions stipulated in the Consent Order issued earlier and subject to the special conditions annexed.

This CONSENT is valid for the period ending March 31, 2027

For Member Secretary,
Tamil Nadu Pollution Control Board,
Chennai

To
Regional Manager,
M/s.RE SUSTAINABILITY IWM SOLUTIONS LIMITED (PHASE I),
Re Sustainability IWM Solutions Limited,
LEVEL -4. DIAMOND DUNE,

323, POONAMALLEE HIGH ROAD,

CHENNAI - 600 029,

Pin: 600029

Copy to:

1.The Commissioner, GUMMUDIPOONDI-Panchayat Union, Gummidipoondi Taluk, Tiruvallur District .

2. The District Environmental Engineer, Tamil Nadu Pollution Control Board, GUMMIDIPOONDI.

3. The JCEE-Monitoring, Tamil Nadu Pollution Control Board, Chennai.

4. File

SPECIAL CONDITIONS

1. This consent to operate for Expansion is valid for operating the facility for the manufacture of products (Col. 2) at the rate (Col. 3) mentioned below. Any change in the products and its quantity has to be brought to the notice of the Board and fresh consent has to be obtained.

Sl. No.	Description	Quantity	Unit
	Product Details		
1.	Secured Landfill (SLF) & Landfill After Treatment (LAT) Waste	300000	TPA
2.	Alternate Fuel and Raw Material Facility (AFRF)	50000	TPA
3.	Common Incinerator for Hazardous Wastes and Biomedical Waste	1.5	TPH

2. This consent to operate for Expansion is valid for operating the facility with the below mentioned permitted outlets for the discharge of sewage/trade effluent. Any change in the outlets and the quantity has to be brought to the notice of the Board and fresh consent has to be obtained.

Outlet No.	Description of Outlet	Maximum daily discharge in KLD	Point of disposal
Effluent Type : Sewage			
1.	Sewage	0.7	On Industrys own land
Effluent Type : Trade Effluent			
1.	Landfill Leachate & Incinerator Scrubber bleed	42.0	ATFD & Incinerator Spray dryer

3. The effluent discharge shall not contain constituents in excess of the tolerance Limits as laid down hereunder.

Sl. No.	Parameters	Unit	TOLERANCE LIMITS - OUTLETS -Nos				
			Sewage		Trade Effluent		
			1		1		
1.	pH		5.5 to 9		5.5 to 9		
2.	Temperature	oC	-		shall not exceed 5ºC above the receiving water temperature		
3.	Particle size of Suspended solids	-	-		shall pass 850 micron IS sieve		
4.	Total Suspended Solids	mg/l	30		100		
5.	Total Dissolved solids (inorganic)	mg/l	-		2100		
6.	Oil & Grease	mg/l	-		10		
7.	Biochemical Oxygen Demand (3 days at 27oC)	mg/l	20		30		
8.	Chemical Oxygen Demand	mg/l	-		250		
9.	Chloride (as Cl)	mg/l	-		1000		
10.	Sulphates (as SO4)	mg/l	-		1000		
11.	Total Residual Chlorine	mg/l	-		1		
12.	Ammonical Nitrogen (as N)	mg/l	-		50		
13.	Total Kjeldahl Nitrogen (as N)	mg/l	-		100		
14.	Free Ammonia (as NH3)	mg/l	-		5		
15.	Arsenic (as As)	mg/l	-		0.2		
16.	Mercury (as Hg)	mg/l	-		0.01		
17.	Lead (as Pb)	mg/l	-		0.1		
18.	Cadmium(as Cd)	mg/l	-		2		
19.	Hexavalent Chromium (as Cr+6)	mg/l	-		0.1`		
20.	Total Chromium (as Cr)	mg/l	-		2		
21.	Copper (as Cu)	mg/l	-		3		
22.	Zinc (as Zn)	mg/l	-		1		
23.	Selenium (as Se)	mg/l	-		0.05		
24.	Nickel (as Ni)	mg/l	-		3		
25.	Boron (as B)	mg/l	-		2		
26.	Percent Sodium	%	-		-		
27.	Residual Sodium Carbonate	mg/l	-		-		
28.	Cyanide (as CN)	mg/l	-		0.2		
29.	Fluoride (as F)	mg/l	-		2		
30.	Dissolved Phosphates(as P)	mg/l	-		5		
31.	Sulphide (as S)	mg/l	-		2		
32.	Pesticides	mg/l	-				
33.	Phenolic Compounds (as C6H5OH)	mg/l	-		1		
34.	Radioactive materials a) Alpha emitters	micro curie/ml	-		10-7		
35.	Radioactive materials b). Beta emitters	micro curie/ml	-		10-6		

36.	Fecal Coliform	MPN/100ml	-		-		

4. All units of the sewage and Trade effluent treatment plants shall be operated efficiently and continuously so as to achieve the standards prescribed in Sl No.3 above or to achieve the zero liquid discharge of effluent as applicable.

5. The occupier shall maintain the Electro Magnetic Flow Meters/water Meters installed at the inlet of the water supply connection for each of the purposes mentioned below for assessing the quantity of water used and ensuring that such meters are easily accessible for inspection and maintenance and for other purposes of the Act.
   a. Industrial Cooling, Spraying in mine pits or boiler feed.
   b. Domestic purpose.
   c. Process.

6. The occupier shall maintain the Electro Magnetic Flow Meters with computer recording arrangement for measuring the quantity of effluent generated and treated for the monitoring purposes of the Act.

7. Log book for each of the unit operations of ETP have to be maintained to reflect the working condition of ETP along with the readings of the Electro Magnetic Flow Meters installed to assess effluent quantity and the same shall be furnished for verification of the Board officials during inspection.

8. The occupier shall at his own cost get the samples of effluent/surface water/ground water collected in and around the unit by Board officials and analyzed by the TNPC Board Laboratory periodically.

9. Any upset condition in any of the plants of the factory which is, likely to result in increased effluent discharge and result in violation of the standards mentioned in Sl. No.3 above shall be reported to the Member Secretary / Joint Chief Environmental Engineer-Monitoring and the concerned District/Assistant Environmental Engineer of the Board by e-mail immediately and subsequently by Post with full details of such upset condition.

10. The occupier shall always comply and carryout the order/directions issued by the Board in this Consent Order and from time to time without any negligence. The occupier shall be liable for action as per provisions of the Act in case of non compliance of any order/directions issued.

11. The occupier shall develop adequate width of green belt at the rate of 400 numbers of trees per Hectare.

12. The occupier shall provide and maintain rain water harvesting facilities.

13. The occupier shall ensure that there shall not be any discharge of effluent either treated or untreated into storm water drain at any point of time.

14. In the case of zero liquid discharge of effluent units, the occupier shall adhere the following conditions as laid under.

i). The occupier shall ensure zero liquid discharge of effluent, thereby no discharge of untreated / treated effluent on land or into any water bodies either inside or outside the premises at any point of time.

ii) The occupier shall operate and maintain the Zero liquid discharge treatment components comprising of Primary, Secondary and tertiary treatment systems at all times and ensure that the RO permeate/Evaporator condensate shall be recycled in the process and the final RO reject shall be disposed off with the reject management system ensuring zero liquid discharge of effluents in the premises.

iii) The occupier shall operate and maintain the reject management system effectively and recover the salt from the system which shall be reused in the process if reusable or shall be disposed off as ETP sludge.

iv) In case of failure to achieve zero discharge of effluents for any reason, the occupier shall stop its production and operations forthwith and shall be reported to the Member Secretary/Joint Chief Environmental Engineer-Monitoring and the concerned District/Assistant Environmental Engineer of the Board by e-mail immediately and subsequently by Post with full details of such upset condition.

v) The occupier shall restart the production only after ascertaining that the Zero discharge treatment system can perform effectively for achieving zero discharge of effluents.

Special Additional Conditions:

The unit shall obtain No Objection Certificate (NOC) from the Tamil Nadu Bio Diversity Board /National Bio Diversity Authority if the unit is using any Biological resources or knowledge associated thereto as per the provisions of Biological Diversity Act 2002.

Additional Conditions:

1. The unit shall comply with the conditions stipulated in the Environmental Clearance obtained vide Environmental clearance vide F.N0 10-43/2018-IA-III, Ministry of Environment, Forest and Climate Change (IA.III Section) , Government of India, dated 16/11/2018.
2. The unit shall comply with the relevant provisions and guidelines of Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016.
3. The unit shall obtain necessary name change amendment in the Environmental Clearance from MoEF & CC for change in name from M/s Tamilnadu Waste Management Limited to M/s. RE Sustainability IWM Solutions Limited.
4. The unit shall comply the minimal requisite infrastructure facilities & operational controls for Pre-processing facility of hazardous as per Hazardous & Other Waste Management Rules 2016 by CPCB, New Delhi.
5. The facility shall follow the guidelines issued by CPCB during July, 2017 for pre-processing and coprocessing of hazardous and other wastes in cement plants as per HOWM Rules, 2016.
6. The unit shall operate and maintain ATFD for the disposal of the leachate efficiently and continuously. Evaporator condensate shall utilized through spray dryer of common hazardous waste incinerator
7. The unit shall conduct a groundwater pollution assessment study every year through IIT/Madras.
8. The unit shall provide a proper layout for good housekeeping which shall be planned at the initial stage itself.
9. The unit shall ensure that CCTV cameras in the TSDF facility and it shall be connected to the Care Air Centre at Chennai to observe the proper operation of the facility.
10. The unit shall maintain the Storm water runoff drains and Garland drains around the TSDF facility to avoid contamination of water with TSDF.
11. The unit shall not mix non compatible wastes together.
12. The landfill site shall be covered with plastic sheets during monsoon season, to avoid contact of rain water with waste dumped.
13. The unit shall maintain GPS monitoring system to the vehicles to monitor the movement of vehicles
14. The unit shall ensure that the operation of the TSDF shall not attract any type of complaints from the public.
15. The unit shall provide arrangements for mechanical mixing of waste in the stabilization process within 3 months to ensure homogeneous mixings.
16. The unit shall ensure the efficiency of pre-treatment and compatibility before disposal of HW into landfill.
17. The TSDF shall form a group among industries located within 100m (i.e., core zone) of TSDF.
18. The TSDF shall make necessary arrangements to maintain sufficient stock of Personal Protective Equipment (PPE) so as to provide to core zone industries during emergency.

For Member Secretary,
Tamil Nadu Pollution Control Board,
Chennai

GENERAL CONDITIONS

1. The occupier shall make an application along with the prescribed consent fee for grant of renewal of consent at least 60 days before the date of expiry of this Consent Order along with all the required particulars ensuring that there is no change in Production quantity and change in sewage/Trade effluent.
2. This Consent is issued by the Board in consideration of the particulars given in the application. Any change or alteration or deviation made in actual practice from the particulars furnished in the application will also be ground for review/variation/revocation of the Consent Order under Section 27 of the Act and to make such variation as deemed fit for the purpose of the Act.
3. The consent conditions imposed in this order shall continue in force until revoked under Section 27(2) of the Act.
4. After the issue of this order, all the 'Consent to Operate' orders issued previously under Water (Prevention and Control of Pollution) Act, 1974 as amended stands defunct.
5. The occupier shall maintain an Inspection Register in the factory so that the inspecting officer shall record the details of the observations and instructions issued to the unit at the time of inspection for adherence.
6. The occupier shall provide and maintain an alternate power supply along with separate energy meter for the Effluent Treatment Plant sufficient to ensure continuous operation of all pollution control equipments to maintain compliance.
7. The occupier shall provide all facilities to the Board officials for inspection and collection of samples in and around the factory at any time.
8. The occupier shall display the flow diagram of the sources of effluent generation and pollution control systems provided at the ETP site.
9. The solid waste such as sweepings, wastage, package, empty containers, residues, sludge including that from air pollution control equipments collected within the premises of the industrial plant shall be collected in an earmarked area and shall be disposed off properly.
10. The occupier shall collect, treat the solid wastes like food waste, green waste generated from the canteen and convert into organic compost.
11. The occupier shall segregate the Hazardous waste from other solid wastes and comply in accordance with Hazardous Wastes (Management, Handling and Transboundary Movement) Rules, 2008.
12. The occupier shall maintain good house-keeping within the factory premises.
13. All pipes, valves, sewers and drains shall be leak proof. Floor washings shall be admitted into the trade effluent collection system only and shall not be allowed to find their way in storm drains or open areas.
14. The occupier shall ensure that there shall not be any diversion or by-pass of trade effluent on land or into any water sources.
15. The occupier shall ensure that solar Evaporation pans shall be constructed in such a way that the bottom of the solar pan is at least 1 m above the Ground level (if applicable).
16. The occupier shall furnish the following returns in the prescribed formats to the concerned District office regularly.
    a) Monthly water consumption returns of each of the purposes with water meter readings in Form-I on or before 5th of every month.
    b) Yearly return on Hazardous wastes generated and accumulated for the period from 1st April to 31st March in Form–4 before the end of the subsequent 30th June of every year (if applicable).
    c) Yearly Environmental Statement for the period from 1st April to 31st March in Form –V before the end of the subsequent 30th September of every year(if applicable).
17. If applicable, the occupier has to comply with the provisions of Public Liability Insurance Act, 1991 to provide immediate relief in the event of any hazard to human beings, other living creatures/plants and properties while handling and storage of hazardous substances.
18. The issuance of this consent does not authorize or approve the construction of any physical structures or facilities or the undertaking of any work in any natural watercourse or in Government Poromboke lands.
19. The issuance of this Consent does not convey any property right in either real personal property or any exclusive privileges, nor does it authorize any injury to private property or Government property or any invasion of personal rights nor any infringement of Central, State laws or regulation.

20. The occupier shall forth with keep the Board informed of any accident of unforeseen act or event of any poisonous, noxious or polluting matter or emissions are being discharged into stream or well or air as a result of such discharge, water or air is being polluted.

21. If due to any technological improvements or otherwise the Board is of opinion that all or any of the conditions referred to above requires variation (including the change of any treatment system, either in whole or in part) the Board shall, after giving the applicant an opportunity of being heard, vary all or any of such conditions and thereupon the applicant shall be bound to comply with the conditions as so varied.

22. In case there is any change in the constitution of the management, the occupier of the new management shall file fresh application under Water (Prevention and Control of Pollution) Act, 1974, as amended in Form-II alongwith relevant documents of change of management immediately and get the necessary amendment with renewal of consent order.

23. In case there is any change in the name of the company alone, the occupier shall inform the same with relevant documents immediately and get the necessary amendments for the change of name from the Board.

24. The occupier shall display this consent order granted to him in a prominent place for perusal of the inspecting Officers of this Board.

For Member Secretary,
Tamil Nadu Pollution Control Board,
Chennai

Category of the Industry :

RED

CONSENT ORDER NO. 2207236597157 DATED: 14/12/2022.

PROCEEDINGS NO.T2/TNPCB/F.0086GMP/RL//GMP/A/2022 DATED: 14/12/2022

SUB: Tamil Nadu Pollution Control Board –CONSENT TO OPERATE FOR EXPANSION-I -M/s. RE SUSTAINABILITY IWM SOLUTIONS LIMITED (PHASE I) , S.F.No. Plot No. Plot No. 1 to 33 & 124 to 150, PAPPANKUPPAM villageGummidipoondi Taluk and Tiruvallur District - Consent for operation of the plant and discharge of emissions under Section 21 of the Air (Prevention and Control of Pollution) Act, 1981 as amended in 1987 (Central Act 14 of 1981) –Issued- Reg.

REF: 1. CTE – Expansion PROCEEDINGS NO.T2/TNPCB/F.0086GMP/RL/GMP/ W&A/2020 DATED: 10.11.2020
2. Application No. 36597157 dt: 18.02.2022 and resubmitted on 07.11.2022 for CTO Expansion Phase I
3. DEE/GMP IR.No : F.0086GMP/RL/DEE/GMP/2022 dated 07.11.2022
4. Minutes of CCC item No.: 302-30 dt: 07.12.2022

CONSENT TO OPERATE FOR EXPANSION is hereby granted under Section 21 of the Air (Prevention and Control of Pollution) Act, 1981 as amended in 1987 (Central Act 14 of 1981) (hereinafter referred to as "The Act") and the rules and orders made there under to

Regional Manager,
M/s . RE SUSTAINABILITY IWM SOLUTIONS LIMITED (PHASE I)
S.F No.Plot No. Plot No. 1 to 33 & 124 to 150,
PAPPANKUPPAM Village,
Gummidipoondi Taluk,
Tiruvallur District.

Authorizing the occupier to operate the industrial plant in the Air Pollution Control Area as notified by the Government and to make discharge of emission from the stacks/chimneys.

This is subject to the provisions of the Act, the rules and the orders made there under and the terms and conditions incorporated under the Special and General conditions stipulated in the Consent Order issued earlier and subject to the special conditions annexed.

This CONSENT is valid for the period ending March 31, 2027

For Member Secretary,
Tamil Nadu Pollution Control Board,
Chennai

To
Regional Manager,
M/s.RE SUSTAINABILITY IWM SOLUTIONS LIMITED (PHASE I),
Re Sustainability IWM Solutions Limited,
LEVEL -4. DIAMOND DUNE,
323, POONAMALLEE HIGH ROAD,

CHENNAI - 600 029,

Pin: 600029

Copy to:

1.The Commissioner, GUMMUDIPOONDI-Panchayat Union, Gummidipoondi Taluk, Tiruvallur District .

2. The District Environmental Engineer, Tamil Nadu Pollution Control Board, GUMMIDIPOONDI.

3. The JCEE-Monitoring, Tamil Nadu Pollution Control Board, Chennai.

4. File

SPECIAL CONDITIONS

1. This consent to operate for Expansion is valid for operating the facility for the manufacture of products (Col. 2) at the rate (Col. 3) mentioned below. Any change in the products and its quantity has to be brought to the notice of the Board and fresh consent has to be obtained.

Sl. No.	Description	Quantity	Unit
	Product Details		
1.	Secured Landfill (SLF) & Landfill After Treatment (LAT) Waste	300000	TPA
2.	Alternate Fuel and Raw Material Facility (AFRF)	50000	TPA
3.	Common Incinerator for Hazardous Wastes and Biomedical Waste	1.5	TPH

2. This consent to operate for Expansion is valid for operating the facility with the below mentioned emission/noise sources along with the control measures and/or stack. Any change in the emission source/control measures/change in stack height has to be brought to the notice of the Board and fresh consent/Amendment has to be obtained.

I	**Point source emission with stack :**			
Stack No.	**Point Emission Source**	**Air pollution Control measures**	**Stack height from Ground Level in m**	**Gaseous Discharge in Nm3/hr**
1	Incinerator	Spray dryer, Multi Cyclones, Lime & Actvated Carbon scrubber, Bag Filters, Wet Alkali scrubber attached to Chimney	35	22761
2	500 KVA DG Set	Acoustic enclosures with stack	10	303
3	Boiler - 3T/hour for ATFD	Dust collectors with stack	30	29592
II	**Fugitive/Noise emission :**			
Sl. No.	**Fugitive or Noise Emission sources**	**Type of emission**	**Control measures**	
1.	DG Set	Noise	Acoustic enclosures with stack	

3(a). The emission shall not contain constituents in excess of the tolerance limits as laid down hereunder :

Sl. No.	Parameter	Unit	Tolerance limits	(1) (2) (3) (4) (5) (6)

3.(b) The Ambient Air in the industrial plant area shall not contain constituents in excess of the tolerance limits prescribed below.

Sl. No.	Pollutant	Time Weighted Average	Unit	Tolerance Limits	
				Industrial, Residential, Rural and other area	Ecologically Sensitive Area (notified by Central Govt.)
1.	Sulphur Dioxide (SO2)	Annual 24 hours	microgram/m3 microgram/m3	50 80	20 80
2.	Nitrogen Dioxide (NO2)	Annual 24 hours	microgram/m3 microgram/m3	40 80	30 80
3.	Particulate Matter (Size Less than 10 micro M) or PM10	Annual 24 hours	microgram/m3 microgram/m3	60 100	60 100
4.	Particulate Matter (Size Less than 2.5 micro M) or PM2.5	Annual 24 hours	microgram/m3 microgram/m3	40 60	40 60
5.	Ozone (O3)	Annual 24 hours	8 Hours 1 Hour	100 180	100 180
Sl. No.	**Pollutant**	**Time Weighted Average**	**Unit**	**Tolerance Limits**	**Industrial, Residential, Rural and other area** **Ecologically Sensitive Area (notified by Central Govt.)**
6.	Lead (Pb)	Annual 24 hours	microgram/m3 microgram/m3	0.5 1.0	0.5 1.0
7.	Carbon Monoxide (CO)	8 Hours 1 Hour	miligram/m3 miligram/m3	02 04	02 04
8.	Ammonia (NH3)	Annual 24 hours	microgram/m3 microgram/m3	100 400	100 400
9.	Benzene (C6H6)	Annual	microgram/m3	5	5
10.	Benzo(O) Pyrene (BaP) –particulate phase only	Annual	nanogram/m3	01	01
11.	Arsenic (As)	Annual	nanogram/m3	06	06
12.	Nickel (Ni)	Annual	nanogram/m3	20	20

3(c) The Ambient Noise Level in the industrial plant area shall not exceed the limits prescribed below:

Limits in L.eq.-dB(A)	Day Time	Night Time
IndustrialArea	**75**	**70**

4. All units of the Air pollution control measures shall be operated efficiently and continuously so as to achieve the standards prescribed in Sl. No.3 above.
5. The occupier shall not change or alter quality or quantity or the rate of emission or replace or alter the air pollution control equipment or change the raw material or manufacturing process resulting in change in quality and/or quantity of emissions without the previous written permission of the Board.
6. The occupier shall maintain log book regarding the stack monitoring system or operation of the plant or any other particulars for each of the unit operations of air pollution control systems to reflect the working condition which shall be furnished for verification of the Board officials during inspection.

7. The occupier shall at his own cost get the samples of emission/air/noise levels collected and analyzed by the TNPC Board Laboratory once in every 6 months/once in a year/periodically for the parameters as prescribed.
8. Any upset condition in any of the plants of the factory which is likely to result in increased emissions and result in violation of the standards mentioned in Sl.No.3 shall be reported to the Member Secretary / Joint Chief Environmental Engineer-Monitoring and the concerned District/Assistant Environmental Engineer of the Board by e-mail immediately and subsequently by Post with full details of such upset condition.
9. The occupier shall always comply and carryout the order/directions issued by the Board in this Consent Order and from time to time without any negligence. The occupier shall be liable for action as per provisions of the Act in case of non compliance of any order/directions issued.

Special Additional Conditions:

i. The unit shall install the approved retrofit emission control device/equipment with at least 70% Particulate matter reduction efficiency on all DG sets with capacity of 125 KVA and above or otherwise the unit shall be shift to gas based generators within the time frame prescribed in the notification No. TNPCB/Labs/DD(L)02151/2019 dated 10.06.2020 issued by TNPCB.
ii. The unit shall obtain No Objection Certificate (NOC) from the Tamil Nadu Bio Diversity Board /National Bio Diversity Authority if the unit is using any Biological resources or knowledge associated thereto as per the provisions of Biological Diversity Act 2002.

Additional Conditions:

1. The unit shall comply with the conditions stipulated in the Environmental Clearance obtained vide Environmental clearance vide F.N0 10-43/2018-IA-III, Ministry of Environment, Forest and Climate Change (IA.III Section) , Government of India, dated 16/11/2018.
2. The unit shall comply with the relevant provisions and guidelines of Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016.
3. The unit shall operate the Air Pollution Control measures efficiently and continuously to achieve the standards prescribed by the Board.
4. The unit shall ensure that the incinerator stack online monitor and online ambient air quality monitoring stations are always connected to CAC and there shall not be any connectivity problem under any circumstances.
5. The unit shall provide permanent automatic sensing and odour masking system in and around the facility so as to avoid complaint on odour.
6. The unit shall maintain water tanker with sprinkler facility so as to arrest the fugitive emission arises from vehicle movement.
7. The unit shall complete the remaining portion of permanent capping along with grass cover.
8. The units shall carryout the Environment Audit through IIT/Madras every year and furnish the report.
9. The unit shall not mix non compatible wastes together.
10. The landfill site shall be covered with plastic sheets during monsoon season, to avoid contact of rain water with waste dumped.
11. The unit shall provide GPS monitoring system to the vehicles to monitor the movement of vehicles.
12. The unit shall ensure that the operation of the TSDF shall not attract any type of complaints from the public.
13. The unit shall maintain good relation with neighbouring industries and form a group to take over any contingencies.
14. The unit shall ensure that all the internal roads leading to newly established Landfill shall be asphalted or concreted so as to prevent the fugitive emission due to vehicle movement.
15. The unit shall improve the green belt around the periphery in the northern and western directions.
16. The unit shall not undertake the management of biomedical wastes until the BWWM facility is established for the same is completed.

For Member Secretary,
Tamil Nadu Pollution Control Board,
Chennai

GENERAL CONDITIONS

1. The occupier shall make an application along with the prescribed consent fee for grant of renewal of consent at least 60 days before the date of expiry of this Consent Order along with all the required particulars ensuring that there is no change in production quantity and emission.
2. This Consent is given by the Board in consideration of the particulars given in the application. Any change or alteration or deviation made in actual practice from the particulars furnished, in the application will also be ground for review/variation/revocation of the Consent Order under Section 21 of the Act.
3. The conditions imposed shall continue in force until revoked under Section 21 of the Act.
4. After the issue of this order, all the 'Consent to Operate' orders issued previously under Air (Prevention and Control of Pollution) Act, 1981 as amended stands defunct.
5. The occupier shall maintain an Inspection Register in the factory so that the inspecting officer shall record the details of the observations and instructions issued to the unit at the time of inspection for adherence.
6. The occupier shall provide and maintain an alternate power supply along with separate energy meter for the Air Pollution Control measures sufficient to ensure continuous operation of all pollution control equipments to ensure compliance.
7. The occupier shall provide all facilities to the Board officials for collection of samples in and around the factory at any time.
8. The applicant shall display the flow diagram of the sources of emission and pollution control systems provided at the site.
9. The liquid effluent arising out of the operation of the air pollution control equipment shall also be treated in a manner and to the satisfaction of standards prescribed by the Board in accordance with the provisions of Water (Prevention and Control of Pollution) Act, 1974 as amended.
10. The air pollution control equipments, location of inspection chambers and sampling port holes shall be made easily accessible at all time.
11. In case of any episodal discharge of emission, the industry shall take immediate action to bring down the emission within the limits prescribed by the Board.
12. If applicable, the occupier has to comply with the provisions of Public Liability Insurance Act, 1991 to provide immediate relief in the event of any hazard to human beings, other living creatures/plants and properties while handling and storage of hazardous substances.
13. The issuance of this consent does not authorize or approve the construction of any physical structures or facilities or the undertaking of any work in any natural watercourse or in Government Poromboke lands.
14. The issuance of this Consent does not convey any property right in either real personal property or any exclusive privileges, nor does it authorize any injury to private property or Government property or any invasion of personal rights nor any infringement of Central, State laws or regulation.
15. The occupier shall forth with keep the Board informed of any accident of unforeseen act or event of any poisonous, noxious or polluting matter or emissions are being discharged into stream or well or air as a result of such discharge, water or air is being polluted.
16. If due to any technological improvements or otherwise the Board is of opinion that all or any of the conditions referred to above requires variation (including the change of any treatment system, either in whole or in part) the Board shall, after giving the applicant an opportunity of being heard, vary all or any of such conditions and thereupon the applicant shall be bound to comply with the conditions as so varied.
17. In case there is any change in the constitution of the management, the occupier of the new management shall file fresh application under Air (Prevention and Control of Pollution) Act, 1981, as amended in Form-I alongwith relevant documents of change of management immediately and get the necessary amendment with renewal of consent order.
18. In case there is any change in the name of the company alone, the occupier shall inform the same with relevant documents immediately and get the necessary amendments for the change of name from the Board.

19. The occupier shall display this consent order granted to him in a prominent place for perusal of the inspecting Officers of this Board.

For Member Secretary,
Tamil Nadu Pollution Control Board,
Chennai

By R.P.A.D

LiFE Lifestyle for Environment

TAMILNADU POLLUTION CONTROL BOARD

Plastic Pollution Free Tamil Nadu

O/o. The District Environmental Engineer,
Tamil Nadu Pollution Control Board,
Plot No.:88A, SIPCOT Industrial Complex,
Gummidipoondi-601201.

Proc. No.: DEE/ GMP/ F.0088GMP/RL/A/2024 dated:21.05.2024

Sub: TNPC Board - Industries –M/s. RE Sustainability IWM Solutions Limited, Plot Nos.: 1 to 33 and 124 to 150, SIPCOT industrial Complex, Gummidipoondi, Gummidipoondi Taluk, Tiruvallur District –Fire accident occurred on 19.05.2024 resulted in air pollution-violation of provisions of the Air (P&CP) Act,1981, as amended – Show Cause Notice-issued.

Ref:
1. Proc. No.T2/TNPCB/F.0086GMP/RL/GMP/A/2022 dt: 14/12/2022.
2. Fire accident occurred in the premises of the facility on 19.05.2024.
3. Inspection of the facility by the officials of TNPCB on 19.05.2024.
4. Ambient Air Quality Data recorded in the CAAQMS maintained by the Facility.

****

Tamil Nadu Pollution Control Board serves this notice to you as occupier of the unit of M/s. RE Sustainability IWM Solutions Limited, Plot Nos.: 1 to 33 and 124 to 150, SIPCOT industrial Complex, Gummidipoondi, Gummidipoondi Taluk , Tiruvallur District for contravening the provision under Section 22 of the Air (Prevention & Control of Pollution) Act 1981 as amended.

Whereas Consent to Operate was issued vide proceedings 1st cited to the unit for the period valid up to 31/03/2027 for the Secured Landfill (SLF) & Landfill After Treatment (LAT) Waste of 3,00,000 TPA, Alternate Fuel and Raw Material Facility (AFRF) of 50,000 TPA and Common Incinerator for Hazardous Wastes and Biomedical Waste of 1.5 TPH Capacity subject to certain conditions and the provisions of the Air (Prevention and Control of Pollution) Act,1981, as amended.

Whereas Section 22 of the Air (Prevention and Control of Pollution) Act,1981, as amended, stipulates that "No person operating any industrial plant, in any air pollution control area shall discharge or cause or permit to be discharged

the emission of any air pollutant in excess of the standards laid down by the State Board under clause (g) of sub-section (1) of section 17".

Whereas on 19.05.2024, because of the fire accident occurred within the premises, at around 1.00 p.m., which lasts, till 10.30 p.m., results in the emanation of the dense smoke spreading to the nearby areas, causing pollution to the areas, which was evident from the surge in the values of NOx and PM_{10} recorded in the Continuous Ambient Air Quality Monitoring Station maintained by the Facility during the occurrence of fire, which indicates that ambient air quality in the vicinity of the Facility (Hourly average values) exceeded the standards prescribed (daily average) during occurrence of fire. Further, the longer time taken for the put off of the fire, since 2.00 p.m. to 8.30 p.m. and completely stopping the smoke emanation only by 10.30 p.m., indicated that the Facility is not fully prepared to handle such eventuality.

Thus, in view of the incidence occurred at the Facility on 19.05.2024, thereby resulting in exceedance of the standards prescribed, as shown above, is violation of the provisions of Section 22 of the Air (prevention and Control of Pollution) At, 1981, as amended. And as such the provisions of Section 22 of the Act have been contravened by you which is an offence punishable under section 37 of the Act with penalty which shall not be less than ten thousand rupees, but which may extend to fifteen lakh rupees. Further, the State pollution Control Board (Tamil Nadu Pollution Control Board) , in exercise of its powers conferred under Section 31A of the Act, is empowered to issue directions for the closure of the facility, Stoppage of Power Supply to the Facility, or for the issue of any other direction with a view to ensure such as occuance of exceedance of air quality standard shall not occur.

Hence, you are directed to show cause within 10 (Ten) days from the date of receipt of this notice as to why penal action for the above offences punishable under Section 37 of the Air (Prevention and Control of Pollution) Act, 1981, as amended Act should not be initiated against your Facility and as to why directions for the (i) Closure of the facility and Disconnection of Power Supply to the facility shall not be ordered or (ii) as to why directions for the suspension of operation of the facility, until such time, the facility evolve an action plan to avert such incidence in consultation with the experts in that field and to implement those measures to

contain such incidence, at the least possible time, so that such events could be averted and thereby the consequential air pollution is avoided.

It is informed that non receipt of any reply within the prescribed period will be construed that you have no satisfactory explanation to offer for the above said contravention and action will be taken on merits in accordance with law.

District Environmental Engineer ,
Tamil Nadu Pollution Control Board
Gummidipoondi

To

1. M/s.RE Sustainability IWM Solutions Limited,
   Plot No.: 1, SIPCOT industrial Complex,
   Gummidipoondi - 601201.

2. Thiru.S.K.Sanjiv Kumar,
   The Vice President, M/s.RE Sustainability IWM Solutions Limited,
   11B/ Auro Galaxy Knowledge City Centre,
   Gachibowli, Hyderabad – 500081.

Sustainability

To,

The District Environmental Engineer,

Tamil Nadu Pollution Control Board,

Plot No. 88A, SIPCOT Industrial Complex,

Gummudipoondi – 601201.

Date: 29th May 2024

Subject: Response to the letter bearing Proc. No. DEE/GMP/F.0088GMP/RL/A/2024 dated 21.05.2024.

References:

1. Proc. No. DEE/GMP/F.0088GMP/RL/A/2024 dated 21.05.2024.

Dear Sir,

We, **Re Sustainability IWM Solutions Limited**, located in the SIPCOT industrial complex, Gummudipoondi acknowledge the receipt of your letter dated 21.05.2024 and submit as below:

1. That, on Sunday, May 19, 2024, at approximately 1:00 PM, a fire broke out in a scrap yard within our facility. The scrap yard contained high-density polyethylene (HDPE) liner scrap (unused cut pieces left over from temporary landfill cover material), fiber-reinforced plastic material, and other non-chemical scrap materials. These materials were intended for processing and co-processing at cement kilns, in line with the activities authorized for our facility.

2. That, upon identifying smoke, our on-site supervisor and employees present there immediately initiated fire-combatting measures using our readily available fire hydrant system, Aqueous Film-Forming Foam (AFFF), and fire water tankers. We also requested immediate assistance from the local fire station, which responded promptly with two fire engines.

3. That, despite the initial efforts, the fire intensified due to the prevailing wind conditions. Our team utilized heavy earth-moving machinery to cover the burning materials with soil, effectively cutting off the oxygen supply and mitigating the smoke. With these efforts, the fire was contained within 4 to 5 hours and completely extinguished including smoke by around 10:00 PM the same day.

4. That we cordoned off the incident area immediately. There were no adverse health effects on humans or animals, and the environmental impacts were limited and localized to the immediate proximity. No injuries or property damage occurred as a result of the fire.

Re Sustainability IWM Solutions Limited
(formerly known as Tamilnadu Waste Management Limited and Ramky Industrial Waste Management Solutions Limited)
Plot No. 5-15, 28-33, SIPCOT Industrial Complex,
Gummidipoondi, Tiruvallur Dist. - 601 201.
Tamilnadu, India
CIN No. : U74140TG2002PLC039702.
GST IN : 33AABCT7933K1Z4

Re Sustainability Limited
(formerly known as Ramky Enviro Engineers Limited)
Registered Office:
Level 11B, Aurobindo Galaxy,
Hyderabad Knowledge City,
Hitech City Road, Hyderabad-500 081, India.
CIN No. : U74140TG1994PLC018833

T : +91 99443 00444
+91 96771 22683
+91 96779 99673
E-mail : tnwmi@resustainability.com
mbdtnwmi@resustainability.com

5. That, the incidence did not involve any chemical waste. The materials involved in the incident are scrap materials, intended for further processing to be disposed of in cement kilns for co-processing.

6. That, no poisonous gaseous emission has occurred due to the incidence; but dense black smoke was noticed.

7. That, Re Sustainability IWM Solutions Limited takes this incident very seriously and is committed to taking proactive steps to prevent any such recurrence. We have entrusted the fire safety adequacy assessment assignment to M/s. FET (Fire, Explosion, and Toxics) Solutions Pvt Ltd which is a premier, Global Safety Consulting and Training firm that specializes in Organizational, Process, and Behaviour Safety working in Hazard Identification, Risk Assessment, Risk Management, and Safety Culture transformation. We are expecting their findings and recommendation by 01/06/24 and we will do the needful on a priority basis.

8. We state that for the ongoing management of industrial wastes, it is crucial to resume operations.

9. We believe that our prompt action as enumerated above and transparency in reporting the incident reflects our commitment to environmental responsibility and safety.

10. In light of the aforementioned circumstances and our immediate response to mitigate the incident, we would request you to close the notice as referred above and not proceed with the provisions of the Air (Prevention and Control of Pollution) Act, 1981 and other action as mentioned in your above-referred notice and oblige.

We appreciate your understanding and support as we work through the learnings from this incident and implement any necessary improvements. Please let us know if any further information required.

Sincerely,

For Re Sustainability IWM Solutions Limited

Authorized Signatory

15/06

To,

The District Environmental Engineer,

Tamil Nadu Pollution Control Board,

Plot No. 88A, SIPCOT Industrial Complex,

Gummudipoondi – 601201.

Date: 7th June 2024

Sustainability

Dear Sir,

This is to bring to your notice that referring to the fire incident ion 19/05/2024 at our plant, please find below various activities taken based on your recommendations.

1. Comprehensive safety audit has been conducted at our facility and the report is attached here with for your perusal.

2. **Sand and Soil Storage in Vulnerable areas more than places:**

18/06

3. **MF-AFFF – Fire Extinguisher: 10 Nos Newly procured and Installation is in progress**

Re Sustainability IWM Solutions Limited
(formerly known as Tamilnadu Waste Management Limited and Ramky Industrial Waste Management Solutions Limited)
Plot No. 5-15, 28-33, SIPCOT Industrial Complex,
Gummidipoondi, Tiruvallur Dist. - 601 201.
Tamilnadu, India
CIN No. : U74140TG2002PLC039702.
GST IN : 33AABCT7933K1Z4

Re Sustainability Limited
(formerly known as Ramky Enviro Engineers Limited)
Registered Office:
Level 11B, Aurobindo Galaxy,
Hyderabad Knowledge City,
Hitech City Road, Hyderabad-500 081. India.
CIN No. : U74140TG1994PLC018833

T : +91 99443 00444
+91 96771 22583
+91 96779 99673
E-mail : tnwml@resustainability.com
mbdtnwml@resustainability.com

4. **CO2 Fire Extinguisher: 10 Nos Newly Procured and Installation is in progress**

5. **AFFF Cans: 20 Nos Newly Procured and Installation is in progress**

6. **Foam Trolley: 200 Liter 4 Nos Newly Procured material delivery is in progress.**

7. **AFFF Cans – 20 liters – Newly Procured 25 No**

8. **Water Tanker with Pressure Pump. – Is in Progress**

Sincerely

For Re Sustainability IWM Solutions Limited,

Authorized Signatory

Solutions Pvt. Ltd.

FIRE ADEQUACY AUDIT REPORT

Re Sustainability IWM Solutions Ltd,
SIPCOT, Chennai.

REV 1

JUNE 2024

FET SOLUTIONS Pvt LTD

Vasant Kunj, New Delhi

Tel +91 9811340933, Email: info@fetsolution.com

CONTENTS

Our Ref: J1267 Rev1

Date: June 7th, 2024

Re Sustainability IWM Solutions Ltd.

SIPCOT, Chennai

Dear Sir,

SUBJECT: FIRE ADEQUACY AUDIT AND FIRE LOAD CALCULATION

We are pleased to submit the Audit Report for the above captioned project. If you have any questions or comments, please contact the undersigned. If the report is to your complete satisfaction, please sign and return a copy of the enclosed Report Approval Form.

We thank you for allowing us the opportunity to perform this study and if we can be of any further assistance to you, please contact us.

Yours faithfully,

FET Solutions P Ltd

(Jitendra Kumar)

Director

FET Solutions Pvt Ltd	REPORT APPROVAL FORM	Job No.: J1268
Client:	**RE Sustainability IWM Solutions Ltd, SIPCOT, Chennai**	
Report Title:	**Fire Adequacy Report**	
Rev No. 1	**SIGNATURE**	**DATE**
Prepared by:	Sudhanshu Nauriyal	06/06/2024
Checked by:	Sonali Kumar	06/06/2024
Approved by:	Jitendra Kumar	07/06/2024

Revisions

Rev.	Revision	By	Checked	Approved	Date
0	Issued for review and comments	SN	SK	JK	02/06/2024

Client Approval Of Report:

Rev	Signature	Date
1		

ABBREVIATIONS

AMC	Annual Maintenance Contract
DG	Diesel Generator
EHS	Environment, Health and Safety
ERP	Emergency Response Plan
ESG	Environmental, Social and Governance
FET	Fire, Explosions and Toxics
HAC	Hazardous Area Classification
LPM	Litres Per Minute
MCB	Miniature Circuit Breaker
MCP	Manual Call Point
NBC	National Building Code
P&ID	Piping and Instrumentation
PA	Public Address
PPE	Personnel Protective Equipment
QC	Quality Control
TAC	Tariff Advisory Committee
TREM	Transport Risk & Emergency Management.

EXECUTIVE SUMMARY

RE Sustainability IWM Solutions Limited understand that effective waste management is crucial in preventing environmental degradation and safeguarding human health. Re Sustainability IWM Solutions Limited specializes in sustainably managing solid and hazardous industrial waste generated by a range of industries, including factories, textile mills, mines, and more.

Their waste management solutions are designed to ensure flawless operations, with a focus on efficient segregation, environment-conscious logistics, responsible processing, and eco-friendly disposal of waste. We pride ourselves on our ability to treat and dispose of every type of waste material, regardless of its volume or content, while maintaining uncompromised regulatory compliance.

At Re Sustainability IWM Solutions Limited, their committed to sustainability and environmental preservation. This is why everything they do is guided by our environmental, social, and governance (ESG) policies and practices, which underpin our approach to waste management.

There was a fire incident in May 2024 at the site. This initiated the requirement to check the adequacy of the fire fighting facilities on the site.

FET Solutions Pvt Ltd has been engaged by RE Sustainability IWM Solutions Limited for carrying out Fire Adequacy Report. The present report is the audit report for the Chennai facility based on site visit, documentation review and discussions with site personnel.

RECOMMENDATIONS

- All recommendations can be referred to in section 2 and 3 of this report.

1 INTRODUCTION

1.1 GENERAL

Re Sustainability IWM Solutions Limited understand that effective waste management is crucial in preventing environmental degradation and safeguarding human health. Re Sustainability IWM Solutions Limited specializes in sustainably managing solid and hazardous industrial waste generated by a range of industries, including factories, textile mills, mines, and more.

Their waste management solutions are designed to ensure flawless operations, with a focus on efficient segregation, environment-conscious logistics, responsible processing, and eco-friendly disposal of waste. We pride ourselves on our ability to treat and dispose of every type of waste material, regardless of its volume or content, while maintaining uncompromised regulatory compliance.

At Re Sustainability IWM Solutions Limited, their committed to sustainability and environmental preservation. This is why everything they do is guided by our environmental, social, and governance (ESG) policies and practices, which underpin our approach to waste management.

FET Solutions Pvt Ltd has been engaged by RE Sustainability IWM Solutions Limited for carrying out Fire Adequacy Report

The present report is the audit report for the Chennai facility based on site visit, documentation review and discussions with site personnel.

1.2 OBJECTIVES

FET Solutions team visited the site for assessing the site for relevant observations. There was discussion with plant personnel on design, document and as-built status of the fire safety management systems. It included the review of availability and adequacy of the following:

- Fire and Smoke Detection Systems;
- Alarms and Sirens;
- PA system;
- Manual Call Points;
- Fire Fighting Facilities such as sprinklers, extinguishers, etc. including:
- Hydrant locations, conditions of the valve and its components;

- Condition & operating sequence of fire pumps, the automatic operation of main & jockey pumps;
- Hydraulic test results, reports and maintenance schedule as per IS 2198 for extinguishers;
- Condition and working of the sprinklers, pipes, alarm valves and sprinkler pump and its components;
- Existing Emergency Management Procedures and Fire Drills;
- Sample review of Fire Detection System, Fire Siren and PA system;
- Active and Passive Fire Protection Systems;
- Emergency preparedness based on a fire safety mock drill;

1.3 SCOPE OF WORK

The scope of the study is to carry out the Fire load calculations and adequacy audit for facilities.

1.4 METHODOLOGY

FIRE LOAD CALCULATIONS

Based on the process and flammable chemicals and their storage capacities, detailed fire load calculations will be carried out, as this will form the basis of fire adequacy check.

REVIEW OF ADEQUACY

Based on the fire load calculations, an adequacy check will be carried out.

FIRE CONTROL SYSTEMS AND FIRE FIGHTING FACILITIES

The Fire Hydrant System, Fire Tenders, Monitors, Foam Flooding Systems and first aid firefighting facilities, their distribution, inspection and maintenance shall be studied.

Fire Hydrant System

- Check the hydrant locations, conditions of the valve and its components.
- Check the operating sequence of fire pumps; check the automatic operation of main pump.
- Check condition of the pumps, motor, diesel engine, and the valves in the pump house and if discrepancies found then report the same and get corrected as per the requirement.

- Check the condition of the control panel.
- Check the location and condition of the fire hoses, hose boxes, and branch nozzles.
- Performance testing of the fire hydrant system with connecting fire hoses at farthest hydrants (two) at a time and the water jet shall be observed.

FIRE EXTINGUISHERS

- Check the condition of the fire extinguishers for the parts operation and condition of the refill.
- Check location, marking of the fire extinguishers
- Check hydraulic test results, reports and maintenance schedule as per IS 2198.

SPRINKLER SYSTEM

- Check the condition of the sprinklers, pipes, alarm valves and sprinkler pump and its components.
- Check working of the sprinklers, fire alarm valves and sprinkler pumps.
- If any discrepancies found then it shall be reported and get rectified.
- Fire/explosion hazards related to the above-mentioned areas shall be identified and how they could materialize in the factory premises shall be determined.
- Review location and flow details as per design, the design documents to be provided by the client.

1.5 AUDIT DESCRIPTION AND TOOL USED

In accordance with the scope of the work, a pre-study data request was sent to Re sustainability IWM Solutions Limited to collect information on the existing systems. Accordingly, the Consultants from FET, New Delhi visited the plant, interacted with the plant engineers from various departments like production, maintenance, HR and with the senior management and had a detailed discussion regarding the management procedures and the safety procedures followed.

The following have been used as guidance for conducting safety audit:

- NBC: National Business Code
- The Factories Act, 1948.
- Good engineering practises followed in similar industries.

2 FIRE AUDIT CHECKLIST

2.1 FIREFIGHTING REQUIREMENT FOR STORAGE/ PROCESS BUILDING AS PER NBC PART 4, 2016

S.N.	Requirements Under NBC	Remark/ Comments regarding the current status
1.	Fire Extinguishers: (ABC type 5 KG capacity 2. Nos for every 600 sq. meter built up area with minimum 4. Nos per floor.)	As per the site round observations and data provided by RE sustainability IWM Solutions Limited team. The number, capacity and type of the extinguishers provided in different areas are found to be as pe the NCB requirements. For details of the placed fire extinguishers refer Annexure A. the total built-up area of the plant is 6676 m^2, as per the area total number is extinguisher required ABC Powder 5 kg capacity= 22 Nos. and currently site has more than 50 ABC type fire extinguishers. Number, type and capacity of the fire extinguishers are found to be adequate and properly installed.
2.	Hose Reel. (1. No for every 1000 sq. meter built up area)	Installation of hose reel found to be adequate.
3.	Wet Riser (1. No for every 1000 sq. meter built up area).	Not applicable.
4.	Yard Hydrant System	Yes, facility has yard hydrant system.
5.	Automatic Sprinkler System in basement (if basement area exceeds 200 sq. meter)	There are no basements for these building.

S.N.	Requirements Under NBC	Remark/ Comments regarding the current status
6.	Automatic Detection and Alarm System.	Not complied. Presently
7.	Underground Sump of 75,000 Liter.	Currently plant is having Fire water tank of capacity 200 Kl which is more than the required capacity as per NBC. Hence as per NBC requirements existing fire water tank is having adequate capacity.
8.	Fire Pump: One Electrical and One Diesel pump of 1620 LPM and One Jockey Pump of 180 LPM at Ground level	Currently Plant is having fire water electrical and diesel pump of 171m3/hr (2850 LPM) discharge flowrates, hence these NBC requirements is met at plant. But existing jockey pump id having 10.8 m3/hr (180 LPM) discharge flowrate which is meet NBC requirement.
9.	Location of Transformer to be indicated in plan and fire protection to be provided	Location of Transformer is adequately indicated in plan and required fire protection is provided.
10.	MCB Circuit breakers and Electrical Safety	Adequate measures are taken for MCB Circuit breakers and electrical safety.
11.	Emergency Lighting with 2 Hours Battery Backup & Auto Glow Exit Signs.	Admin / Lab / Security / incinerator building had emergency lightning with 4 hour back up. Additionally, DG Backup is provided.
12.	The staff shall be trained in evacuation/ handling Fire Equipment.	Plant has identified the numbers of fire fighters in each plant sections and regular training are conducted for the firefighting teams. And as per the site visit interviews of some of the trained fire fighter it is found that fire fighters

S.N.	Requirements Under NBC	Remark/ Comments regarding the current status
		are adequately trained to handle fire equipment's and are aware about the action to be taken in case of fire scenarios. 20 fire fighters, min 5 firefighters in each shift and latest training date – 3/05/2024

2.2 REQUIREMENT OF PORTABLE FIRE EXTINGUISHERS

As per the Factories Act 1948 and Tamil Nadu Factories Rules 1950: -

- 1 no. 9 liter water/ sand bucket shall be provided / 100 M2 floor area.
- 1 no. 9 liter Water type Fire Extinguisher shall be provided to 6 water/ sand buckets Or
- 1 no. 9 liter Water type Fire Extinguisher shall be provided for every 600 m2 of floor area (in addition to the buckets)
- This equipment shall be so distributed over the entire floor areas that a person shall have to travel not more than 25 metres from any point to reach the nearest equipment.

Calculation for fire extinguisher requirement

- Floor Area in 100M2 = 1 No. of 9 liter Water or sand Fire Buckets.
- Floor Area in 600 M2 = 1 No. of 9 liter Water Fire Extinguishers.

NOTE: 1 No. of 9 Liter Water Fire Extinguishers = 1 no.4.5 Kg DCP Fire Extinguisher = 2 no. 4.5 Kg CO_2 Fire Extinguishers.

Above requirement of Factories act and Tamil Nadu Factories Rules 1950 is reviewed in the NBC 2016 requirements and all Units in RE sustainability IWM Solutions Limited are meeting these requirements.

2.3 REQUIREMENT OF FIRE HYDRANT SYSTEM

S.N.	Requirement	Remark/ Status
1.	A trained pump man shall be available on all shifts and at all hours of the day and night to operate the pump as and when required.	Compliance, Trained pump man is available all shifts.
2.	Water shall always be available immediately to all hydrant / fixed monitors with all cut-off valves being kept open.	Compliance
3.	Connection for any purpose other than firefighting are not permitted from the hydrant / fixed monitor stand post or from any portion of the hydrant services.	Compliance
4.	Expect where impracticable, all hydrant outlets shall be situated 1m above ground level.	Compliance, all hydrant outlets are above ground 1 m level.
5.	The stand posts shall be 80 mm in diameter for single headed hydrants, 100 mm for double headed hydrants, monitor of 63 mm to 75 mm size and 150 mm for monitor of 100 mm size. It is recommended that stand posts be painted 'fire red' (shade no. 536 as per IS-5) and numbered for easy identification.	Compliance, Sizing of stand post, hydrant points, monitor are adequate as per the requirements.
6.	Orifice plates of suitable design shall be provided for fire hydrants where the running pressure exceeds 7 kg per cm square.	Compliance
7.	Hydrant shall be easily accessible, storage of any kind on or around the hydrant being prohibited. Where hydrants are situated in remote locations, they shall be approachable by means of paved pathways.	Not Compliance, all hydrant points are not easily accessible and are not free from obstructions. This to be ensured that accessibility of the hydrant point shall be obstruction free
8.	Hydrant heads shall be positioned at distances not less than 2 m from the face of the building or age of the storage plot to be protected.	Compliance, As per the site visit observations all fire hydrant

2.4 MEANS OF ESCAPE IN CASE OF FIRE

S. N.	Requirement	Remark/ Status
1.	The responsible person must ensure that there is adequate means of escape in case of fire.	Compliance
2.	Regular checks should be made to ensure that escape routes including exits, corridors and stairways are kept free from obstruction.	Compliance
3.	Checks should also be made to ensure that doors used as fire exits are readily available for use and can be opened in the event of an emergency without the use of keys.	Compliance
4.	Fire-resisting, self-closing doors should not be wedged or be held open except by approved devices designed to release the doors on the automatic actuation of the fire alarm system.	Not available
5.	Fire resisting construction should be checked regularly to ensure that the integrity of the structures is intact.	Not available

2.5 EMERGENCY EXIT – ESCAPE DOOR REQUIREMENTS

Under the section 38 of the Factories Act 1948

S. N.	Requirement	Remark/ Status
1.	No exit intended for use in case of fire shall be less than 100 cms in width nor less than 2 m in height	Compliance, all exits are adequately sized.

S. N.	Requirement	Remark/ Status
2.	In case where 20 or more worker work at a time above the level of ground floor at least 2 separate and substantial stairways permanently constructed either inside or outside the building and which afford direct and unimpeded access to the ground level.	Compliance
3.	No fire escape stairway shall be constructed at an angle greater than 45° from the horizontal and shall not be less than 100 cms in width.	1. Compliance, fire escape stairway are adequately sizes are not greater than 45 deg angle and width is also greater than 100 cms. (applicable in incinerator area) 2. However, there is no fire escape provided for admin block for QC lab. A separate fire escape or an alternate emergency exit to be provided for the lab area.
4.	The fire escape shall be within 30 m, along the line of travel from any part of the floor from which it is meant to provide escape.	Compliance, (applicable only for incinerator area)
5.	The fire escape shall be so positioned that each person will have a reasonably free and unobstructed passage from his workplace to the exit.	Compliance (applicable only for incinerator area)

2.6 FIRE ALARM SYSTEM

S. N.	Requirement	Remark/ Status
1.	The responsible person must ensure that there is adequate means for detecting fire and sounding the alarm and that the equipment is inspected and tested.	Partially Complainant, beam detectors are provided only in incinerator storage shed.

S. N.	Requirement	Remark/ Status
2.	The fire alarm system should be tested weekly for function and to check whether the sounders can be heard throughout the building.	Compliance
3.	The fire alarm system should be inspected and tested quarterly and annually by a competent person.	Compliance (as part of AMC)

2.7 FIRE EQUIPMENT & PROTECTION

S. N.	Requirement	Remark/ Status
1.	The responsible person must ensure that there is adequate means for fighting fire.	Compliance, Dedicated team is responsible for ensuring same.
2.	Daily checks should be made to ensure that fire-fighting equipment is in place, have not been discharged, are at the correct pressure and have not suffered any obvious damage	Compliance
3.	A competent person should carry out an annual service	Compliance, Competent third party is appointed.
4.	An extended service should be carried out every 5 years on portable fire extinguishers	Compliance, Competent third party is appointed to maintain all fire extinguishers.
5.	Portable fire extinguishers should be subjected to a major overhaul or be replaced every 20 years.	Compliance, Competent third party is appointed to maintain all fire extinguishers, regular checks, refilling and replacements is done at defined schedule.

2.8 FIRE SAFETY SIGN

S. N.	Requirement	Remark/ Status
1.	The responsible person must ensure that emergency routes are adequately marked and that the signs comply with the Health and Safety (Safety Signs and Signals) Regulations 1996. (UK). Regular checks should be made to ensure that fire safety notices are legible and undamaged.	Compliance, Dedicated team is responsible for ensuring all the requirements and regular checks inside the plants.

2.9 FIRE TRAINING

S. N.	Requirement	Remark/ Status
1.	The responsible person must ensure that members of staff are trained on the action to be taken in the event of fire, some members of staff are given adequate training on how to use fire-fighting equipment and there is adequate means of liaison with the Fire Brigade.	Compliance, Safety team is responsible for ensuring all the requirements of the trainings. All units have their firefighting team identified and regular trainings of the same are been done by safety department to ensure their ability to handle fire scenarios.

3 OBSERVATION AND RECOMMENDATION

S. N.	Observations	Recommendations/ Comment	Prioritization	Reference standard
For All Plant Areas				
1.	Basic safety briefing is not provided at the entry gate for the Assessment team. However, there is system provided for the detailed safety induction which include critical safety aspects for Contract employees.	The facility shall ensure that the all visitors are briefed about safety instruction in the form a video, presentation or verbal instruction at least with the following content: - • accessible areas, • emergency response, • escape routes, • key contacts in case of emergency, • mandatory personal protective equipment, • assembly points, • List of hazardous areas. • Alarms and their significance	Major	Factory Act-1948
2.	During the audit emergency exit plans were reviewed and following gaps were identified. Emergency exit plan for the facility: Directional arrows which shows the route towards the emergency exit were not shown	It is suggested to prepare two separate layouts one as emergency exit plan showing exit discharges with clearly marked directional arrows that leads directly outside or to a street, walkway, refuge area, public	Major	Factory act - 1948 and IS-2190

S. N.	Observations	Recommendations/ Comment	Prioritization	Reference standard
	on the layout for each location.	way, or open space with access to the outside. And the other layout as firefighting layouts indicating location of fire extinguishers installed in the area along with their type, location of MCPs, first aid kits, alarm panels etc. Both the layouts to be prepared and placed at all plant/building entries and prominent locations.		
3.	Emergency Response Team contact detail were displayed	Good Practice	-	Good Engineering Practice
4.	Records related to inspection and maintenance of fire extinguishers were reviewed and found to be well maintained	Good Practice.	-	IS-2190, 8.1 to 9 and 10.
5.	During the site visit, sand buckets were examined at few places and were found to be adequately maintained.	The facility to ensure that all sand buckets are maintained as per IS – 2546.	Minor	IS-2546
6.	Records related to inspection and maintenance of smoke detectors/fire detectors and alarm system were requested. • The smoke, heat, gas detectors are installed in the facility. • The testing parameter were not available with the	It is recommended to provide smoke detectors with alarm in the facility. The facility to obtain inspection and testing procedures followed by vendor. Same to be reviewed for conformity to IS 2189/IS 2175. Alternatively,	Major	IS-2189, IS-2175

S. N.	Observations	Recommendations/ Comment	Prioritization	Reference standard
	department.	certificates stating adherence to prescribed standards can be obtained from vendor. Also, smoke detector random performance test shall be carried out.		
7.	Assembly point signage were found to be inadequately sized and less legible from a fair distance	Assembly point signage should be made and displayed in accordance with IS 9457.	Major	IS - 9457
8.	Some of the fire hydrant points was found inapproachable due to either vegetation growth around them or by material stored in front of it or scrap material stored in front of it, which will affect the firefighting efficiency in the time of emergency.	Hydrant point shall have clear visibility and shall be free from any obstruction. Also, accessibility for all hydrant points to be reviewed.	Critical	TAC/IS/NBC / IS 13039
9.	Some of the hydrant points were checked during the site round for the presence of the internal rubber gasket and other physical inspection (like position, height, tagging etc.). All points found to be adequately maintained. All hose boxes are also adequately maintained.	Good engineering practice	-	-
10.	Minimum 20 percent excess stock of portable fire extinguishers are maintained at facility as per the requirements.	Good engineering practice.	-	-
11.	Sprinkler system has been provided in Incinerator Store / AFRF Store in the plant but for some areas the requirement	As per National Building Code, it is necessary to provide automatic sprinkler system in hazardous and	Medium	National Building Code

S. N.	Observations	Recommendations/ Comment	Prioritization	Reference standard
	of sprinkler system has not been assessed.	industrial (hazardous) buildings. Care shall be exercised while providing appropriate sprinkler system. For e.g., water sprinkler systems should not be provided to areas where water reactive chemicals may be handled.		Part 4 Table 23
12.	The pressure gauge was not installed in hydrant line.	It is recommended to install pressure gauge in the hydrant line for efficient pressure monitoring	Minor	IS 2190/IS-3844/IS-13039.
13.	Cable runs (galleries/ trenches/ tunnels) have not been provided with fire detection and alarm system anywhere in the entire facility.	The entire cable run shall be protected by automatic fire detection and alarm system. All cable runs should be compartmented after a fair distance (preferably 30m). The service areas shall be provided with appropriate illumination levels / emergency light / Firefighting facilities.	Major	IS 12459
14.	Fire escape route plans have been missing at most locations.	These are to be prepared and displayed at prominent places with clear view & direction signage to be corrected.	Major	Factory act, NBC-2005
15.	Appropriate Emergency exits are missing for Admin Area and lab at the first floor area	Ensure separate emergency exits provided for the mentioned area.	Major	National Building Code

S. N.	Observations	Recommendations/ Comment	Prioritization	Reference standard
16.	K type fire extinguisher cannot be verified during site round in kitchen or canteen area.	K type extinguishers (Clean Agent Fire Extinguisher) shall be provided for canteen kitchen area.	Major	IS15683
Fire Pump Station				
17.	Instruction board was not displayed in this room.	The instruction board should be displayed as per TAC standards.	Major	TAC / Good engineering Practice
18.	Direct electricity supply was provided to main pump.	Direct electricity supply shall be ensured from the substation. It is very important that the fire pump is powered continuously, and inadvertent power disconnection is averted. it is preferable that it connects directly to the power supply.	-	TAC
19.	The main pump & jockey pump diagram was not displayed in the pump house.	The main pump and jockey pump diagram shall be displayed in the pump house with details of their capacity, discharge pressure, size etc.	Minor	TAC
20.	Diesel Pump was found to be out of service during the site round.	Diesel fire pumps are used as a backup when the power supply in a facility is unreliable, has insufficient capacity, or in case of a power outage (which is extremely common in bushfire-affected areas). They have an independent power supply system, the battery, which allows the pumps to operate even when	Medium	IS 15301

S. N.	Observations	Recommendations/ Comment	Prioritization	Reference standard
		disconnected from the primary power supply. It is recommended to put diesel pump with independent power supply.		
21.	Fire water reservoir level indication is provided in the pump house.	Good Practice	-	IS 9668 / TAC
22.	Log book & History book of pump maintenance is maintained	-	-	TAC
Cylinder Shed				
23.	Helium, Oxygen and acetylene cylinder stored inside the shed side by side.	It is recommended to have a dedicated acetylene storage shed in the facility or it shall be kept at a safe distance from the oxidizer or isolated from the oxidizer which is oxygen in this case.	Major	Good Engineering Practice
All Storage Shed				
24.	No MCP is observed at the entrance or for admin and QC building	MCP is to be free from any obstruction. Recommended locations of Manual call points are near or within emergency escape routes with wall mounting at a height of 1.4 m and signage above them.	Major	Factory Act/NBC Part 4/ IS 2189
Reception and Office Area				

S. N.	Observations	Recommendations/ Comment	Prioritization	Reference standard
25.	Layout indicating the location of FE, Smoke /Heat Detector, MCP diagram, FE, assembly point etc. has not been displayed for the area.	Layout indicating location of fire extinguishers installed in the area along with their type, location of MCPs, first aid kits, alarm panels etc. to be prepared and placed for the area	Minor	IS 2189, IS 2190, NBC factory act. / ERP
26.	Three doors are provided in the admin block. However, they all are present at one side of the wall.	Alternative emergency exit shall be provided for admin block area first floor / ground floor and preferably in diagonally opposite direction.	Major	NBC Factory Act, IS 1644/ IS1641/IS 1642
27.	Overall good tagging and identification system for all firefighting system were observed through all plants during the plant visits.	Good engineering practice	-	-
28.	As per the site observation, suitable type fire extinguishers were observed in all plant areas as per 29 CFR 1910.157(d)(4) & NFPA 10. ***Note:*** *Adequacy of the existing Fire extinguishers (required number and type) will be further studied during the fire load calculation stage of the assessment and comment regarding the area specific requirement will be mentioned in the fire load calculation report.*	Refer to Fire Load calculations	-	-

S. N.	Observations	Recommendations/ Comment	Prioritization	Reference standard
29.	Plant has adequate schedule for conducting mock drills for different emergency scenarios.	Good engineering practice	-	-
30.	Smoke detection is not provided in the admin block as well.	Smoke detection and alarm to be provided in the admin building.	Major	Good Engineering Practice.
31.	No dedicated temporary waste store.	Presently site is spread in a large area. Sometimes temporary waste might be stored in a vacant land without any fire fighting protection, this could lead to a hazardous situation. It is recommended to that a whenever such activity is carried out. Appropriate measure shall be taken for fire protection or adequate fire fighting facility shall be provided around it which can reduce the escalation of Hazard or its severity.	Major	Good engineering practice.

3.1 FIRE LOAD CALCULATION

Location/ Plant Name	Specific Area Name	Area (Sq m)	Name of the material in the area	Quantity	Calorific Value in Kcal/kg	Fire Load (Kcal/m2)	Hazard Category	Fire Rating	Minimum No of extinguisher required	Existing Availability	Gap / Recommendation
Re Sustainability IWM Solutions Limited	Security Room	11.97	PC, Chairs, Tables, Documents, electricals	100.00	4500.00	37588.96	Low Fire Load	1.00	1.00	1	Complied
Re Sustainability IWM Solutions Limited	Weighing Bridge Room	13.57	PC, Chairs, Tables, Documents, electricals	100.00	4500.00	33171.41	Low Fire Load	1.00	1.00	2	Complied
Re Sustainability IWM Solutions Limited	Sample collection Platform	7.48	Waste Material	10000.00	8000.00	10695187.17	High Fire Load	1.00	1.00	2	Complied
Re Sustainability IWM Solutions Limited	General Stores	222.95	PPEs , Safety Shoes	80.00	8600.00	688000.00	High Fire Load	15.00	2.00	1	Add another ABC type Fire extinguisher
Re Sustainability IWM Solutions Limited	Temporary Waste Stores	441.71	Waste Material	1317000.00	2500.00	7453936.71	High Fire Load	29.00	3.00	5	Complied

Location/ Plant Name	Specific Area Name	Area (Sq m)	Name of the material in the area	Quantity	Calorific Value in Kcal/kg	Fire Load (Kcal/m2)	Hazard Category	Fire Rating	Minimum No of extinguisher required	Existing Availability	Gap / Recommendation
Re Sustainability IWM Solutions Limited	Waste Stabilisation Unit	247.41	Waste Material	985000.00	2500.00	9952997.60	High Fire Load	17.00	2.00	5	Complied
Re Sustainability IWM Solutions Limited	Interactable waste stores -2	441.71	Waste Material	2247000.00	8000.00	40696117.32	High Fire Load	29.00	3.00	9	Complied
Re Sustainability IWM Solutions Limited	Vehicle Maintenance Store	104.65	LPG	14.00	11800.00	1578.55	Low Fire Load	7.00	1.00	1	Complied
Re Sustainability IWM Solutions Limited	Vehicle Parking	206.95	14 vehicles at a time	630.00	11110.00	33820.74	Low Fire Load	14.00	14.00	25	Complied
Re Sustainability IWM Solutions Limited	DG and Electrical Panel Room	63.73	Cables	300.00	10000.00	47071.45	Low Fire Load	5.00	1.00	1 each	Complied

Location/ Plant Name	Specific Area Name	Area (Sq m)	Name of the material in the area	Quantity	Calorific Value in Kcal/kg	Fire Load (Kcal/m2)	Hazard Category	Fire Rating	Minimum No of extinguisher required	Existing Availability	Gap / Recommendation
Re Sustainability IWM Solutions Limited	Proposed Blending and AFRF Shed	650.00	Waste Material	1728000.00	8000.00	21267692.31	High Fire Load	43.00	4.00	7	Complied
Re Sustainability IWM Solutions Limited	OHS and Drivers Rest Room	36.00	PC, Chairs, Tables, Documents, electricals	100.00	4500.00	12500.00	Low Fire Load	3.00	1.00	1	Complied
Re Sustainability IWM Solutions Limited	Incinerable Waste Store -2	1000.00	Waste Material	1193000	8000.00	9544000	High Fire Load	65.00	5.00	9	Complied
Re Sustainability IWM Solutions	Incineration Unit	1825.00	Waste Material	12000.00	8000.00	52602.74	Low Fire Load	119.00	10.00	None	Fire Extinguisher to be provide
Re Sustainability IWM Solutions Limited	Proposed Fire Hydrant Pump House	77.00	Diesel	150.00	7000.00	13636.36	Low Fire Load	6.00	1.00	2	Complied

Location/ Plant Name	Specific Area Name	Area (Sq m)	Name of the material in the area	Quantity	Calorific Value in Kcal/kg	Fire Load (Kcal/m2)	Hazard Category	Fire Rating	Minimum No of extinguisher required	Existing Availability	Gap / Recommendation
Re Sustainability IWM Solutions Limited	MCC/PCC Room	150.00	Panels / Cables /	300.00	10000.00	20000.00	Low Fire Load	10.00	1.00	1	Complied
Re Sustainability IWM Solutions Limited	Stroage tank farm Area	110.00	FO/ Diesel	21000.00	11110.00	2121000.00	High Fire Load	8.00	1.00	1	Complied
Re Sustainability IWM Solutions Limited	Admin	160.35	Tables / Chairs	3400.00	4500.00	95416.28	Low Fire Load	11.00	1.00	2	Complied
Re Sustainability IWM Solutions Limited	Lab	160.35	Tables / Chairs / Chemicals	200.00	10000.00	12472.72	Low Fire Load	26.00	2.00	2 ABC 4 BC type extinguisher	Complied
Re Sustainability IWM Solutions Limited	Disel Shed	144.00	Diesel	900.00	11110.00	69437.50	Low Fire Load	10.00	1.00	2.0	Complied
Re Sustainabil	Lubricant Shed	144.00	Lubricant	800.00	8000.00	44444.44	Low Fire Load	10.00	1.00	-	Provide at least 1 FE

Location/ Plant Name	Specific Area Name	Area (Sq m)	Name of the material in the area	Quantity	Calorific Value in Kcal/kg	Fire Load (Kcal/m2)	Hazard Category	Fire Rating	Minimum No of extinguisher required	Existing Availability	Gap / Recommendation
ity IWM Solutions Limited											in the area

3.2 RECOMMENDATIONS FROM THE CHCKLIST

The following recommendations are listed from the checklist:

1. The updated Safety Policy to be on display at prominent locations.
2. Provide training to Safety committee members and down the level training to all the concerned employees on latest developments in EHS.
3. Near miss reporting and root cause analysis is to be improved upon as there were cases which are not reported and the causal factors are reported as root causes.
4. The Management of Change procedure is in place, however, hazard identification needs to improve and then the same to percolate in trainings.
5. Secondary containment is to be ensured for all storages, and drip trays at relevant locations.
6. Implementation of use of PPEs need to improve.
7. Hazardous Area Classification (HAC) study was done, however, the same needs to be updated as per changes made since then.
8. Contractor workers are provided training on safety, however, implementation needs to improve.
9. Maintenance of flameproof fittings need improvement.
10. Management of Change procedure in place, however, implementation is not adequate.
11. Width of the access need to be minimum 1.2 m at all places for emergency scenarios.
12. Following safe procedures for storage of materials, the implementation needs to be improved.
13. The checklist for truck drivers does require TREM cards, though implementation is not proper.

APPENDIX A – LEGAL DISCLAIMER

a. Limitation of Liability. The consulting services conducted by FET Solutions (Pvt.) Ltd. (the "Company") were performed using generally accepted guidelines, standards, and/or practices, which the Company considers reliable. Although the Company performed its consulting services pursuant to reliable and generally accepted practices in the industry, the Company does not guarantee or provide any representations or warranties with respect to Client's use, interpretation or application of the findings, conclusions, and/or suggestions of the consulting services provided by the Company. Moreover, the findings, conclusions, and the suggestions resulting from the consulting service are based upon certain assumptions, information, documents, and procedures provided by the Customer. AS SUCH, IN NO EVENT AND UNDER NO CIRCUMSTANCE SHALL THE COMPANY BE LIABLE FOR SPECIAL, INDIRECT, PUNITIVE OR CONSEQUENTIAL DAMGES OF ANY NATURE WHATSOEVER, INCLUDING WITHOUT LIMITATION, ANY LOST REVENUE OR PROFITS OF THE CUSTOMER OR ITS CUSTOMERS, AGENTS AND DISTRIBUTORS, RESULTING FROM, ARISING OUT OF OR IN CONNECTION WITH, THE SERVICES PROVIDED BY THE COMPANY. The Customer agrees that the Company shall have no liability for damages, which may result from Client's use, interpretation or application of the consulting services provided by the Company.

b. The Company's pricing of the consulting services provided does not contemplate that the Company shall have any liability resulting from its performance of the consulting services, except as otherwise set forth in the Quotation from the Company. Accordingly, the Customer shall indemnify and hold harmless the Company, its shareholders, directors, officers, employees and agents (the "Indemnified Parties") from and against any and all loss, cost, liability and expense, including reasonable attorney's fees and costs, which any of the Indemnified Parties may incur, sustain or be subject to, as a result of any claim, demand, action, investigation or proceeding arising out of or relating to either: (a) the consulting services provided by the Company; or (b) any material, equipment, specifications or safety information (or lack thereof) supplied to the Company (or which should have been supplied to the Company) by Customer and/or any failure of such materials, equipment, specifications and safety information to comply with any federal, state or local law or safety standard.

c. For additional terms and conditions, which apply with respect to the provision of this report, see the Quotation provided by the Company and executed by Customer. If any terms set forth in the Quotation conflict with the terms set forth herein, the terms set forth herein shall apply.

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

Original Application No. 180 of 2024

Tribunal on its own motion - SUO MOTU based on the news item Published in Dinamalar, Chennai Edition dt 20.05.2024 titled "A Fire at a Chemical waste dump engulfed villages with toxic fumes".

And

Tamil Nadu Pollution Control Board,
Through its Member Secretary,
Chennai and Ors.

...Respondents.

REPORT FILED ON BEHALF OF THE FIRST RESPONDENT - TAMIL NADU POLLUTION CONTROL BOARD

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

Date: 22.10.2024

Date of hearing on:23.10.2024