

BEFORE THE NATIONAL GREEN TRIBUNAL

PRINCIPLE BENCH, DELHI

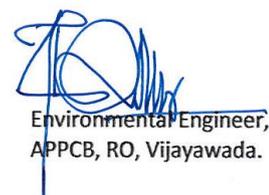
Original Application No. 284 OF 2022 (PB)

IN THE MATTER OF:

In Re: Tribunal on its own motion Suo-Motu based News item in NDTV dated.14.04.2022 titled "6 killed, 12 injured after fire breaks out at Andhra Pradesh Pharma Unit."

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Environmental Engineer,
APPCB, RO, Vijayawada.

DEPONENT

Place: Vijayawada

Date: 16.08.2022

**REPORT OF THE JOINT COMMITTEE IN THE MATTER OF OA NO 284/2022
SUBMITTED TO HON'BLE NATIONAL GREEN TRIBUNAL, PRINCIPAL
BENCH, DELHI IN COMPLIANCE TO HON'BLE NGT ORDER DATED APRIL 20,
2022**

Submitted to

Hon'ble National Green Tribunal

Principal Bench, New Delhi

REPORT OF JOINT COMMITTEE IN THE MATTER OF ORIGINAL APPLICATION NO 284/2022 (IN RE: NEWS ITEM IN NDTV DATED 14.04.2022 TITLED "6 KILLED, 12 INJURED AFTER FIRE BREAKS OUT AT ANDHRA PRADESH PHARMA UNIT") IN COMPLIANCE OF ORDER OF HON'BLE NGT, PRINCIPLE BENCH, NEW DELHI DATED APRIL 20, 2022

I. Background

On April 13, 2022 at 10:55 night, a major fire broke out on the site of M/s Porus Laboratories Pvt. Ltd., Unit-IV in the village of Akkireddygudem, Musunuru Mandal, Eluru District. The accident claimed the life of 6 employees and 12 were injured in the fire break out. The District Magistrate & Collector, Eluru District vide order no. Rec. No. 1514/C1/2022 dated April 14, 2022 constituted a Joint inspection team comprising of Deputy Chief Inspector of Factories, Eluru, Inspector of Factories, Vijayawada, General Manager, DIC , Eluru and EE, APPCB, Eluru to investigate the accident and submit a report. The said Committee inspected the site on April 15, 2022 and submitted the inquiry report on the same day.

In a subsequent development, Hon'ble National Green Tribunal (NGT) passed an order dated 20.04.2022 (*Annexure-I*) by taking Suo-Moto case and constituted a joint committee *comprising of CPCB, State PCB and District Magistrate, West Godavari to ascertain the cause of incident, extent of damages caused, remedial measures taken for restoration, status of compliance of environmental safety norms, status of payment of compensation, steps required to be taken for restoration and to prevent any such incident in future. The Committee may undertake visit to the site, interact with the stakeholders and after verification of facts, furnish a report to this Tribunal within three months*".

CPCB and State PCB are the nodal agencies for coordination and compliance and subsequent submission of a report addressing the directives of NGT.

II. Constitution of Joint Committee

In compliance to the order dated April 20, 2022, the joint committee was constituted as below:

| S.No. | Name & Address | Name of Department |
|-------|----------------------------------------------------------------------------------|-------------------------------------------------|
| 1 | Shri P. Arun Babu, I.A.S. Joint Collector Eluru District | District Magistrate & Collector, Eluru District |
| 2 | Smt Poornima B.M. Scientist-D Regional Directorate-Chennai | Central Pollution Control Board (CPCB) |
| 3 | Shri T. Prasada Rao Environmental Engineer Regional Office - Vijayawada | Andhra Pradesh Pollution Control Board (APPCB) |

III. Scope of the Committee

As per aforesaid order dated April 20, 2022; the scope of the committee is:

- a. To ascertain whether on-site and off-site plans have been prepared and mock drills conducted.
- b. To verify the status of compensation for the victims
- c. To ascertain the cause of incident
- d. To ascertain the extent of damages caused
- e. Remedial measures taken for restoration
- f. To ascertain status of compliance of environmental safety norms
- g. Status of payment of compensation
- h. Steps required to be taken for restoration and to prevent any such incident in future

IV. Site visit by the Committee

The committee inspected the unit on 25.05.2022, interacted with unit management, unit personnel's who were present during the accident. As per the preliminary discussions, the accident occurred on 13.04.2022 at around 10.55P.M in the Reactor SSR-D01 while the reaction was in progress. During the accident five persons died on spot, one person died while shifting to the hospital and 12 persons were severely injured. The Deputy Chief Inspectorate of Factories issued Prohibitory Orders to the unit on April 16, 2022 and also

issued Show-Cause Notice on May 25, 2022. On the day of inspection, the unit was not in operation and was under safe shutdown.

V. About M/s Porus Laboratories Pvt. Ltd. (Unit –IV), Eluru, AP

V. a. General information: M/s Porus Laboratories Unit IV is located in Akkireddygudem Village, Musunuru Mandal, Eluru district, at 16°59'47.38"N 82°12'49.49"E. The unit is spread in an area of 25 acres. In the year 2005, the unit named M/s Vani Chemicals Ltd. was taken over by M/s Porus Laboratories. In the year 2018, the unit applied for expansion of production and went for public hearing. Presently there are total 322 persons working in the unit, out of which 132 regular employees (Skilled -102 & unskilled -30) and 190 contract workers (skilled-4 & unskilled – 186). The unit has five production blocks namely A, B, C, D and E.



V.b. Status of Environment Clearance and Consent for operation

In 2019, Ministry of Environment, Forest and Climate Change (MoEFCC) granted the environmental clearances (EC) to the unit for expansion of Active Pharmaceutical Ingredients & API Intermediates manufacturing along with R&D facility from present capacity of 3000TPA to 11601TPA.

As per latest EC dated 02.01.2019, the following products shall be manufactured (Copy of EC is enclosed as *Annexure-II*):

| S. No. | Product | TPA |
|--------|---------|-----|
|--------|---------|-----|

| | | |
|--------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|-----------------------------|
| 1 | Bisphenol Acetophenone | 120 |
| 2 | P-Phenolphthalein bisphenolor 2-phenyl-3-3-Bis (4-Hydroxyphenyl) Phthalimide (PPPBP) | 3600 |
| 3 | 1,5-Bis-[2,6-dimethyl-4-(2-propenoxy) phenyl] – penta-(2,6-dimethyl-1, 4-phenyleneoxide) (MX-9000) | 500 |
| 4 | Tetramethyl Bisphenol acetone (TMBPA) | 99.6 |
| 5 | [1,1,1-Tri-(4-hydroxyphenyl)] ethane (THPE) | 99.6 |
| 6 | 4-Hydroxybenzonitrile (HBN) | 99.6 |
| 7 | 4-Nitro-N-Methyl Ohthalimide (4-NPI) | 5000 |
| 8 | 3-[2-(Dimethylamine)ethyl] –N-methyl-1H-indole-5-methane sulfonamide | 132 |
| 9 | Sumatriptan Succinate | 6 |
| 10 | Ciprofloxacin Hydrochloride | 600 |
| 11 | Metformin Hydrochloride | 240 |
| 12 | Venlafaxine Hydrochloride | 12 |
| 13 | Sertraline Hydrochloride | 60 |
| 14 | Celecoxib | 36 |
| 15 | Clopidogrel Hydrogen Bisulfate | 360 |
| 16 | Enrofloxacin | 12 |
| 17 | Gabapentin | 600 |
| 18 | Ibuprofen | 0 |
| 19 | Paracetamol | 0 |
| 20 | Pioglitazone | 0 |
| Total production capacity | | 11600.8 |
| R&D activity | | 0.2 |
| Total production capacity (18 products at a time and R&D)with 3MW captive power plant | | 11601 (all products) |
| TPM – Tones per Annum | | |

The unit is having consent under the Water Act, the Air act and Authorization under Hazardous Waste Rules, 2016 from APPCB valid from 05.03.2021 to 31.03.2024 with a total maximum production capacity of 22.23 TPD for 6 products and R&D activity (4-NPI is one among the consented 6 products). Copy of CFO and Authorization is enclosed as *Annexure-III*. The unit had valid EC from MoEF&CC and CFO from APPCB for manufacture of 4 Nitro-N-Methyl Phthalimide (4-NPI).

V.c. Manufacturing Process: The unit has five production blocks, administration block, solvent storage section and ETP. The accident occurred in production block D in reactor SSR:D01 of 3KL capacity. In production block-D, 16 reactors are housed in first floor, 03

ANFD and 02 drum flakers and day tanks were in ground floor. Reactor SSR:D01 stainless steel reactor of 3KL capacity installed in the year 2015 and used for the production of Stage 1 material i.e. 4-NitroN-Methyl Phthalimide (4-NPI). Though the unit was consented to manufacture 4-NPI, the unit was procuring and was not manufacturing in the unit till February 14, 2022. On the day of the accident the unit was manufacturing stage 1 intermediate product i.e. 4-NPI in reactor SSR:D01.

For the production of stage-1, 4-NPI, the Phthalic Anhydride flakes is reacted with Mono Methyl amine (MMA) gas. The reactor is charged with 2625 kgs of Phthalic Anhydride flakes and started heating using steam till it reaches 130⁰C to get molten mass. Then Mono Methyl Amine (MMA) gas is passed slowly by maintaining temperature between 150⁰-200⁰C. The reaction between Phthalic Anhydride and MMA gas is an exothermic in nature having heat of reaction 39kcal/g-mole. The whole reaction completes in 14 hours' time. As per the process design, the temperature rises up to 180⁰C and has to be maintained in the range 150-180⁰C by controlling the flow of MMA gas. The flow is controlled manually by operating the valve of MMA gas inlet line on the reactor.

The unit had installed temperature gauge, pressure gauge, azeotrope vessel, 4inch pipeline, two stage scrubber and a blower with an intermediate collection tank in reactor SSR:D01 but however there was no interlocking mechanism to cool the reactor when temperature goes up or there was no alarm system to alert the employees when desired temperature was not maintained.

VI. Description of the accident

M/s Porus laboratories Pvt. Ltd., Akkireddygudem, Musunuru Mandal, Eluru district is engaged in manufacturing drug intermediates. The unit has five production blocks namely A, B, C, D & E, it was informed that block A&E were not operational from past 18 months and block C was not operating from one month. The production of drug intermediates were manufactured in blocks B & D at the time of accident. There are 15 reactors in block B and 16 reactors in Block D. On the day of accident 12 reactors in block B were in operation and 3 reactors were idle/empty. In block D, 14 reactors were operational and one glass lined reactor was idle condition. In block B, drug intermediate M240 (1H-Indene-2carboxylic acid, 5-Chloro-2,3-dihydro-2-hydroxy-1-oxo-Methyle ester, (2S)-(M240)) and in block D 4NPI (4-NitroN-Methyl Phthalimide) were under production.

The accident occurred at Block D in the reactor no. SSR:D01 of 3KL capacity at 10:55PM on April 13, 2022. All the material in the stainless steel reactor (SSR:D01) got burnt during the accident and the reactor fell on ground floor. In block D, the 16 reactors are housed in first floor, 5 SS reactors are used for stage 1 production of N-Methyl Phthalimide and 11 Glass lined reactors are used for stage 2 production of 4-Nitro-N-Methyl Phthalimide. On April 13, 2022 at 4:30 PM, the reactor SSR:D01 of 3KL capacity was charged with 2625kgs of Phthalic Anhydride flakes. The process was started with heating the Phthalic Anhydride flakes using steam in the reactor jacket to its melting point of $130^{\circ} - 135^{\circ}\text{C}$. When the temperature reaches to 136°C , the steam is stopped and the Mono Methyl Amine (MMA) gas at 30-40kgs/hr is passed into reactor through 4 inch pipeline. The reaction is an exothermic and is expected to increase the temperature up to $180-200^{\circ}\text{C}$, in order to maintain the temperature between $150-180^{\circ}\text{C}$, the flow of MMA gas is controlled manually by operating the valve of the pipeline. On the day of accident, the flow of MMA gas was started at 6:30PM and it was expected to continue up to 8:30AM of 14.04.2022.

The shift -2 ended and shift - 3 was started at 9:00PM and Sh. Udrupati Krishnaiah, Chemist was responsible for the operation of the reactor in the first floor. Chi. Rajeev, Senior Executive was responsible for the operation of the production Block D. On the day of the accident, there were 5 persons working in the first floor and 13 persons in the ground floor. As the reaction was commenced by 6:30PM with the addition of MMA gas with a flow rate of 30-40kgs/hr, depending on the temperature of the reactor, the flow needs to be controlled by stopping and starting the valve of the MMA gas. It was informed that Sh. Krishnaiah, Chemist was not present in the block D for some time prior to the accident, hence the reaction was not under controlled conditions. As per the statements of Ch. Rajeev and Sh. Baji (Block C- shift In -charge), the incident occurred within 5 minutes after return of Sh. Krishnaiah to his work spot (1st floor of the Block D). Due to lack of attention by the chemist, there must be excess passing of MMA gas to the reactor and raised the temperature to beyond safe limit. This caused reaction highly aggressive with the rise of temperature and pressure and on return to work place, the chemist has been noticed and closed the valve of the MMA gas, within seconds the manhole of the reactor was opened with pressure causing the reaction mass to spill on the ground of the first floor and due to pressure, the reactor SSR:D01 exploded and has fallen from first floor to the ground floor. The fire broke out with severe explosion causing instantaneous death of 05 persons and 01 person died on the way to

hospital and 12 persons were severely burned due to the accident. The fire was limited to only Block D, only that portion of the civil structure where the reactor was housed has collapsed. The adjacent reactors, day tanks and other tanks were intact.

VI.a. Sequence of events and causes of accident

The sequences of events are described as follows:

| | |
|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 13.04.2022 4.30 P.M. | In the reactor SSR-D01 of 3 KL capacity in Block-D Phthalic Anhydride flakes of 2625Kgs was charged through manhole of the reactor and the process was started with heating Phthalic Anhydride flakes using the steam in the reactor jacket to melting temperature of 136 ^o C. |
| 13.04.2022 6.30 P.M. | <p>Passing of Mono Methyl Amine (MMA) gas was commenced through 4inch MS Pipeline with manual valve arrangement.</p> <p>The reaction between MMA gas and Phthalic Anhydride is an exothermic reaction thereby the temperature of reaction is expected to increase. As per the process design, the temperature has to raise up to 180^oC and it will be maintained in that range of 150 to 180^oC by controlling the flow of MMA gas manually by operating the valve on MMA gas inlet line on the said reactor.</p> <p>For a batch 600Kgs of MMA gas has to be passed into the said reactor with a flow rate of 30 to 40kgs/hour, which takes the reaction time of 14 hours on an average. As the reaction was commenced at about 6.30 P.M., it was expected to continue up to 8.30A.M on 14.04.2022.</p> |
| 13.04.2022 9.00 P.M. | Shift-II was completed and Shift-III was started. Sri Udrapati Krishnaiah, Chemist took charge of Shift-III in the 1 st Floor of the reactor (Block-D). |
| 13.04.2022 10.20 P.M. | Workers were enquiring about Sri U. Krishnaiah, Chemist who was responsible for operation of the reactors. However, he was not available till 10.40 P.M. in the 1 st Floor i.e., reactor floor. |
| 13.04.2022 10.50 P.M. | Workers noticed Sri U. Krishnaiah, Chemist in the reactor floor. He was unavailable from 10.20 P.M.to 10.50 P.M. in the reactor floor |

| | |
|-----------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | and not monitored the operation of the reactors. During his absence, the process parameters (Temperature, Pressure etc.,) might have increased in the reactor SSR-D01 beyond safe limits. |
| 13.04.2022 10.55 P.M. | Explosion took place inside the reactor SSR D01 resulting into manhole opening and agitator gear box got separated and the hot reaction mass spilled out on floor and after getting oxidized caught fire and immediately the SSR D01 reactor fell-down to the ground floor due to pressure resulting rampant fire. There were 18 workers working in the Production Block-D in Shift-III. 5 workers were in 1 st Floor and 13 workers were in Ground floor discharging duties. |
| 13.04.2022 11.15 P.M. | As a result of this incident, 5 workers died on spot and 13 workers injured. 1 worker died on the way to hospital and 12 workers were admitted in hospital. Immediately plant people started fire-fighting operations by using their fire hydrant system and it was informed to Fire Station, Nuzvid. |
| 13.04.2022 11.40 P.M. & In early hours of 14.04.2022 00.10 A.M. | A.P. State Disaster Management & Fire Services Department deployed 2 nos. of fire tenders along with the crew from Nuzvid and Vissannapet. |
| 14.04.2022 00.24 A.M. | The Department of Factories was informed by NDRF, Guntur about the incident. |
| 14.04.2022 01.15 A.M. | Fire was brought under control. |
| 14.04.2022 02.00 A.M. | Fire was completely extinguished. |

VI.b. Probable cause of the accident

It was informed by the workers during the 10.20P.M. to 10.50P.M Sri U. Krishnaiah, Chemist left the reactor during that period and no one was available to monitor the reaction in the SSR:D01 reactor. For the process of step 1 reaction for production of N-Methyl

Phthalimide, the reaction temperature should be maintained in the range of 150 to 200°C. The reactor is attached with digital temperature gauge to monitor the temperature of the reaction. Once the temperature of the reaction reaches to 180°C the addition of MMA gas should be cut down to maintain temperature of 200°C. During the absence of the Chemist, the reaction temperature could have been crossed the safe limit of 200°C. After returning to the reactor the Chemist might have noticed the raise in temperature and closed the valve of the MMA gas. Due to which, the reactor manhole lid got separated and the reaction mass in the reactor spilled on the ground, which caused the fire in the 1st Floor. Due to the built up of pressure inside, the reactor fell-down and the reaction mass inside the reactor gushed out causing the immediate fire in the ground floor.

Continuous addition of MMA gas and not maintaining the desired temperature and absence of effective cooling system has led to a runaway reaction. Since there were no reaction terminators, due to runaway reaction the temperature and pressure has escalated, which caused the pressure built up in the reactor causing the bulging inside the reactor and tear of the reactor shell. Due to which, the reaction mass was forced out of the manhole causing explosion of the reactor and fallen from the first floor to ground floor. The entire reaction mass was spilled outside the reactor. On the first floor of the Block D, there was 3000kgs of Phthalic Anhydride, 1600kgs of N-Methyl Phthalimide was kept for charging into the reactor. Phthalic Anhydride is highly reactive substances and incompatible with strong oxidizing agents, strong bases, moisture, strong acids, dust may form an explosive mixture with air. Due to presence of Phthalic Anhydride and N-Methyl Phthalimide on the floor, the reaction mass reacted and fire broke out immediately. Lack of automation, Lack of comprehensive standard operating procedure on maintaining the desired reaction temperature & on rate of addition of chemicals, lack of training of employees, not checking the safety of the reactor, absence of alarm system in the reactor to alert the personnel on not maintaining desired temperature, lack emergency preparedness are all the causes of accident.

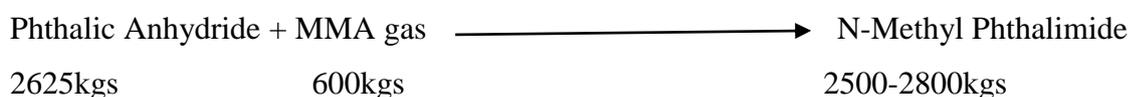
It was further informed that the process of stage 1 production of 4-NPI involving Phthalic Anhydride was not manufacturing in the unit from April 2020 and was procuring the materials. It was started manufacturing from February 14, 2022 without any safety audit by third party. The Hazard and operability study (HAZOP) was carried out by third party in May 26, 2017 for this stage 1 drug intermediate and recommendations such as interlocking of

temperature with MMA gas feed, provision of pressure relief systems, provision of alarm systems with regard to high temperatures etc. were made for the safety operation of the stage 1 products. However without compliance of HAZOP recommendations and Pre Start-up Safety Review (PSSR), the unit restarted the production of 4-NPI causing explosion and fire break out. Had these systems been provided, the excess pressure/temperature in the reactor would led to alarms, auto cut off of MMA gas addition, release of pressure thereby this accident would have been averted.

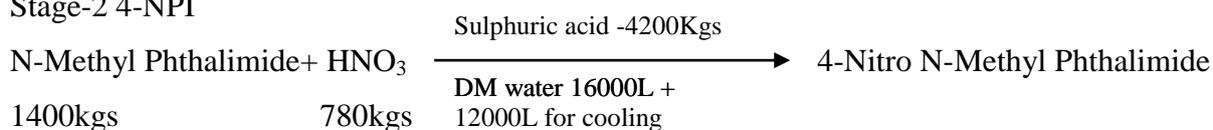
The reactor may not have been designed to withstand any deviations in the load and shell of the reactor was weakened. It is essential to carry out third party assessment to verify the safety of the reactors once in two years. The unit has carried out internal check of the reactors (copy of the internal test report is enclosed as *Annexure-IV*) but safety of the reactor was not ascertained through any certified agency. Further it was reported that the reactor was around 6 years old. Under such circumstance, the committee opines that it is essential to assess safety of the reactor to withstand deviations in the load.

The reactions involved in the stage 1 process are as follows:

Stage-1 4-NPI



Stage-2 4-NPI



VI.c. Who is responsible for the accident?

It is the responsibility of the Unit (Factory Manager) to comply with all statutory, regulatory, safety clearances stipulated by various concerned departments. Equal responsibility also lies with employees to comply with operational procedures stipulated by the unit, careful attitude & dedication towards work. In this particular incident the committee observed that both the Unit (Factory Manager) and its employees are responsible for the accident.

VI.d. Qualification & experience of deceased/ injured employees

18 employees were present during shift-3 in the production block D at the time of the accident, details are depicted in table 1 below:

Table 1: Details of deceased and injured persons due to accident

| S. No. | Name of the deceased | Age | Designation | Qualification | Experience in the unit (in years) | Remarks |
|---------------|-----------------------------|------------|---------------------------------|-----------------------|------------------------------------------|--------------------------------------------------|
| 1 | Sh. Udrupati Krishnaiah | 34 | Chemist | B.SC. | 5.5 | Died on the spot |
| 2 | Sh. Karu Ravidas | 40 | Loading/ unloading worker | 3 rd Class | 3 | Died on the spot |
| 3 | Sh. Monoj Mochi | 25 | Loading/ unloading worker | 2 nd Class | 2 | Died on the spot |
| 4 | Sh. Subhas Ravidas | 32 | Loading/ unloading worker | 3 rd Class | 2 | Died on the spot |
| 5 | Sh. Awadesh Ravidas | 27 | Loading/ unloading worker | 5 th Class | 2.5 | Died on the spot |
| 6 | Sh. Boppudi Kiran Kumar | 42 | Loading/ unloading worker | 8 th Class | 7 | Died on the way to hospital |
| 7 | Sh. Munark Paswan | 47 | Loading/ unloading worker | 4 th Class | 2.8 | 65-75% (expired on 19-04-2022) |
| 8 | Sh. Kancharla Joseph Kumar | 26 | Loading/ unloading worker | 4 th Class | 7 | 81%(expired on 22-04-2022) |
| 9 | Sh. S. Nageswara Rao | 36 | Loading/ unloading worker | 9 th Class | 7 | 99 % (Expired on 21-04-2022) |
| 10 | Sh. Raushan Mochi | 29 | Loading/ unloading worker | 5 th Class | 2 | 73% (expired on 30-04-2022) |
| S. No. | Name of the injured | Age | Designation | Qualification | Experience in the unit | Percentage of burns and present condition |
| 11 | Sh. Mullapudi Nagaraju | 37 | Loading/ unloading | 9 th Class | 7 | 65-70% |

| | | | | | | |
|----|---------------------|----|---------------------------------|-----------------------|-----|----------------------------------------|
| | | | worker | | | |
| 12 | Sh. Shaik Subani | 36 | Loading/ unloading worker | 8 th Class | 7 | 10% |
| 13 | Sh. Ravi Kumar | 19 | Loading/ unloading worker | 5 th Class | 2 | 28% |
| 14 | Sh. Bhikari Ravidas | 28 | Loading/ unloading worker | 7 th Class | 2 | 40% |
| 15 | Sh. Sudhir Kumar | 27 | Loading/ unloading worker | 7 th Class | 2.7 | 20% |
| 16 | Sh. Varun Das | 31 | Loading/ unloading worker | 5 th Class | 2 | 60% |
| 17 | Sh. Sudhir Ravidas | 42 | Loading/ unloading worker | 4 th Class | 2 | 30% |
| 18 | Sh. Ch. Rajeev | 38 | Sr. Executive | B. Tech | 6.2 | 5% (Discharge on 19-04- 2022) |

VII. Damage Assessment and Calculation of Compensation

The accident was restricted to production block D where 16 reactors were housed, the explosion occurred only in reactor SSR:D01. The other reactors were intact, no impacts observed outside the production block D or outside the unit. The damages that occurred due to accident are as follows:

VII.a. Loss of life and status of award of compensation

On the day of accident, 18 employees were present in the production block D, out of which, 5 employees died in the accident spot, one died on the way to hospital and four employees died in the hospital. The death of the employees is due to accident in the unit and is liable to be compensated.

To ascertain the adequacy of compensation, the committee has calculated compensation by two methods, first as per the Judgement dated 16th August 2019 of Hon'ble Supreme Court of India in Civil Appeal No. 6339 of 2019 and judgement in the matter of Sunita Tokas Vs New

India Insurance Co. Ltd. & Civil Appeal No.3483 of 2008 and second as per Employee Compensation Act, 1923 and the highest among two is taken to determine whether compensation of ₹50.00 lakhs paid by the unit & State Government of AP to the dependents of the deceased is adequate or not and assessment of calculation is explained in table 2 and table 3. The unit & AP State Government has already paid compensation of ₹50,00,000/- (Rupees Fifty Lakhs only) to each deceased family.

Table 2: Assessment of compensation

| Name of the deceased | A* | OR Whichever is more is considered by the committee to ascertain the adequacy of compensation | B As per Employee Compensation Act, 1923 Compensation= fifty percent of the monthly wages of the deceased x relevant factor ^{&} |
|----------------------------|-----------------|--------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| Sh. Udrupati Krishnaiah | ₹ 57,27,240/- | | ₹ 14,95,500/- |
| Sh. Karu Ravidas | ₹ 17,06,764.8/- | | ₹ 13,81,275/- |
| Sh. Monoj Mochi | ₹ 17,06,764.8/- | | ₹ 1626825 |
| Sh. Subhas Ravidas | ₹ 17,06,764.8/- | | ₹ 15,28,875/- |
| Sh. Awadesh Ravidas | ₹ 17,06,764.8/- | | ₹ 16,01,775/- |
| Sh. Boppudi Kiran Kumar | ₹ 26,08,320/- | | ₹ 13,38,675/- |
| Sh. Munark Paswan | ₹ 17,06,764.8/- | | ₹ 12,23,025/- |
| Sh. Kancharla Joseph Kumar | ₹ 31,01,702.4/- | | ₹16,14,600/- |
| Sh. S. Nageswara Rao | ₹ 30,45,120/- | | ₹14,59,800/- |
| Sh. Raushan Mochi | ₹ 17,067,64.8/- | | ₹15,74,400/- |

* A → calculation is explained in table-3.

&→ As per EC Act, 1923 the Central Government has specified ₹15,000/- as monthly wages with effect from 03.01.2020. The relevant factor as per EC Act, 1923 is (the completed years of age on the last birthday of the workman immediately preceding the date on which the compensation fell due).

Table 3: Amount of compensation in INR as per Hon'ble Supreme Court Judgement in civil appeal No. 6339 of 2019 and civil appeal No.3483 of 2008

| <i>Name</i> | <i>Age at the time of death</i> | <i>Salary per month for permanent employee</i> | <i>Future prospects (40% of the income)</i> | <i>less tax if any as per the prevailing tax slabs</i> | <i>Salary after deducting tax</i> | <i>Deduction towards personal expenses</i> | <i>Loss of monthly income to the dependents</i> | <i>Annual income</i> | <i>loss of future income</i> | <i>Expenses for shifting mortal remains and Loss of estate & funeral expenses (approx. cost)</i> | <i>Loss of Love and affection</i> | <i>Compensation</i> |
|-------------------------|---------------------------------|------------------------------------------------|---------------------------------------------|--------------------------------------------------------|-----------------------------------|--------------------------------------------|-------------------------------------------------|----------------------|------------------------------|------------------------------------------------------------------------------------------------------|-----------------------------------|---------------------------|
| | | A | B | C | D | $E^T = 50\% \text{ of } D$ | $F = D - E$ | $G = F * 12$ | $H^{\#}$ | $I^{\$}$ | $J^{\&}$ | $L = (F * G * H) + I + J$ |
| Sh. Udrupati Krishnaiah | 34 | 46150 | 18460 | - | 64610 | 32305 | 32305 | 387660 | 6202560 | 100000 | 200000 | 6502560 |
| Sh. Karu Ravidas | 40 | 10467 | 4186.8 | - | 14653.8 | 7326.9 | 7326.9 | 87922.8 | 1318842 | 100000 | 200000 | 1618842 |
| Sh. Monoj Mochi | 25 | 10467 | 4186.8 | - | 14653.8 | 7326.9 | 7326.9 | 87922.8 | 1582610 | 100000 | 200000 | 1882610 |
| Sh. Subhas | 32 | 10467 | 4186.8 | - | 14653.8 | 7326.9 | 7326.9 | 87922.8 | 1406765 | 100000 | 200000 | 1706765 |

| | | | | | | | | | | | | |
|----------------------------|----|-------|--------|---|---------|---------|---------|----------|---------|--------|--------|---------|
| Ravidas | | | | | | | | | | | | |
| Sh. Awadesh Ravidas | 27 | 10467 | 4186.8 | - | 14653.8 | 7326.9 | 7326.9 | 87922.8 | 1494688 | 100000 | 200000 | 1794688 |
| Sh. Boppudi Kiran Kumar | 42 | 17175 | 6870 | - | 24045 | 12022.5 | 12022.5 | 144270 | 2019780 | 100000 | 200000 | 2319780 |
| Sh. Munark Paswan | 47 | 10467 | 4186.8 | - | 14653.8 | 7326.9 | 7326.9 | 87922.8 | 1142996 | 100000 | 200000 | 1442996 |
| Sh. Kancharla Joseph Kumar | 26 | 20846 | 8338.4 | - | 29184.4 | 14592.2 | 14592.2 | 175106.4 | 2976809 | 100000 | 200000 | 3276809 |
| Sh. S. Nageswara Rao | 36 | 20425 | 8170 | - | 28595 | 14297.5 | 14297.5 | 171570 | 2573550 | 100000 | 200000 | 2873550 |
| Sh. Raushan Mochi | 29 | 10467 | 4186.8 | - | 14653.8 | 7326.9 | 7326.9 | 87922.8 | 1494688 | 100000 | 200000 | 1794688 |

^T Deduction towards personal expenses varies @50% for age of the deceased 20yrs to 50yrs and @40% for age of the deceased more than 50yrs.

[#] Depending on the age, the factor is fixed. 18 for age group 21-25 years, 17 for 26-30 years, 16 for age group 31-35 years, 15 for 36-40 years, 14 for age group 41-45 years and 13 for 46-50 years

^{\$} Entire responsibility taken by unit for shifting mortal remains

& The committee fixed the amount as ₹2,00,000/- for loss of love and affection

@ The committee fixed the amount as ₹1,00,000/- for loss of estate, funeral expenses and for shifting mortal remains

VII.b. Status of award of compensation to burn injured employees

Eight employees were injured during accident and sustained burns. Soon after the accident, the unit has shifted the injured to the nearby hospital and expenditure incurred towards their treatment and hospital stay is borne by the unit. All the injured employees were discharged from the hospital and are in good conditions. Government of A.P has announced compensation of ₹5.00 lakhs each to the injured employees and the amount is deposited in their respective back account.

Referring to Uphaar tragedy victims case, *MCD Vs. Uphaar Tragedy Victims Association – (2011) 14 SCC*, and in other NGT case, the amount was calculated as ₹15 lakhs for persons who have burns in excess of 50%, Rs. 10 Lakhs for persons who have burns from 25-50% and ₹5 lakhs for persons who have injuries between 5 to 25%. Victims who were treated as outpatients and who had but minor degree of burns or other forms of simple injuries shall be paid ₹ 2 lakhs. The amounts shall be directed to be paid within the time the Tribunal may set and direct a further liability of interest at 12% p.a. for default of payment. The unit has paid the following compensation to the injured employees:

Table 4: Details of compensation to injured employees

| <i>Name of the injured</i> | <i>Percentage of burn injuries</i> | <i>Date of admission to Hospital</i> | <i>Date of Discharge</i> | <i>Compensation amount paid by the unit</i> | <i>Compensation to be paid</i> | <i>Remarks</i> |
|----------------------------|------------------------------------|--------------------------------------|--------------------------|---------------------------------------------|--------------------------------|-------------------------------------------------|
| Sh. Mullapudi Nagaraju | 65-70% | 13.04.22 | 13.06.22 | ₹ 5 Lakhs | ₹15.00 Lakhs | Unit shall pay remaining amount of ₹10.00 lakhs |
| Sh. Shaik Subani | 10% | 13.04.22 | 07.06.22 | ₹ 5 Lakhs | ₹ 5 Lakhs | - |
| Sh. Ravi Kumar | 28% | 13.04.22 | 30.05.22 | ₹ 5 Lakhs | ₹10.00 Lakhs | Unit shall pay remaining amount of ₹5.00 lakhs |
| Sh. Bhikari | 40% | 13.04.22 | 20.05.22 | ₹5 Lakhs | ₹10.00 | Unit shall |

| | | | | | | |
|--------------------|-----|----------|----------|-----------|--------------|-------------------------------------------------|
| Ravidas | | | | | Lakhs | pay remaining amount of Rs.5.00 lakhs |
| Sh. Sudhir Kumar | 20% | 13.04.22 | 20.05.22 | ₹5 Lakhs | ₹ 5 Lakhs | - |
| Sh. Varun Das | 60% | 13.04.22 | 30.05.22 | ₹ 5 Lakhs | ₹15.00 Lakhs | Unit shall pay remaining amount of ₹10.00 lakhs |
| Sh. Sudhir Ravidas | 30% | 13.04.22 | 08.06.22 | ₹ 5 Lakhs | ₹10.00 Lakhs | Unit shall pay remaining amount of ₹5.00 lakhs |
| Sh.Ch. Rajeev | 05% | 13.04.22 | 19.04.22 | ₹ 5 Lakhs | ₹5 Lakhs | - |

VII.c. Contribution of Emissions into the atmosphere

Around 3000kgs of Phthalic Anhydride on the floor, 2625kgs Phthalic Anhydride & 160kgs of MMA gas in reactor and 1600kgs of N-Methyl Phthalimide was burnt causing emissions into the atmosphere. Due to high pressure, the portion of the civil structure where reactor SSR:D01 was housed had collapsed. From interaction with employees, it was understood that huge noise was heard when the reactor collapsed. The adjacent 15 reactors were housed in first floor but were intact and no explosion occurred. During inspection, there were no accumulated waste materials in production block D and all waste materials was disposed to Transportation, Storage, Disposal Facility (TSDF), at Visakhapatnam as per the directions of APPCB. The committee did not observe any other physical damages during the visit. The environmental prices for the material wasted are not available. To account for the damage cost due to the material wasted, the committee has assumed the market price of the material is equal to the opportunistic cost. The committee opines that presently restoration measures or clean-up or remediation is not required as all the materials have been disposed to TSDF, Visakhapatnam.

Damage cost = Market price+ opportunistic cost+ treatment cost

| | | | | | | |
|-------------|---|------------------------------------------------------------------------------------|---|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Damage Cost | = | Market price | + | Opportunistic cost | + | Treatment cost |
| | = | Actual cost of the material lost | + | The essential product which could be beneficially used in treatment of ailments is wasted. The committee has assumed the market price of the product is considered as opportunistic cost | + | <p>Nil</p> <p>The injured employees have recovered and informed that they are not facing any health issues. The cost of treatment is already borne by the unit. Hence presently no additional treatment cost is required for injured employees but unit shall carry out health monitoring of injured employees for two years.</p> <p>Since the entire reaction mixture in the reactor and 3000kgs of Phthalic Anhydride and 1600kgs of N-Methyl Phthalimide were burnt in the fire, the remaining waste materials was disposed to TSDF. Hence treatment cost is taken as Nil.</p> |
| | = | 5625 Kgs of Phthalic Anhydride+160 kgs of MMA gas+ 1600 Kgs of N Methyl Pthalimide | + | 5625 Kgs of Phthalic Anhydride+ 160 kgs of MMA gas+ 1600 Kgs of N Methyl Pthalimide | + | Nil |

| | | | | | | |
|--------------------------|---|-----------------------------------------------------------------------------------------|---|------------------------------------------------|---|-----|
| | = | ₹120/- per Kg+ ₹145/- per Kg+ ₹132/- per Kg | + | ₹120/- per Kg+ ₹145/- per Kg+ ₹132/- per Kg | + | Nil |
| | = | ₹675000/-+ ₹23200/- + ₹211200/- | + | ₹675000/- + ₹23200/- + ₹211200/- | + | Nil |
| | | ₹ 909400/- | + | ₹ 909400/- | | |
| Total damage cost | = | ₹ 18,18,800/- Rupees Eighteen Lakhs Eighteen Thousand and Eight Hundred only | | | | |

VII.c. Environmental Compensation on account of non-compliances

From the available records it is found that the unit started the production of stage 1 -4NPI from February 14, 2022. Since the unit has not complied with safety requirements for the production of 4-NPI causing to a major accident. Hence the committee has calculated EC as per CPCB formula:

$$EC=PI \times N \times R \times S \times LF$$

Where,

EC = Environmental Compensation in INR

PI = Pollution Index of industrial sector (Red-80)

N = Number of days of violation took place (start of unit operation to date of accident)

R = A factor in Rupees for EC (Rs. 250/- may be assumed)

S = Factor for scale of operation (Medium - 1)

LF = Location factor (the unit is located in Akkireddygudem and >10Km from the municipal boundary and population is less than 10 lakh=1)

- i. Pollution Index of industrial sector (PI): Andhra Pradesh Pollution Control Board has categorized this industry into red category of industries and accordingly the Combined consent & Authorisation have been granted. For red category of industries, average pollution index is 80.
- ii. Number of days of violation (N): The number of days for which violation took place is considered as the period between the day of violation observed and day of compliance verified by the CPCB/ APPCB. From the available records, it is observed that unit has resumed the production of 4-NPI on February 14, 2022. Based on the

- criteria, 59 days (from 14-02-2022 to 13-04-2022) is considered for calculation of period of violation for estimating EC.
- iii. Scale of operation (S): The industry is considered as medium. Thus, scale of operation (S) for EC estimation is considered as 1.
- iv. Location factor (LF): The industry is located in Akkireddygudem, Eluru district and the total population within municipal boundary and up to 10km distance from the municipal boundary of the city is less than 1 million. Thus location factor (LF) is considered as 1 for EC estimation
- v. Factor in Rupees (R) (₹): As per the environmental compensation estimation guidelines, factor of rupees may be minimum of ₹100/- and maximum of ₹500/-. The factor of rupees is considered as ₹250/- for estimating environmental compensation for this industry, considering its pollution potential.

| S.No. | Period of non-compliance | PI | S | LF | R (₹) | N (days) | Environmental compensation (₹) |
|--------------------------------------------------------|--------------------------|----|---|----|-------|----------|--------------------------------|
| 1 | 14.02.2022 to 13.04.2022 | 80 | 1 | 1 | 250/- | 59 | 11,80,000/- |
| | Total EC for violations | | | | | 59 | 11,80,000/- |
| <i>Rupees Eleven Lakhs Eighty Thousand Only</i> | | | | | | | |

VII.d. Total Compensation M/s Porus Laboratories Pvt. Ltd. liable to Pay

- a. The unit and the State Government have already paid ₹50.00 lakhs to the family of each deceased. Total of ₹500.00 lakhs paid towards Compensation to the deceased persons families. However, for the deceased Late Sh. Udrupati Krishnaiah, as per the calculation ₹65,02,560/- has to be paid, hence the remaining amount of ₹15,02,560/- shall be paid by the unit.
- b. Referring to Uphaar tragedy victims case, MCD Vs. Uphaar Tragedy Victims Association – (2011) 14 SCC and reports submitted to Hon'ble NGT in other accidents, the total compensation to be paid to the eight injured employees is ₹75.00 lakhs @ of ₹5.00 lakhs to three employees and ₹10.00 lakhs to three employees and ₹15 Lakhs for two employees. However the unit has already paid ₹40.00 lakhs @ ₹5 Lakhs for each of the eight injured employees *which is not adequate*. Hence, the unit shall pay additional compensation of ₹10.00 lakhs each to two injured employees

namely Sh. Mullapudi Nagaraju and Sh. Varun Das and ₹5.00 lakhs each to three employees namely Sh. Ravi Kumar, Sh. Bikari Ravidas and Sh. Sudhir Ravidas respectively.

- c. The unit shall pay Environmental Compensation of ₹18,18,800/- to CPCB on account of contribution of emissions into environment.
- d. The unit shall pay Environmental Compensation of ₹11,80,000/- to CPCB for violations. The unit shall pay total compensation of ₹29,98,800/- (Rupees Twenty Nine Lakhs Nighy Eight Thousand and Eight Hundred only) to CPCB.

VII.e. Current Status of the Unit

When the accident occurred reactions were in progress in other reactors which were abruptly stopped and also in production Block B. Hence, the unit was permitted to safely shut down its operations. On the day of committee inspection, the unit was under complete shutdown. The reaction mass spilled from the reactor SSR:D01 and 3000kgs of Phthalic Anhydride and 1600kgs of N-Methyl Phthalimide that were burnt in the fire including the reaction mixture in other 15 reactors (total of 50 tons) of chemical wastes were disposed to TSDF, Visakhapatnam. At the time of committee inspection, reactor SSR:D01 which exploded was lying in the block D and is yet to be disposed of. The copy of the manifest is enclosed as *Annexure V*. During inspection, Effluent Treatment Plant (ETP) was not operational and all the treatment units were empty. 40KL of water was used as fire hydrant to control the fire, the contaminated fire hydrant water was partly collected and part of the water find its way outside the unit. The partly collected contaminated water along with the effluent in the ETP was sent to Common Effluent Treatment Plant, Visakhapatnam and copy of manifest is attached as *Annexure VI*.

There were two bullets each of 22KL capacity containing MMA gas, one bullet was empty and another bullet contained 14.5KL of MMA gas. The entire MMA gas was transported to the sister concern unit. The storage yard of MMA gas is having license from Controller of Explosives, Government of India valid up to September 30, 2024. After the accident, Deputy Chief Controller of Explosives, Visakhapatnam inspected the unit and verified the safety measures at MMA storage yard.



View of the Reactor exploded location from the 1st Floor



View of the Blackened ceiling of D-Block



Top view of the Reactor location from which the Reactor had fallen from the 1st Floor



From inside to outside view of D-Block in the ground floor



Plant premises outside D-Block



View of the ETP premises

VII.f. Actions taken by various departments

After the accident, Deputy Chief Inspector of Factories vide order dated 16.04.2022 issued “Prohibitory Orders” which states as “Manufacturing process in the premises of the factory are prohibited with immediate effect until further order”. Copy of the Prohibitory orders is enclosed as *Annexure-VII*. APPCB officials inspected the unit on April 14, 2022 and recommended the disposal of chemical waste to TSDF and contaminated water from fire hydrant to dispose to CETP and issued temporary closure directions until the wastes are properly disposed and Pollution Control Systems are augmented. The copy of the temporary closure order is attached as *Annexure VIII*. In continuation, Deputy Chief Inspector of Factories, Vijayawada issued Show cause to the unit on May 25, 2022 and copy enclosed as *Annexure-IX*.

VIII Status of On-site and Off-site Emergency plans and mock drills conducted

The unit has prepared On-site emergency plan and updated in June 2021 and unit is regularly conducting onsite emergency mock drills and latest was conducted on November 18, 2021.

The unit is using Phthalic Anhydride and MMA gas which meets the criteria laydown in the Part I of Schedule-1 and is listed in Part II of Schedule 1. Thus, these two chemicals are hazardous chemicals as per the rule 2(e) of Manufacture, Storage and Import of Hazardous Chemical Rules, 1989. The chemicals used by unit are not listed in Part I or Part II of Schedule 3. Also, the quantity of chemical used by the unit is much less than threshold quantity mentioned in the said schedule 3. It can be inferred that threshold quantity of hazardous chemical used/stored in the unit is less than threshold quantity specified in the column 3 & 4 of Schedule 3 appended to MSIHC Rules, 1989, therefore, rules 7 to 15 of said MSIHC Rule are not applicable to the industry. The industry is not a Major Accident Hazard (MAH) unit. The Rules 7 to 15 of the said Rules are:

7. Approval and notification of sites
8. Updating of the site notification following changes in the threshold quantity
9. Transitional provisions
10. Safety Reports and Safety audit reports
11. Updating of reports under rule 10
12. Requirement for further information to be sent to the authority

13. Preparation to on-site emergency plan by the occupier
14. Preparation of off-site emergency plan by the authority
15. Information to be given to persons liable to be affected by a major accident

Eluru district off-site emergency plan was prepared in the year November, 2009

IX Suggested remedies to avert such accidents in future

The committee suggests following remedial measures

1. The units shall manufacture only those products specified in the EC and Consent. If the unit intends to manufacture any additional products or intermediates or restart manufacturing of a consented product after a long gap the unit shall conduct safety test of reactor and impart adequate training to its employees.
2. The units shall provide interlocking facility for critical parameters with raw material feeding and with reaction terminators.
3. To provide auto alarm system or siren system to alert the employees in case of any deviations noticed in desired range of process parameters.
4. To provide dedicated ceiling roof mounted automatic fire detection and suppression system for all blocks where flammable chemicals are stored/used.
5. The units shall carry out third party assessment through any certified agency or competent person on safety & suitability of the reactors.
6. To conduct HAZOP (Hazard and Operability) study and Layers of Protection analysis study for all the processes by an expert third party before resuming the production in order to identify and evaluate risks by considering the possible deviations during the reaction, storage, handling, transfer etc.
7. The units shall carry Hazard Analysis and Risk Assessment (HARA) considering all products, bye-products, intermediates or any other manufactured in the unit.
8. To prepare comprehensive SOP for all consented products and to impart training to all employees on SOP's, product process, safety aspects. The employees shall be given hands on experience with the product process under the supervision of senior

employees. Overall the industries should be prepared for emergency response readiness & effectiveness in terms of major accidents.

9. The cooling system of all reactors shall be designed properly based on the evaluation of heat of reactions scientifically in order to withstand the possible deviations of parameters beyond operational limits.

X Concluding remarks

1. Major accident occurred at M/s Porus Laboratories Pvt. Ltd., Unit-IV on 13.04.2022 due to explosion of reactor SSR:D01 during the production of Stage 1 drug intermediate 4 NPI. The immediate trigger to the accident is ineffective cooling and deviation in the rate of addition of MMA gas into reactor-SSR:D01 which contained 2625kgs of Phthalic Anhydride and 160kgs of MMA gas causing rise in temperature & pressure beyond safe limit. The unit had valid EC from MoEF&CC and CFO from APPCB for manufacture of 4 -NPI.
2. Lack of proper automation, Lack of comprehensive standard operating procedure on maintaining the desired reaction temperature & on rate of addition of chemicals, lack of training, not checking the safety of the reactor, absence of alarm system in the reactor to alert the personnel on not maintaining desired temperature, absence of automatic fire detection system and lack of interlocking system are all the causes for accident. Immediate trigger is deviation in adding MMA gas to reactor and not maintaining the desired temperature of less than 200⁰C in the reactor.
3. Eighteen employees were present in the production block D during accident, out of which 5 employees died on spot, one employee died on the way to hospital, four employees died in hospital and eight employees were injured. The injured employees have recovered and discharged from the hospital.
4. To ascertain the adequacy of compensation the committee has calculated compensation using two methods. As per Hon'ble Supreme Court Judgment in civil appeal No. 6339 of 2019 and civil appeal No.3483 of 2008, the compensation paid for the deceased is adequate, however, for the deceased Late Sh. Udrupati Krishnaiah, as

per the calculation ₹65,02,560/- has to be paid, hence the remaining amount of ₹15,02,560/- shall be paid by the unit. The amounts shall be directed to be paid within the time or the Tribunal may set and direct a further liability of interest at 12% p.a. for default of payment.

5. Referring to Uphaar tragedy victims case, MCD Vs. Uphaar Tragedy Victims Association – (2011) 14 SCC and reports submitted to Hon'ble NGT in other accident matters, the total compensation to be paid to the eight injured employees is ₹75.00 lakhs @ of ₹5.00 lakhs to three employees and ₹10.00 lakhs to three employees and ₹15 Lakhs for two employees. However the unit has already paid ₹40.00 lakhs @ ₹5 Lakhs for each of the eight injured employees **which is not adequate**. Hence, the unit shall pay additional compensation of ₹10.00 lakhs each to two injured employees namely Sh. Mullapudi Nagaraju and Sh. Varun Das and ₹5.00 lakhs each to three employees namely Sh. Ravi Kumar, Sh. Bikari Ravidas and Sh. Sudhir Ravidas respectively. The amounts shall be directed to be paid within the time or the Tribunal may set and direct a further liability of interest at 12% p.a. for default of payment.
6. The committee did not observe any damage to the surrounding environment and the accident & impacts were confined only to production block-D. The entire reaction mixture was spilled out from the reactor SSR:D01 and burnt along with 3000kgs of Phthalic Anhydride and 1600kgs of N-Methyl Phthalimide. Immediate restoration or remediation is not required in this incident, however the health of the injured employees shall be monitored for a period of 2 years. The unit may tie up with hospitals for health monitoring. The unit started the production of 4-NPI on 14.02.2022 without taking adequate safety measures leading to a major accident. For violations and the damage caused (contribution of reaction mixture into atmosphere) the unit shall pay Environmental compensation of **₹29,98,800/- (Rupees Twenty Nine Lakhs Nifty Eight Thousand and Eight Hundred only) to CPCB.**
7. Eluru District off site emergency plan was prepared in the year November, 2009. Latest onsite emergency plan of Porus Laboratories Pvt. Ltd., Unit –IV was prepared in June 2021. The unit is regularly conducting onsite emergency mock drills and latest was done on November 18, 2021.

8. The committee humbly submits that all industries have to ensure self-monitoring, self-compliance and comply with statutory guidelines, safety measures issued by MoEF&CC, CPCB, APPCB, Directorate of Factories etc.



P. Arun Babu, I.A.S.
Joint Collector
Eluru District



Poornima B.M.
Scientist-D
CPCB
Regional Directorate-Chennai



Environmental Engineer,
APPCB, RO, Vijayawada.

Item No. 01

(Court No. 1)

**BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI**

(By Video Conferencing)

Original Application No. 284/2022

In re: News item in NDTV dated 14.04.2022 titled "6 killed, 12 injured
after fire breaks out at Andhra Pradesh Pharma Unit"

Date of hearing: 20.04.2022

**CORAM: HON'BLE MR. JUSTICE ADARSH KUMAR GOEL, CHAIRPERSON
HON'BLE MR. JUSTICE SUDHIR AGARWAL, JUDICIAL MEMBER
HON'BLE PROF. A. SENTHIL VEL, EXPERT MEMBER**

ORDER

1. The proceedings have been initiated in the matter on the basis of the captioned media report to the effect that six persons have died and twelve injured in a fire incident in a pharma company at Akkireddygudem in West Godavari District in Andhra Pradesh. The fire incident is said to be due to reactor blast, on account of gas leak. The Chief Minister has announced compensation for the heirs of the deceased and also for the injured.

2. Media report gives rise to a substantial question of environment about the compliance of safety norms in operation of the unit, particularly the Manufacture, Storage and Import of Hazardous Chemical Rules, 1989 and the Chemical Accidents (Emergency Planning, Preparedness and Response) Rules, 1996. It is necessary to ascertain whether on-site and off-site Plans have been prepared and mock drills conducted, as required. Though compensation for the victims has already been announced, the status of payment in pursuance of announcement also needs to be found. Further, it is necessary to

examine what precautions should be taken to avoid recurrence of such incidents.

3. Accordingly, we constitute a joint Committee comprising of CPCB, State PCB and District Magistrate, West Godavari to ascertain the cause of incident, extent of damages caused, remedial measures taken for restoration, status of compliance of environmental safety norms, status of payment of compensation, steps required to be taken for restoration and to prevent any such incident in future. CPCB and State PCB will be the nodal agency for coordination and compliance. The joint Committee may take into account reports furnished in respect of similar incidents, in pursuance of orders of this Tribunal, in recent past, available on the website of CPCB, on the pattern of orders in O.A No. 272/2022 and O.A No. 143/2022.¹ The Committee may undertake visit to the site, interact with the stakeholders and after verification of facts, furnish a report to this Tribunal within three months by e-mail at judicial-ngt@gov.in preferably in the form of searchable PDF/ OCR Support PDF and not in the form of Image PDF.

List for further consideration on 17.08.2022.

A copy of this order be forwarded to the CPCB, State PCB and District Magistrate, West Godavari by email for compliance.

Adarsh Kumar Goel, CP

¹Order dated 12.04.2022 in O.A No. 272/2022, In re: News item published in The Times of India dated 12th April, 2022, titled **“Six killed in chemical factory blast in Gujarat”**

Order dated 08.03.2022 in O.A No. 143/2022, In re: News item published in The Tribune dated 22.02.2022 titled **“7 killed in blast at firecrackers factory in Himachal Una”**

Sudhir Agarwal, JM

Prof. A. Senthil Vel, EM

April 20, 2022
Original Application No. 284/2022
AB



ANDHRA PRADESH POLLUTION CONTROL BOARD
D.No. 33-26-14D/2, Near Sunrise Hospital, Pushpa Hotel Centre,
Challamavari Street, Kasturibaipet, Vijayawada - 520 010.
Phone No. 0866 - 2436216/17

**RED CATEGORY
CONSENT & AUTHORIZATION ORDER**

Consent Order No: APPCB/VIA/VIA/14347/HO/CFO/2019- 05/03/2021

CONSENT is hereby granted for Operation under section 25/26 of the Water (Prevention & Control of Pollution) Act, 1974 and under section 21 of Air (Prevention & Control of Pollution) Act 1981 and amendments thereof and Authorisation under Rule 6 of the Hazardous and Other Wastes (Management & Transboundary Movement) Rules, 2016 & Amendments thereof and the rules and orders made there under (hereinafter referred to as 'the Acts', 'the Rules') to:

M/s. Porus Laboratories Pvt. Ltd., Unit - IV (Change of Product Mix)
Sy. No. 87, 92/10, 106/1C, 106/2C, 107/2A,
107/2B, 107/3, 108/1B, 108/2,
Akkireddygudem (V),
Musunuru (M), Krishna District
E-mail: prasadarao.matsa@poruslabs.com

The Consent Order No. APPCB/VJA/VJA/14347/HO/CFO/2019, dated 24.09.2019, issued to the industry having validity upto 31.03.2024, stands cancelled and the industry shall hand over the cancelled orders to the Regional Office: Vijayawada after receipt of this Consent Order.

(Hereinafter referred to as 'the Applicant') authorizing to operate the industrial plant to discharge the effluents from the outlets and the quantity of emissions per hour from the chimneys as detailed below:

i. Outlets for discharge of effluents:

| Outlet No. | Outlet Description | Max Daily Discharge | Point of Disposal |
|------------|--------------------------------------------------------------------------------------|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Process, DM plant, Scrubber, | 406.2 KLD | The HTDS waste water treatment facility consisting of stripper (15KL/hr),MEE(15KL/hr), ATFD(3KL/hr) and the LTDS waste water treatment facility consisting of Collection cum equalization cum neutralization , Aeration, Pressure sand filter, Activated carbon filter followed by 13KL/hr RO.After treatment, <ul style="list-style-type: none"> • RO permeate to cooling tower and boiler makeup. • RO rejects to MEE • MEE & ATFD condensate to biological ETP • MEE concentrate to ATFD. • ATFD salts shall be routed through M/s. APEMC so as to send to TSDF for secured landfilling (as landfillable waste) • Stripped solvents shall be routed through M/s. APEMC so as to send to solvent recovery units/ pre-processors / APPCB |
| 2 | Q.C. and R&D, washing, Boiler blow down, Cooling bleed off and MEE steam condensate. | | |

| | | | |
|---|----------|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | | | authorized cement industries for co-processing (as utilisable waste) |
| 3 | Domestic | 8.0 KLD | After treatment in Biological ETP (12KLD) consisting of collection tank, anaerobic digester, Aeration tank, Primary clarifier, tube settler, carbon filter, sand filter followed by RO plant. The permeate of RO plant shall be utilized for boiler feed and the RO rejects shall be sent to MEE along with other high TDS effluents. |

ii) Emissions from chimneys:

| Chimney No. | Description of Chimney | Control equipment | Stack height |
|-------------|---------------------------------------------------|--------------------------------------|--------------|
| 1 | Attached to 8 TPH Coal/Husk/Pellets fired Boiler. | Multi Cyclone Separator & Bag-filter | 30 m |
| 2 | Attached to Process emissions | Scrubber with water/caustic solution | - |
| 3 | Attached to 500 KVA DG Set | Acoustic enclosure | 9m |
| 4 | Attached to 500 KVA DG Set | Acoustic enclosure | 9m |
| 5 | Attached to 1 x 380 KVA D.G. Set | Acoustic enclosure | 8 m |
| 6 | Attached to 1 x 320 KVA D.G. Set | Acoustic enclosure | 8 m |

iii) Hazardous Waste Authorisation (Form - II) [See Rule 6 (2)]:

M/s. Porus Laboratories Pvt. Ltd, Krishna District is hereby granted an authorization to operate a facility for collection, reception, storage, treatment, transport and disposal of Hazardous Wastes namely:

- Hazardous Waste with Disposal Option:

| S No. | Name of the Hazardous Waste | Stream | Quantity | Method of disposal |
|-------|----------------------------------------------------|--------------------|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Organic residue | 28.1 of Schedule-I | 4.5 | Shall be routed through M/s. Andhra Pradesh Environment Management Corporation (APEMC) so as to send to pre-processors/ cement industries for co-processing (as utilisable waste). |
| 2 | Spent carbon | 28.3 of Schedule-I | 1.32 | |
| 3 | Distillation bottom Residue (1% of spent solvents) | 36.1 of Schedule-I | 0.6 | |
| 4 | Inorganic & Evaporation salts(process) | 28.1 of Schedule-I | 40.5 | Shall be routed through M/s. Andhra Pradesh Environment Management Corporation (APEMC) so as to disposed to TSDf for secured land fill. (as landfillable waste) |
| 5 | Evaporation salts (Non-process) | 35.3 of Schedule-I | 1.0 | |
| 6 | ETP sludge | 35.3 of Schedule-I | 2.5 | |
| 7 | Used oil / Waste lubricant oil/Grease | 5.1 of Schedule-1 | 1 KL /Annum | Shall be routed through M/s. APEMC so as to dispose to APPCB Authorised Re-processors / recyclers (as recyclable waste). |

| | | | | |
|----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 8 | Detoxified Containers & Container Liners a. HDPE Drums b. Carbouys | 33.1 of Schedule-1 | 250 Nos. /Annum | After complete detoxification, Shall be routed through M/s. APEMC so as to dispose to APPCB authorised agencies. (as recyclable waste). |
| | c. Plastic Bags | | 50 kgs/month | |
| 9 | Spent solvents | 28.6 of Schedule-1 | 60 KLD | Shall be recovered within the premises/ Shall be routed through M/s. APEMC to authorised recovery units (as utilizable waste). |
| 10 | Recovered Solvents from spent solvents | 28.6 of Schedule-1 | 54 KLD | Reused |
| 11 | Spent Mixed solvents | 36.1 of Schedule-1 | 5 KLD | Shall be routed through M/s. APEMC so as to send to authorized recovery units/ pre-processors/Authorized cement plant for co-processing (as utilizable waste). |
| 12 | Used Lead acid batteries | -- | 25 Nos. /Annum | To dealers on buy back basis |
| 13 | Misc. Waste (spill control waste) | 28.1 of Schedule-1 | 6 TPA | Shall be routed through M/s. APEMC so as sent to TSDF, Parawada for secured land fill (as landfillable waste) |
| 14 | Spent Catalyst | 28.2 of Schedule-1 | 2 TPA | Shall be routed through M/s. APEMC so as to sent for re-generation (as recyclable waste). |
| 15 | Used insulation waste ,PVC scrap, HDPE&PP scrap, Paper waste, used thermocouple waste, Glass scrap, Iron scrap, SS scrap, Aluminium & other metal scrap, cotton waste (used aprons/uniformsetc.,)Packing wood etc., | -- | 0.25 TPD | Shall be routed through M/s. APEMC so as to sent to pre-processors / authorized Cement plants for co-processing/authorized agencies (as utilizable waste). |
| 16 | Kitchen waste from canteen | -- | 0.1 TPD | To Municipal dump yard/Composting |
| 17 | Boiler Ash | -- | 12 TPD | To brick manufacturer |
| 18 | E-Waste | -- | 3 kg/day | Shall be routed through M/s. APEMC so as sent to authorized E-Waste collection centers / registered / dismantlers / authorized recyclers/return back to manufacturers. |

| | | | | |
|----|----------------------------------------------------------------------------------------------------------|----|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 19 | Category: White Waste sharps from OHC (Needles, Syringes, Scalpels, Blades, Glass etc.,) | -- | 0.02 kg/day | Autoclaving and sent to CBMWTF |
| 20 | Category: Yellow Soiled waste from OHC(Cotton, dressings, soiled plaster casts other material) | -- | 0.02 kg/day | Pre-treat to sterilize with non- chlorinated chemicals on-site as per BMW Rules and sent to Common Biomedical Waste Treatment Facility (CBMWTF) for incineration |

This consent order is valid to produce the following products along with quantities indicated only:

| Sl.No. | Name of the products | Proposed quantity (Kg/day) |
|--------|---------------------------------------------------------------------------------------------------------|-------------------------------|
| 1 | P-Phenolphthalein bisphenol (or) 2-Phenyl-3,3-Bis (4-Hydroxy Phenyl) Phthalimide (PPBP) | 4055.67 |
| 2 | 1,5-Bis-[2,6-dimethyl-4-(2-methyl-2-propenoxy) phenyl]-penta-(2,6-dimethyl-1,4-phenyleneoxide (MX-9000) | 3593.33 |
| 3 | 4-Nitro-N-methyl phthalimide (4-NPI) | 13889.0 |
| 4 | Sumatriptan Succinate | 16.7 |
| 5 | 1H-Indene-2-carboxylic acid-5-chloro-2,3-dihydro-2-hydroxy-1-oxo-methyl ester [M240] | 666.67 |
| 6 | Cupreidine | 16.67 |
| 7 | R&D Activity | 0.55 |
| | Total | 22238.59 |

List of By-Products:

| Name of the By-products | Quantity (kg/day) |
|-------------------------|-------------------|
| Spent Sulfuric Acid | 245126 |
| Gypsum | 75000 |

This order is subject to the provisions of 'the Acts' and the Rules' and orders made thereunder and further subject to the terms and conditions incorporated in the schedule A, B & C enclosed to this order.

This combined order of consent & Hazardous Waste Authorization shall be valid for a period ending with the 31st March, 2024.

DR. B.MADHUSUDHANA RAO, JCEE(MSRB), O/o JOINT CHIEF ENVIRONMENTAL ENGINEER-4-APPCB

To

M/s. Porus Laboratories Pvt. Ltd., Unit - IV (Change of Product Mix)
Sy. No. 87,92/10,106/1C, 106/2C,107/2A,
107/2B, 107/3, 108/1B, 108/2,
Akkireddygudem (V),

Musunuru (M), Krishna District.

Copy to:

1. The JCEE, ZO: Vijayawada for information and necessary action.
2. The EE, RO: Vijayawada for information and necessary action.

SCHEDULE-A

1. Any up-set condition in any industrial plant / activity of the industry, which result in, increased effluent / emission discharge and/ or violation of standards stipulated in this order shall be informed to this Board, under intimation to the Collector and District Magistrate and take immediate action to bring down the discharge / emission below the limits.
2. The industry shall carryout analysis of waste water discharges or emissions through chimneys for the parameters mentioned in this order on quarterly basis and submit to the Board.
3. All the rules & regulations notified by Ministry of Law and Justice, Government of India regarding Public Liability Insurance Act, 1991 should be followed as applicable.
4. The industry shall put up two sign boards (6x4 ft. each) at publicly visible places at the main gate indicating the products, effluent discharge standards, air emission standards, hazardous waste quantities and validity of CFO and exhibit the CFO order at a prominent place in the factory premises.
5. Not withstanding anything contained in this consent order, the Board hereby reserves the right and powers to review / revoke any and/or all the conditions imposed herein above and to make such variations as deemed fit for the purpose of the Acts by the Board.
6. The industry shall file the water cess returns in Form-I as required under section (5) of Water (Prevention and Control of Pollution) Cess Act, 1977 on or before the 5th of every calendar month, showing the quantity of water consumed in the previous month along with water meter readings. The industry shall remit water cess as per the assessment orders as and when issued by Board.
7. The applicant shall submit Environment statement in Form V before 30th September every year as per Rule No.14 of E (P) Rules, 1986 & amendments thereof.
8. The applicant shall make applications through Online for renewal of Consent (under Water and Air Acts) and Authorization under HWM Rules at least 120 days before the date of expiry of this order, along with prescribed fee under Water and Air Acts and detailed compliance of CFO conditions for obtaining Consent & HW Authorization of the Board. The industry should immediately submit the revised application for consent to this Board in the event of any change in the raw material used, processes employed, quantity of trade effluents & quantity of emissions. Any change in the management shall be informed to the Board. The person authorized shall not let out the premises / lend / sell / transfer their industrial premises without obtaining prior permission of the State Pollution Control Board.
9. Any person aggrieved by an order made by the State Board under Section 25, Section 26, Section 27 of Water Act, 1974 or Section 21 of Air Act, 1981 may within thirty days from the date on which the order is communicated to him, prefer an appeal as per Andhra Pradesh Water Rules, 1976 and Air Rules 1982, to Appellate authority constituted under Section 28 of the Water(Prevention and Control of Pollution) Act, 1974 and Section 31 of the Air(Prevention and Control of Pollution) Act, 1981.

SCHEDULE-B

1. The industry has a total area of 25.25 acres and supposed to develop greenbelt in

an area of 8.41 acres (33% of the total area), whereas the industry has not yet developed any green belt. Also, no greenery was developed along the Western and Northern boundary, in order to act as barrier between fields and the industry. The industry shall plant the green belt, as mentioned above, during the world environment day celebrations to be held on 5th June 2021.

2. Not operating MEE & ATFD. The industry shall operate the MEE & ATFD regularly.
3. Zoom facility of Camera focusing the LTDS and HTDS flow meters is not functioning. The industry shall operate the zoom facility of Camera focusing the LTDS and HTDS flow meters continuously.

Water Pollution:

1. The source of water being Bore well within the industry premises. The following is the permitted water consumption:

After Change of Product Mix (Phase-I):

| S. No | Purpose | Water requirement (in KLD) | |
|-------|----------------------|--------------------------------------------------------------------|--------------------------------------------------------------------|
| | | Consented quantity as per CFE (After Product Mix) dated 07.01.2021 | Applied as per application (Fresh CFO After change of Product Mix) |
| 1. | Process | 323.3 | 323.3 |
| 2. | Scrubber | 5.0 | 5.0 |
| 3. | Q.C. and R&D | 1.0 | 1.0 |
| 4. | Washings | 5.0 | 5.0 |
| 5. | Boiler | 67.0 | 67.0 |
| 6. | Cooling makeup | 120.0 | 120.0 |
| 7. | DM Plant | 5.0 | 5.0 |
| 8. | MEE Steam Condensate | --- | --- |
| 9. | Domestic | 10.0 | 10.0 |
| 10. | Green belt | 10.0 | 10.0 |
| | Total | 546.3 | 546.3 |

2. Separate meters with necessary pipe-line shall be maintained for assessing the quantity of water used for each of the purposes mentioned above.
3. The treatment system consisting of stripper, MEE, ATFD with condenser, Biological ETP, RO plant shall be operated continuously. All the units of the treatment system shall be impervious to prevent ground water pollution. The units of treatment system shall be above the ground level.
4. Effluents shall not be discharged on land or into any water bodies or aquifers under any circumstances.
5. The industry shall maintain digital flow meters with totalisers at the inlet and outlet of Stripper, MEE, ETP and RO.
6. Floor washings shall be admitted into the effluent collection system only and shall not be allowed to find their way in storm drains or open areas. All pipe valves, sewers, drains shall be leak proof.
7. The industry shall maintain digital flow meters with totalizer facility at the outlet of Stripper, inlet and outlet of MEE i.e., MEE concentrate and MEE condensate, inlet of ATFD, RO permeate and RO reject and maintain records.

8. The industry shall suitably change the digital flow meter location to RO Permeate tank and also change the location of the web camera to RO permeate tank for real time monitoring of recycling of RO permeate in consultation with RO: Vijayawada.
9. The industry shall operate RO of 13 KL/hr capacity continuously, for further treatment of treated effluents of ETP and RO permeate shall be utilized for utilities.
10. The industry shall send the used / spent solvents to the recyclers through APEMCL (or) process them at their own solvent recovery facility within the premises. The solvents bearing effluents shall be scrubbed before sending to ETP.
11. The industry shall strictly maintain ZLD in closed circuit system. There shall not be any discharge / spillages of effluent within or outside the premises.

Air Pollution:

1. The emissions shall not contain constituents in excess of the prescribed limits mentioned below:

| Chimney No. | Parameter | Limiting Standards for Stack |
|-------------|-----------|------------------------------|
| 1 | SPM | 50 mg/Nm ³ |
| 3 to 6 | SPM | -- |

"The industry shall comply with the industry specific standards with respect to process emissions stipulated by the MoEF & CC, Gol, New Delhi from time to time."

| S.No. | Details of process emissions | Emission Control system | Emission Standard | Standards for Fugitive emissions limit at work zone |
|-------|------------------------------|--------------------------------------------------|-----------------------|-----------------------------------------------------|
| 1 | HCl | Multi stage water scrubbers and alkali scrubbers | 35 mg/Nm ³ | 7.0 mg/m ³ |
| 2 | NH ₃ | | 30 mg/Nm ³ | 0.4 mg/m ³ |
| 3 | Sulphuric acid mist | | 50 mg/Nm ³ | 1.0 mg/m ³ |
| 4 | Chlorine | | 15 mg/Nm ³ | |

2. The industry shall comply with ambient air quality standards of PM₁₀ (Particulate Matter size less than 10mm) - 100 mg/ m³; PM_{2.5} (Particulate Matter size less than 2.5 mm) - 60 mg/ m³; SO₂ - 80 mg/ m³; NO_x - 80 mg/m³, outside the factory premises at the periphery of the industry.

Standards for other parameters as mentioned in the National Ambient Air Quality Standards CPCB Notification No.B-29016/20/90/PCI-I, dated 18.11.2009.

Noise Levels: Day time (6 AM to 10 PM) - 75 dB (A)

Night time (10 PM to 6 AM) - 70 dB (A)

3. The industry shall comply with emission limits for DG sets of capacity upto 800 KW as per the Notification G.S.R.520 (E), dated 01.07.2003 under the Environment (Protection) Amendment Rules, 2003 and G.S.R.448(E), dated 12.07.2004 under the Environment (Protection) Second Amendment Rules, 2004. In case of DG sets of capacity more than 800 KW shall comply with emission limits as per the Notification

G.S.R.489 (E), dated 09.07.2002 at serial no.96, under the Environment (Protection) Act, 1986.

4. A sampling port with removable dummy of not less than 15 cm diameter shall be provided in the stack at a distance of 8 times the diameter of the stack from the nearest constraint such as bends etc. A platform with suitable ladder shall be provided below 1 meter of sampling port to accommodate three persons with instruments. A 15 AMP 250 V plug point shall be provided on the platform.
5. The industry shall properly operate and maintain the monitoring system to all the stacks / vents in the plant. Regular monitoring shall be carried out and report shall be submitted to the Regional officer.
6. The industry shall properly operate and maintain multi-stage scrubbers to the process vents to control the process emissions. The industry shall ensure that online pH measuring facility with auto recording system is connected to the scrubbers.
7. The industry shall properly operate and maintain VOC monitoring system with auto recording facility.
8. The industry shall implement adequate measures to control all fugitive emissions from the plant.
9. The proponent shall ensure compliance of the National Ambient Air quality standards notified by MoEF, Gol vide notification No. GSR. 826 (E), dated. 16.11.2009 during construction and regular operational phase of the project at the periphery.
10. The proponent shall not use or generate odour causing substances or Mercaptans and cause odour nuisance in the surroundings.
11. The evaporation losses in solvents shall be controlled by taking the following measures:
 - i. Chilled brine circulation shall be carried out to effectively reduce the solvent losses into the atmosphere.
 - ii. Transfer of solvents shall be done by using pumps instead of manual handling.
 - iii. Closed centrifuges shall be used to reduce solvent losses.
 - iv. All the solvent storage tanks shall be connected with vent condensers to prevent solvent vapours.
 - v. The reactor vents shall be connected with primary & secondary condensers to prevent escaping of solvent vapour emissions into atmosphere.
12. The industry shall provide monitoring ports to the stacks / vents immediately and report compliance to the RO: Vijayawada.
13. The industry shall provide vent condensers to solvent storage tanks immediately and report compliance to the RO: Vijayawada
14. The industry shall provide scrubber with water/caustic solution for controlling HCL process emissions; scrubber with water to control Monomethyl amine process emissions; scrubber with water to control SO₂ process emissions and Diffused with flame arrestor for process H₂ emissions.
15. The industry shall properly operate and maintain multi-stage scrubbers to the process vents to control the process emissions.
16. The industry shall ensure that online pH measuring facility with auto recording system is connected to the scrubbers.
17. The industry shall implement adequate measures to control all fugitive emissions from the plant. The proponent shall not use or generate odour causing substances or Mercaptans and cause odour nuisance in the surroundings.

General:

18. The industry shall send the used / spent solvents to the recyclers through APEMCL (or) process them at their own solvent recovery facility within the premises.

- 19.The proponent shall place the chemical drums and / or any drums in a shed provided with concrete platform only. The Platform shall be provided with sufficient dyke wall and effluent collection system. The industry shall provide containers detoxification facility. Container & Container liners shall be detoxified at the specified covered platform with dyke walls and the wash wastewater shall be routed to low TDS collection tank.
- 20.The industry shall ensure the location of digital flow meter and web camera to RO Permeate storage tank for real time monitoring of recycling of RO permeate.
- 21.Necessary instruments shall be provided as per the SOPs and checklist for solvent recovery unit as specified by CPCB.
- 22.The industry shall maintain flow meters preferably Electro Magnetic flow meters with totalisers for water and effluent quantity measurements for different streams of effluents and different categories of water usage stipulated in this order.
- 23.There shall not be any spillages of chemicals / effluents on the ground. The drums containing chemicals / solvents shall be stored under a roof on elevated platform with a provision to collect leakages/spillages in the collection pit.
- 24.The industry shall provide dyke walls for above ground chemical storage tanks.
- 25.The industry shall provide permanent pipelines for transfer of chemicals / effluents and shall not use flexible pipes for transfer of chemicals / effluents.
- 26.The industry shall operate online monitoring systems and connect monitoring system to APPCB/CPCB websites as per CPCB directions dated 05.02.2014. The online monitoring system shall be calibrated periodically as per equipment suppliers manual / CPCB guidelines.
- 27.The industry shall maintain the following records and the same shall be made available to the inspecting officers of the Board:
- Daily production details (ER-1 Central Excise Returns).
 - Quantity of Effluents generated, treated, recycled/reused and disposed to CETP.
 - Log Books for pollution control systems.
 - Characteristics of ambient air, effluents and emissions.
 - Hazardous/non hazardous solid waste generated and disposed.
 - Inspection book.
 - Manifest copies of hazardous waste.
- 28.The industry shall dispose solid waste (NON HAZARDOUS) as follows

| S. No | Name of the Solid Waste | Quantity | Disposal |
|-------|----------------------------|----------|-----------------------------------|
| 1. | Kitchen waste from canteen | 0.1TPD | To Municipal dump yard/Composting |
| 2. | Boiler Ash | 12TPD | To brick manufacturer |

- 29.The industry shall comply with the Regulation of Persistent Organic Pollutants Rules, 2018 notified by the MoEF&CC Notification vide G.S.R. 207 (E) dated 30.05.2018. As per the notification, the following 7 chemicals are prohibited to manufacture, trade, use, import and export.
- Chlordecone,
 - Hexabromobiphenyl,
 - Hexabromodiphenyl ether and heptabromodiphenyl ether (commercial octa-BDE)
 - Tetrabromodiphenyl ether and pentabromodiphenyl ether (commercial penta-BDE)
 - Pentachlorobenzene,
 - Hexabromocyclododecane; and
 - Hexachlorobutadine
- 30.Existing green belt shall not be disturbed due to the proposed expansion. Thick green belt shall be maintained all along the boundary & vacant spaces with tall growing trees with good canopy and it shall not be less than 33% of the total area. The industry shall develop the balance green belt by 05.06.2021. Greenery shall be developed along the Western and Northern boundary to create a barrier between

fields and the industry

- 31.The industry shall install and maintain online continuous effluent monitoring systems and connect monitoring system to APPCB/CPCB websites as per CPCB directions dated 05.02.2014. The online monitoring system shall be calibrated periodically as per equipment suppliers manual / CPCB guidelines.
- 32.The industry shall submit a copy of policy of Public Liability Insurance (PLI) duly indicating the amount contributed towards Environmental Relief Fund (ERF) to the RO once in six months.
- 33.The industry shall comply with standards and directions issued by CPCB / MoEF&CC as and when notifications are issued.
- 34.The industry shall comply with the Standard Operating Procedure (SOP) and Checklist of Minimal Requisite Facilities for Utilization of Spent Solvent for Recovery of Solvent specified for Solvent Recovery Units issued by CPCB.
- 35.The industry shall follow the SOP for Safe and Scientific Spent Solvent Handling, Processing and Storage.
- 36.The industry shall submit the information regarding usage of Ozone Depleting Substance once in six months to the Regional Office and Zonal Office of the Board.
- 37.The industry shall submit compliance report on the conditions mentioned in the consent order every six months i.e., on 1st of January and July of every year to the RO / ZO.
- 38.The industry shall obtain CFE amendments for change in products name and waste water generation quantity for making necessary corrections in their CFO & HWA orders.

SCHEDULE - C

[See rule 6 (2)]

[CONDITIONS OF AUTHORISATION FOR OCCUPIER OR OPERATOR HANDLING HAZARDOUS WASTES]

1. The authorised person shall comply with the provisions of the Environment (Protection) Act, 1986, and the rules made there under.
2. The authorisation or its renewal shall be produced for inspection at the request of an officer authorised by the State Pollution Control Board.
3. The person authorised shall not rent, lend, sell, transfer or otherwise transport the Hazardous and other wastes except what is permitted through this authorisation.
4. Any unauthorised change in personnel, equipment or working conditions as mentioned in the application by the person authorised shall constitute a breach of his authorisation.
5. The person authorised shall implement Emergency Response Procedure (ERP) for which this authorisation is being granted considering all site specific possible scenarios such as spillages, leakages, fire etc. and their possible impacts and also carry out mock drill in this regard at regular interval of time;
6. The person authorised shall comply with the provisions outlined in the Central Pollution Control Board guidelines on "Implementing Liabilities for Environmental Damages due to Handling and Disposal of Hazardous Waste and Penalty".
7. It is the duty of the authorised person to take prior permission of the State Pollution Control Board to close down the facility.
8. An application for the renewal of an authorisation shall be made as laid down under these Rules.
9. Any other conditions for compliance as per the Guidelines issued by the Ministry of Environment, Forest and Climate Change or Central Pollution Control Board from time to time.
10. Annual return shall be filed by June 30th for the period ensuring 31st March of the year.

- 11.The authorised person shall not store hazardous waste for more than 90 days as per the Hazardous & Other Wastes (Management and Transboundary Movement) Rules, 2016.
- 12.The authorised person shall store Used / Waste Oil and Used Lead Acid Batteries in a secured way in their premises till its disposal to the manufacturers / dealers on buyback basis.
- 13.The authorised person shall maintain 7 copy manifest system for transportation of waste generated and a copy shall be submitted to concerned Regional Office of APPCB. The driver who transports Hazardous Waste should be well acquainted about the procedure to be followed in case of an emergency during transit. The transporter should carry a Transport Emergency (TREM) Card.
- 14.The authorised person shall maintain proper records for Hazardous & other wastes stated in Authorization in FORM-3 i.e., quantity of Incinerable waste, land disposal waste, recyclable waste etc., and file annual returns in Form- 4 as per Rule 6 (5) of the Hazardous & Other Wastes (Management & Transboundary Movement) Rules, 2016 and amendments thereof by June 30th for the period ensuring 31st March of the year.
- 15.The authorised person shall submit the condition wise compliance report of the conditions stipulated in Schedule A, B & C of this Order on half yearly basis to Board Office and concerned Regional Office.

**DR. B.MADHUSUDHANA RAO, JCEE(MSRB), O/o JOINT CHIEF ENVIRONMENTAL
ENGINEER4-APPCB**

To

**M/s. Porus Laboratories Pvt. Ltd., Unit - IV (Change of Product Mix)
Sy. No. 87, 92/10, 106/1C, 106/2C, 107/2A, 107/2B, 107/3, 108/1B, 108/2,
Akkireddygudem (V), Musunuru (M), Krishna District.**



ANDHRA PRADESH POLLUTION CONTROL BOARD
D.No. 33-26-14D/2, Near Sunrise Hospital, Pushpa Hotel Centre,
Challamavari Street, Kasturibaipet, Vijayawada - 520 010.
Phone No. 0866 - 2436216/17

**RED CATEGORY
CONSENT & AUTHORIZATION ORDER**

Consent Order No: APPCB/VIA/VIA/14347/HO/CFO/2019- 05/03/2021

CONSENT is hereby granted for Operation under section 25/26 of the Water (Prevention & Control of Pollution) Act, 1974 and under section 21 of Air (Prevention & Control of Pollution) Act 1981 and amendments thereof and Authorisation under Rule 6 of the Hazardous and Other Wastes (Management & Transboundary Movement) Rules, 2016 & Amendments thereof and the rules and orders made there under (hereinafter referred to as 'the Acts', 'the Rules') to:

M/s. Porus Laboratories Pvt. Ltd., Unit - IV (Change of Product Mix)
Sy. No. 87, 92/10, 106/1C, 106/2C, 107/2A,
107/2B, 107/3, 108/1B, 108/2,
Akkireddygudem (V),
Musunuru (M), Krishna District
E-mail: prasadarao.matsa@poruslabs.com

The Consent Order No. APPCB/VJA/VJA/14347/HO/CFO/2019, dated 24.09.2019, issued to the industry having validity upto 31.03.2024, stands cancelled and the industry shall hand over the cancelled orders to the Regional Office: Vijayawada after receipt of this Consent Order.

(Hereinafter referred to as 'the Applicant') authorizing to operate the industrial plant to discharge the effluents from the outlets and the quantity of emissions per hour from the chimneys as detailed below:

i. Outlets for discharge of effluents:

| Outlet No. | Outlet Description | Max Daily Discharge | Point of Disposal |
|------------|--------------------------------------------------------------------------------------|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Process, DM plant, Scrubber, | 406.2 KLD | The HTDS waste water treatment facility consisting of stripper (15KL/hr),MEE(15KL/hr), ATFD(3KL/hr) and the LTDS waste water treatment facility consisting of Collection cum equalization cum neutralization , Aeration, Pressure sand filter, Activated carbon filter followed by 13KL/hr RO.After treatment, <ul style="list-style-type: none"> • RO permeate to cooling tower and boiler makeup. • RO rejects to MEE • MEE & ATFD condensate to biological ETP • MEE concentrate to ATFD. • ATFD salts shall be routed through M/s. APEMC so as to send to TSDF for secured landfilling (as landfillable waste) • Stripped solvents shall be routed through M/s. APEMC so as to send to solvent recovery units/ pre-processors / APPCB |
| 2 | Q.C. and R&D, washing, Boiler blow down, Cooling bleed off and MEE steam condensate. | | |

| | | | |
|---|----------|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | | | authorized cement industries for co-processing (as utilisable waste) |
| 3 | Domestic | 8.0 KLD | After treatment in Biological ETP (12KLD) consisting of collection tank, anaerobic digester, Aeration tank, Primary clarifier, tube settler, carbon filter, sand filter followed by RO plant. The permeate of RO plant shall be utilized for boiler feed and the RO rejects shall be sent to MEE along with other high TDS effluents. |

ii) Emissions from chimneys:

| Chimney No. | Description of Chimney | Control equipment | Stack height |
|-------------|---------------------------------------------------|--------------------------------------|--------------|
| 1 | Attached to 8 TPH Coal/Husk/Pellets fired Boiler. | Multi Cyclone Separator & Bag-filter | 30 m |
| 2 | Attached to Process emissions | Scrubber with water/caustic solution | - |
| 3 | Attached to 500 KVA DG Set | Acoustic enclosure | 9m |
| 4 | Attached to 500 KVA DG Set | Acoustic enclosure | 9m |
| 5 | Attached to 1 x 380 KVA D.G. Set | Acoustic enclosure | 8 m |
| 6 | Attached to 1 x 320 KVA D.G. Set | Acoustic enclosure | 8 m |

iii) Hazardous Waste Authorisation (Form - II) [See Rule 6 (2)]:

M/s. Porus Laboratories Pvt. Ltd, Krishna District is hereby granted an authorization to operate a facility for collection, reception, storage, treatment, transport and disposal of Hazardous Wastes namely:

- Hazardous Waste with Disposal Option:

| S No. | Name of the Hazardous Waste | Stream | Quantity | Method of disposal |
|-------|----------------------------------------------------|--------------------|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Organic residue | 28.1 of Schedule-I | 4.5 | Shall be routed through M/s. Andhra Pradesh Environment Management Corporation (APEMC) so as to send to pre-processors/ cement industries for co-processing (as utilisable waste). |
| 2 | Spent carbon | 28.3 of Schedule-I | 1.32 | |
| 3 | Distillation bottom Residue (1% of spent solvents) | 36.1 of Schedule-I | 0.6 | |
| 4 | Inorganic & Evaporation salts(process) | 28.1 of Schedule-I | 40.5 | Shall be routed through M/s. Andhra Pradesh Environment Management Corporation (APEMC) so as to disposed to TSDf for secured land fill. (as landfillable waste) |
| 5 | Evaporation salts (Non-process) | 35.3 of Schedule-I | 1.0 | |
| 6 | ETP sludge | 35.3 of Schedule-I | 2.5 | |
| 7 | Used oil / Waste lubricant oil/Grease | 5.1 of Schedule-1 | 1 KL /Annum | Shall be routed through M/s. APEMC so as to dispose to APPCB Authorised Re-processors / recyclers (as recyclable waste). |

| | | | | |
|----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 8 | Detoxified Containers & Container Liners a. HDPE Drums b. Carbouys | 33.1 of Schedule-1 | 250 Nos. /Annum | After complete detoxification, Shall be routed through M/s. APEMC so as to dispose to APPCB authorised agencies. (as recyclable waste). |
| | c. Plastic Bags | | 50 kgs/month | |
| 9 | Spent solvents | 28.6 of Schedule-1 | 60 KLD | Shall be recovered within the premises/ Shall be routed through M/s. APEMC to authorised recovery units (as utilizable waste). |
| 10 | Recovered Solvents from spent solvents | 28.6 of Schedule-1 | 54 KLD | Reused |
| 11 | Spent Mixed solvents | 36.1 of Schedule-1 | 5 KLD | Shall be routed through M/s. APEMC so as to send to authorized recovery units/ pre-processors/Authorized cement plant for co-processing (as utilizable waste). |
| 12 | Used Lead acid batteries | -- | 25 Nos. /Annum | To dealers on buy back basis |
| 13 | Misc. Waste (spill control waste) | 28.1 of Schedule-1 | 6 TPA | Shall be routed through M/s. APEMC so as sent to TSDF, Parawada for secured land fill (as landfillable waste) |
| 14 | Spent Catalyst | 28.2 of Schedule-1 | 2 TPA | Shall be routed through M/s. APEMC so as to sent for re-generation (as recyclable waste). |
| 15 | Used insulation waste ,PVC scrap, HDPE&PP scrap, Paper waste, used thermocouple waste, Glass scrap, Iron scrap, SS scrap, Aluminium & other metal scrap, cotton waste (used aprons/uniformsetc.,)Packing wood etc., | -- | 0.25 TPD | Shall be routed through M/s. APEMC so as to sent to pre-processors / authorized Cement plants for co-processing/authorized agencies (as utilizable waste). |
| 16 | Kitchen waste from canteen | -- | 0.1 TPD | To Municipal dump yard/Composting |
| 17 | Boiler Ash | -- | 12 TPD | To brick manufacturer |
| 18 | E-Waste | -- | 3 kg/day | Shall be routed through M/s. APEMC so as sent to authorized E-Waste collection centers / registered / dismantlers / authorized recyclers/return back to manufacturers. |

| | | | | |
|----|----------------------------------------------------------------------------------------------------------|----|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 19 | Category: White Waste sharps from OHC (Needles, Syringes, Scalpels, Blades, Glass etc.,) | -- | 0.02 kg/day | Autoclaving and sent to CBMWTF |
| 20 | Category: Yellow Soiled waste from OHC(Cotton, dressings, soiled plaster casts other material) | -- | 0.02 kg/day | Pre-treat to sterilize with non- chlorinated chemicals on-site as per BMW Rules and sent to Common Biomedical Waste Treatment Facility (CBMWTF) for incineration |

This consent order is valid to produce the following products along with quantities indicated only:

| Sl.No. | Name of the products | Proposed quantity (Kg/day) |
|--------|---------------------------------------------------------------------------------------------------------|-------------------------------|
| 1 | P-Phenolphthalein bisphenol (or) 2-Phenyl-3,3-Bis (4-Hydroxy Phenyl) Phthalimide (PPBP) | 4055.67 |
| 2 | 1,5-Bis-[2,6-dimethyl-4-(2-methyl-2-propenoxy) phenyl]-penta-(2,6-dimethyl-1,4-phenyleneoxide (MX-9000) | 3593.33 |
| 3 | 4-Nitro-N-methyl phthalimide (4-NPI) | 13889.0 |
| 4 | Sumatriptan Succinate | 16.7 |
| 5 | 1H-Indene-2-carboxylic acid-5-chloro-2,3-dihydro-2-hydroxy-1-oxo-methyl ester [M240] | 666.67 |
| 6 | Cupreidine | 16.67 |
| 7 | R&D Activity | 0.55 |
| | Total | 22238.59 |

List of By-Products:

| Name of the By-products | Quantity (kg/day) |
|-------------------------|-------------------|
| Spent Sulfuric Acid | 245126 |
| Gypsum | 75000 |

This order is subject to the provisions of 'the Acts' and the Rules' and orders made thereunder and further subject to the terms and conditions incorporated in the schedule A, B & C enclosed to this order.

This combined order of consent & Hazardous Waste Authorization shall be valid for a period ending with the 31st March, 2024.

DR. B.MADHUSUDHANA RAO, JCEE(MSRB), O/o JOINT CHIEF ENVIRONMENTAL ENGINEER-4-APPCB

To

M/s. Porus Laboratories Pvt. Ltd., Unit - IV (Change of Product Mix)
Sy. No. 87,92/10,106/1C, 106/2C,107/2A,
107/2B, 107/3, 108/1B, 108/2,
Akkireddygudem (V),

Musunuru (M), Krishna District.

Copy to:

1. The JCEE, ZO: Vijayawada for information and necessary action.
2. The EE, RO: Vijayawada for information and necessary action.

SCHEDULE-A

1. Any up-set condition in any industrial plant / activity of the industry, which result in, increased effluent / emission discharge and/ or violation of standards stipulated in this order shall be informed to this Board, under intimation to the Collector and District Magistrate and take immediate action to bring down the discharge / emission below the limits.
2. The industry shall carryout analysis of waste water discharges or emissions through chimneys for the parameters mentioned in this order on quarterly basis and submit to the Board.
3. All the rules & regulations notified by Ministry of Law and Justice, Government of India regarding Public Liability Insurance Act, 1991 should be followed as applicable.
4. The industry shall put up two sign boards (6x4 ft. each) at publicly visible places at the main gate indicating the products, effluent discharge standards, air emission standards, hazardous waste quantities and validity of CFO and exhibit the CFO order at a prominent place in the factory premises.
5. Not withstanding anything contained in this consent order, the Board hereby reserves the right and powers to review / revoke any and/or all the conditions imposed herein above and to make such variations as deemed fit for the purpose of the Acts by the Board.
6. The industry shall file the water cess returns in Form-I as required under section (5) of Water (Prevention and Control of Pollution) Cess Act, 1977 on or before the 5th of every calendar month, showing the quantity of water consumed in the previous month along with water meter readings. The industry shall remit water cess as per the assessment orders as and when issued by Board.
7. The applicant shall submit Environment statement in Form V before 30th September every year as per Rule No.14 of E (P) Rules, 1986 & amendments thereof.
8. The applicant shall make applications through Online for renewal of Consent (under Water and Air Acts) and Authorization under HWM Rules at least 120 days before the date of expiry of this order, along with prescribed fee under Water and Air Acts and detailed compliance of CFO conditions for obtaining Consent & HW Authorization of the Board. The industry should immediately submit the revised application for consent to this Board in the event of any change in the raw material used, processes employed, quantity of trade effluents & quantity of emissions. Any change in the management shall be informed to the Board. The person authorized shall not let out the premises / lend / sell / transfer their industrial premises without obtaining prior permission of the State Pollution Control Board.
9. Any person aggrieved by an order made by the State Board under Section 25, Section 26, Section 27 of Water Act, 1974 or Section 21 of Air Act, 1981 may within thirty days from the date on which the order is communicated to him, prefer an appeal as per Andhra Pradesh Water Rules, 1976 and Air Rules 1982, to Appellate authority constituted under Section 28 of the Water(Prevention and Control of Pollution) Act, 1974 and Section 31 of the Air(Prevention and Control of Pollution) Act, 1981.

SCHEDULE-B

1. The industry has a total area of 25.25 acres and supposed to develop greenbelt in

an area of 8.41 acres (33% of the total area), whereas the industry has not yet developed any green belt. Also, no greenery was developed along the Western and Northern boundary, in order to act as barrier between fields and the industry. The industry shall plant the green belt, as mentioned above, during the world environment day celebrations to be held on 5th June 2021.

2. Not operating MEE & ATFD. The industry shall operate the MEE & ATFD regularly.
3. Zoom facility of Camera focusing the LTDS and HTDS flow meters is not functioning. The industry shall operate the zoom facility of Camera focusing the LTDS and HTDS flow meters continuously.

Water Pollution:

1. The source of water being Bore well within the industry premises. The following is the permitted water consumption:

After Change of Product Mix (Phase-I):

| S. No | Purpose | Water requirement (in KLD) | |
|-------|----------------------|--------------------------------------------------------------------|--------------------------------------------------------------------|
| | | Consented quantity as per CFE (After Product Mix) dated 07.01.2021 | Applied as per application (Fresh CFO After change of Product Mix) |
| 1. | Process | 323.3 | 323.3 |
| 2. | Scrubber | 5.0 | 5.0 |
| 3. | Q.C. and R&D | 1.0 | 1.0 |
| 4. | Washings | 5.0 | 5.0 |
| 5. | Boiler | 67.0 | 67.0 |
| 6. | Cooling makeup | 120.0 | 120.0 |
| 7. | DM Plant | 5.0 | 5.0 |
| 8. | MEE Steam Condensate | --- | --- |
| 9. | Domestic | 10.0 | 10.0 |
| 10. | Green belt | 10.0 | 10.0 |
| | Total | 546.3 | 546.3 |

2. Separate meters with necessary pipe-line shall be maintained for assessing the quantity of water used for each of the purposes mentioned above.
3. The treatment system consisting of stripper, MEE, ATFD with condenser, Biological ETP, RO plant shall be operated continuously. All the units of the treatment system shall be impervious to prevent ground water pollution. The units of treatment system shall be above the ground level.
4. Effluents shall not be discharged on land or into any water bodies or aquifers under any circumstances.
5. The industry shall maintain digital flow meters with totalisers at the inlet and outlet of Stripper, MEE, ETP and RO.
6. Floor washings shall be admitted into the effluent collection system only and shall not be allowed to find their way in storm drains or open areas. All pipe valves, sewers, drains shall be leak proof.
7. The industry shall maintain digital flow meters with totalizer facility at the outlet of Stripper, inlet and outlet of MEE i.e., MEE concentrate and MEE condensate, inlet of ATFD, RO permeate and RO reject and maintain records.

8. The industry shall suitably change the digital flow meter location to RO Permeate tank and also change the location of the web camera to RO permeate tank for real time monitoring of recycling of RO permeate in consultation with RO: Vijayawada.
9. The industry shall operate RO of 13 KL/hr capacity continuously, for further treatment of treated effluents of ETP and RO permeate shall be utilized for utilities.
10. The industry shall send the used / spent solvents to the recyclers through APEMCL (or) process them at their own solvent recovery facility within the premises. The solvents bearing effluents shall be scrubbed before sending to ETP.
11. The industry shall strictly maintain ZLD in closed circuit system. There shall not be any discharge / spillages of effluent within or outside the premises.

Air Pollution:

1. The emissions shall not contain constituents in excess of the prescribed limits mentioned below:

| Chimney No. | Parameter | Limiting Standards for Stack |
|-------------|-----------|------------------------------|
| 1 | SPM | 50 mg/Nm ³ |
| 3 to 6 | SPM | -- |

"The industry shall comply with the industry specific standards with respect to process emissions stipulated by the MoEF & CC, Gol, New Delhi from time to time."

| S.No. | Details of process emissions | Emission Control system | Emission Standard | Standards for Fugitive emissions limit at work zone |
|-------|------------------------------|--------------------------------------------------|-----------------------|-----------------------------------------------------|
| 1 | HCl | Multi stage water scrubbers and alkali scrubbers | 35 mg/Nm ³ | 7.0 mg/m ³ |
| 2 | NH ₃ | | 30 mg/Nm ³ | 0.4 mg/m ³ |
| 3 | Sulphuric acid mist | | 50 mg/Nm ³ | 1.0 mg/m ³ |
| 4 | Chlorine | | 15 mg/Nm ³ | |

2. The industry shall comply with ambient air quality standards of PM₁₀ (Particulate Matter size less than 10mm) - 100 mg/ m³; PM_{2.5} (Particulate Matter size less than 2.5 mm) - 60 mg/ m³; SO₂ - 80 mg/ m³; NO_x - 80 mg/m³, outside the factory premises at the periphery of the industry.

Standards for other parameters as mentioned in the National Ambient Air Quality Standards CPCB Notification No.B-29016/20/90/PCI-I, dated 18.11.2009.

Noise Levels: Day time (6 AM to 10 PM) - 75 dB (A)

Night time (10 PM to 6 AM) - 70 dB (A)

3. The industry shall comply with emission limits for DG sets of capacity upto 800 KW as per the Notification G.S.R.520 (E), dated 01.07.2003 under the Environment (Protection) Amendment Rules, 2003 and G.S.R.448(E), dated 12.07.2004 under the Environment (Protection) Second Amendment Rules, 2004. In case of DG sets of capacity more than 800 KW shall comply with emission limits as per the Notification

G.S.R.489 (E), dated 09.07.2002 at serial no.96, under the Environment (Protection) Act, 1986.

4. A sampling port with removable dummy of not less than 15 cm diameter shall be provided in the stack at a distance of 8 times the diameter of the stack from the nearest constraint such as bends etc. A platform with suitable ladder shall be provided below 1 meter of sampling port to accommodate three persons with instruments. A 15 AMP 250 V plug point shall be provided on the platform.
5. The industry shall properly operate and maintain the monitoring system to all the stacks / vents in the plant. Regular monitoring shall be carried out and report shall be submitted to the Regional officer.
6. The industry shall properly operate and maintain multi-stage scrubbers to the process vents to control the process emissions. The industry shall ensure that online pH measuring facility with auto recording system is connected to the scrubbers.
7. The industry shall properly operate and maintain VOC monitoring system with auto recording facility.
8. The industry shall implement adequate measures to control all fugitive emissions from the plant.
9. The proponent shall ensure compliance of the National Ambient Air quality standards notified by MoEF, Gol vide notification No. GSR. 826 (E), dated. 16.11.2009 during construction and regular operational phase of the project at the periphery.
10. The proponent shall not use or generate odour causing substances or Mercaptans and cause odour nuisance in the surroundings.
11. The evaporation losses in solvents shall be controlled by taking the following measures:
 - i. Chilled brine circulation shall be carried out to effectively reduce the solvent losses into the atmosphere.
 - ii. Transfer of solvents shall be done by using pumps instead of manual handling.
 - iii. Closed centrifuges shall be used to reduce solvent losses.
 - iv. All the solvent storage tanks shall be connected with vent condensers to prevent solvent vapours.
 - v. The reactor vents shall be connected with primary & secondary condensers to prevent escaping of solvent vapour emissions into atmosphere.
12. The industry shall provide monitoring ports to the stacks / vents immediately and report compliance to the RO: Vijayawada.
13. The industry shall provide vent condensers to solvent storage tanks immediately and report compliance to the RO: Vijayawada
14. The industry shall provide scrubber with water/caustic solution for controlling HCL process emissions; scrubber with water to control Monomethyl amine process emissions; scrubber with water to control SO₂ process emissions and Diffused with flame arrestor for process H₂ emissions.
15. The industry shall properly operate and maintain multi-stage scrubbers to the process vents to control the process emissions.
16. The industry shall ensure that online pH measuring facility with auto recording system is connected to the scrubbers.
17. The industry shall implement adequate measures to control all fugitive emissions from the plant. The proponent shall not use or generate odour causing substances or Mercaptans and cause odour nuisance in the surroundings.

General:

18. The industry shall send the used / spent solvents to the recyclers through APEMCL (or) process them at their own solvent recovery facility within the premises.

- 19.The proponent shall place the chemical drums and / or any drums in a shed provided with concrete platform only. The Platform shall be provided with sufficient dyke wall and effluent collection system. The industry shall provide containers detoxification facility. Container & Container liners shall be detoxified at the specified covered platform with dyke walls and the wash wastewater shall be routed to low TDS collection tank.
- 20.The industry shall ensure the location of digital flow meter and web camera to RO Permeate storage tank for real time monitoring of recycling of RO permeate.
- 21.Necessary instruments shall be provided as per the SOPs and checklist for solvent recovery unit as specified by CPCB.
- 22.The industry shall maintain flow meters preferably Electro Magnetic flow meters with totalisers for water and effluent quantity measurements for different streams of effluents and different categories of water usage stipulated in this order.
- 23.There shall not be any spillages of chemicals / effluents on the ground. The drums containing chemicals / solvents shall be stored under a roof on elevated platform with a provision to collect leakages/spillages in the collection pit.
- 24.The industry shall provide dyke walls for above ground chemical storage tanks.
- 25.The industry shall provide permanent pipelines for transfer of chemicals / effluents and shall not use flexible pipes for transfer of chemicals / effluents.
- 26.The industry shall operate online monitoring systems and connect monitoring system to APPCB/CPCB websites as per CPCB directions dated 05.02.2014. The online monitoring system shall be calibrated periodically as per equipment suppliers manual / CPCB guidelines.
- 27.The industry shall maintain the following records and the same shall be made available to the inspecting officers of the Board:
- Daily production details (ER-1 Central Excise Returns).
 - Quantity of Effluents generated, treated, recycled/reused and disposed to CETP.
 - Log Books for pollution control systems.
 - Characteristics of ambient air, effluents and emissions.
 - Hazardous/non hazardous solid waste generated and disposed.
 - Inspection book.
 - Manifest copies of hazardous waste.
- 28.The industry shall dispose solid waste (NON HAZARDOUS) as follows

| S. No | Name of the Solid Waste | Quantity | Disposal |
|-------|----------------------------|----------|-----------------------------------|
| 1. | Kitchen waste from canteen | 0.1TPD | To Municipal dump yard/Composting |
| 2. | Boiler Ash | 12TPD | To brick manufacturer |

- 29.The industry shall comply with the Regulation of Persistent Organic Pollutants Rules, 2018 notified by the MoEF&CC Notification vide G.S.R. 207 (E) dated 30.05.2018. As per the notification, the following 7 chemicals are prohibited to manufacture, trade, use, import and export.
- Chlordecone,
 - Hexabromobiphenyl,
 - Hexabromodiphenyl ether and heptabromodiphenyl ether (commercial octa-BDE)
 - Tetrabromodiphenyl ether and pentabromodiphenyl ether (commercial penta-BDE)
 - Pentachlorobenzene,
 - Hexabromocyclododecane; and
 - Hexachlorobutadine
- 30.Existing green belt shall not be disturbed due to the proposed expansion. Thick green belt shall be maintained all along the boundary & vacant spaces with tall growing trees with good canopy and it shall not be less than 33% of the total area. The industry shall develop the balance green belt by 05.06.2021. Greenery shall be developed along the Western and Northern boundary to create a barrier between

fields and the industry

- 31.The industry shall install and maintain online continuous effluent monitoring systems and connect monitoring system to APPCB/CPCB websites as per CPCB directions dated 05.02.2014. The online monitoring system shall be calibrated periodically as per equipment suppliers manual / CPCB guidelines.
- 32.The industry shall submit a copy of policy of Public Liability Insurance (PLI) duly indicating the amount contributed towards Environmental Relief Fund (ERF) to the RO once in six months.
- 33.The industry shall comply with standards and directions issued by CPCB / MoEF&CC as and when notifications are issued.
- 34.The industry shall comply with the Standard Operating Procedure (SOP) and Checklist of Minimal Requisite Facilities for Utilization of Spent Solvent for Recovery of Solvent specified for Solvent Recovery Units issued by CPCB.
- 35.The industry shall follow the SOP for Safe and Scientific Spent Solvent Handling, Processing and Storage.
- 36.The industry shall submit the information regarding usage of Ozone Depleting Substance once in six months to the Regional Office and Zonal Office of the Board.
- 37.The industry shall submit compliance report on the conditions mentioned in the consent order every six months i.e., on 1st of January and July of every year to the RO / ZO.
- 38.The industry shall obtain CFE amendments for change in products name and waste water generation quantity for making necessary corrections in their CFO & HWA orders.

SCHEDULE - C

[See rule 6 (2)]

[CONDITIONS OF AUTHORISATION FOR OCCUPIER OR OPERATOR HANDLING HAZARDOUS WASTES]

1. The authorised person shall comply with the provisions of the Environment (Protection) Act, 1986, and the rules made there under.
2. The authorisation or its renewal shall be produced for inspection at the request of an officer authorised by the State Pollution Control Board.
3. The person authorised shall not rent, lend, sell, transfer or otherwise transport the Hazardous and other wastes except what is permitted through this authorisation.
4. Any unauthorised change in personnel, equipment or working conditions as mentioned in the application by the person authorised shall constitute a breach of his authorisation.
5. The person authorised shall implement Emergency Response Procedure (ERP) for which this authorisation is being granted considering all site specific possible scenarios such as spillages, leakages, fire etc. and their possible impacts and also carry out mock drill in this regard at regular interval of time;
6. The person authorised shall comply with the provisions outlined in the Central Pollution Control Board guidelines on "Implementing Liabilities for Environmental Damages due to Handling and Disposal of Hazardous Waste and Penalty".
7. It is the duty of the authorised person to take prior permission of the State Pollution Control Board to close down the facility.
8. An application for the renewal of an authorisation shall be made as laid down under these Rules.
9. Any other conditions for compliance as per the Guidelines issued by the Ministry of Environment, Forest and Climate Change or Central Pollution Control Board from time to time.
10. Annual return shall be filed by June 30th for the period ensuring 31st March of the year.

- 11.The authorised person shall not store hazardous waste for more than 90 days as per the Hazardous & Other Wastes (Management and Transboundary Movement) Rules, 2016.
- 12.The authorised person shall store Used / Waste Oil and Used Lead Acid Batteries in a secured way in their premises till its disposal to the manufacturers / dealers on buyback basis.
- 13.The authorised person shall maintain 7 copy manifest system for transportation of waste generated and a copy shall be submitted to concerned Regional Office of APPCB. The driver who transports Hazardous Waste should be well acquainted about the procedure to be followed in case of an emergency during transit. The transporter should carry a Transport Emergency (TREM) Card.
- 14.The authorised person shall maintain proper records for Hazardous & other wastes stated in Authorization in FORM-3 i.e., quantity of Incinerable waste, land disposal waste, recyclable waste etc., and file annual returns in Form- 4 as per Rule 6 (5) of the Hazardous & Other Wastes (Management & Transboundary Movement) Rules, 2016 and amendments thereof by June 30th for the period ensuring 31st March of the year.
- 15.The authorised person shall submit the condition wise compliance report of the conditions stipulated in Schedule A, B & C of this Order on half yearly basis to Board Office and concerned Regional Office.

**DR. B.MADHUSUDHANA RAO, JCEE(MSRB), O/o JOINT CHIEF ENVIRONMENTAL
ENGINEER4-APPCB**

To

**M/s. Porus Laboratories Pvt. Ltd., Unit - IV (Change of Product Mix)
Sy. No. 87, 92/10, 106/1C, 106/2C, 107/2A, 107/2B, 107/3, 108/1B, 108/2,
Akkireddygudem (V), Musunuru (M), Krishna District.**



SK Safety & Engineering Services

9-79, Roy nagar, Gannavaram, Krishna(Dt) - 521 101, A.P.

Mobile: +91 94408 37537, E.Mail: srvajala9@yahoo.com

REACTION VESSEL TEST CERTIFICATE
(Section 87 Schedule XV Under Rule 95
Chemical works as per A.P.Factories Rules.)

Ref: SK/21/01/0158

1. Name of Occupier (or Factory) : M/s. Porus Laboratories Pvt Limited.
2. Situation and address of the Factory : Unit- IV, Akkireddigudam (V), Musunuru (M),
Krishna (Dt), A.P- 521 213.
3. Name, description and distinctive number of Reactor or Kettle : Vertical SS Cylindrical Reactor, Cap: 3.0 KL,
I.D.No: PLL-IV/SSR-D-01, Loc: Production Block-D,
4. Name and Address of manufacture and reference to their test certificate or certificate of competent person : M/s.Sri Balaji Engineering Works, Hyderabad
5. Nature of process for which it is used : For Chemical Process.
6. Particulars of Reactor or Kettle :
a) Date of construction : Year-2015.
b) Thickness of walls : Shell: 10.0 mm, Dishend: 12.0 mm.
c) Date on which the Reactor or Kettle was first taken into use : Year-2015.
d) Maximum permissible working Pressure recommended by the manufacturer : 2.0 KG/Sq.cm.g.
e) Design Pressure, If known (The History should state whether he has seen the last previous report) : 6.0 KG/Sq.cm.g, SS Reactor was tested by
V.Suresh Reddy Competent Person.
7. Date of last hydrostatic test (if any) and pressure applied : By manufacturer after manufacturing is completed.
8. Is the Reactor or Kettle in open or otherwise exposed to weather or to damp? : It is inside and not exposed to weather or to damp.
9. What Parts (if any) were inaccessible : Nil, All parts are accessible.
10. What examinations and tests were made (specify pressure if hydrostatic test was carried out) : Through visual examination, UT test for metal thickness and
Hydro Test at 3.0 KG/Sq.cm.g 08/01/2021 carried out..
11. Condition EXTERNAL & INTERNAL of Reactor or Kettle (state any defects materially affecting the maximum permissible working pressure or the safe working of the Reactor or Kettle) : External: good(Top dish)
Internal: good
12. Are the required fittings and appliances provided in accordance with the Rules : Yes, Pressure Gauge, Bottom valve,
13. Are all fittings and appliances properly maintained and in good condition? Have The pressure settings been checked and corrected? : Yes, properly maintained and in good condition.
14. Repairs, if any, required and period within which they should be executed and any other condition which the person making the examination thinks it necessary to specify for securing safe working. : Nil.
15. Maximum permissible working pressure calculated from dimension and from the thickness and other data ascertained by present examination, due allowance being made for conditions of working if unusual or exceptionally severe (State minimum thickness of walls measured during the examination) : Minimum Wall Thickness :
Shell: 9.8 mm, Dishend: 11.8 mm.
M.P.W.P: Not exceed 2.0 kg/sq.cm.g
16. Where repairs affecting the maximum working pressure are required, state the working pressure :
a. Before the expiration of the Period specified in (14) : N.A.
b. After the expiration of such period, if the required repairs have not been completed : Nil.
c. After the completion the required repairs : Nil.
7. Other observations : The Reactor is kept in good working condition and is safe for use of its rated working pressure.

I certify that on 08/01/2021 the Reactor or Kettle or part described above was Thoroughly cleaned and (so far as its constructions permits) made accessible for through examination and for such tests as were necessary for thorough examination and that on the said date I thoroughly examined this Reactor or Kettle, including its fittings and that the above is a true report of my examination.

If employed by a company or Association, give name and address,

Certificate Validity: 48 Months



V. Suresh Reddy.

Competent Person(A.P.Factories Rules)

From The Director of factories, Andhra Pradesh.

Visakha Pharmacy Limited

(ERSTWHILE RAMKY PHARMA CITY (INDIA) LIMITED)

Visakha Pharmacy Limited
JNPC, Commercial Hub, Road No.13/RNB, Admin. Block, Parawada Mandal,
Visakhapatnam,531019
Andhra Pradesh,India, Ph: 08924-236001/18,
GSTIN : 37AACCR7170F1ZB
PAN NO : AACCR7170F

VISAKHA
PHARMACY
LIMITED
A WINNING DESTINATION

IRN No : 2c35aae8b83b4a70de9fb207fa9d5db051bf03b334bfe31681702ac0f5fc8163

TAX INVOICE

Reverse Charge : (No)
Document No. : 1500000030
Invoice Date : 20.05.2022
GSTIN Invoice No. : AP0020000347

Billing Period : 01.05.2022 To 15.05.2022
Reference No. : 1-15MAY2022

State : Andhra Pradesh State Code : 37

Place of Supply : Andhra Pradesh SO Number :

Details of Receiver Billed To :

Details of Consignee Shipped To :

Name: Porus Laboratories Pvt Ltd (Unit-4)
Address: Unit - Iv, Syno.106,107/1,107/2,108/1,108/2 Nuzvid
Constency
Musunuru,Nuzvid 521213 Andhra Pradesh India

Name:Porus Laboratories Pvt Ltd (Unit-4)
Address: Unit - Iv, Syno.106,107/1,107/2,108/1,108/2 Nuzvid Constency
Musunuru,Nuzvid 521213 Andhra Pradesh India

PAN No : AABCP7422K GSTIN/UIN : 37AABCP7422K1Z8

GSTIN/UIN : 37AABCP7422K1Z8

State: Andhra Pradesh State Code: 37

State: Andhra Pradesh State Code: 37

| SL.No | Name of Product/Service | HSN/SAC | UOM | Qty. | Rate | Amount | Less: Discount | Taxable Value | CGST | | SGST / UGST | | IGST | |
|----------------|--------------------------------------------------|---------|-----|--------|---------|------------|-------------------|------------------|--------|----------|-------------|----------|--------|--------|
| | | | | | | | | | Rate % | Amount | Rate % | Amount | Rate % | Amount |
| 1 | HTDS-235KL treatment Charges during 1-15May22 | 999433 | KL | 235.00 | 3868.69 | 909141.24 | 0.00 | 909141.24 | 6.00 | 54548.47 | 6.00 | 54548.47 | 0.00 | 0.00 |
| 2 | LTDS-175KL treatment Charges during 1-15May22 | 999433 | KL | 175.00 | 694.23 | 121490.04 | 0.00 | 121490.04 | 6.00 | 7289.40 | 6.00 | 7289.40 | 0.00 | 0.00 |
| Total : | | | | | | 1030631.28 | 0.00 | 1030631.28 | | 61837.87 | | 61837.87 | | 0.00 |

Total Invoice Amount in Words:

Eleven Lakh Fifty Four Thousand Three Hundred Seven Rupees Two Paise

| | |
|---------------------------|--------------|
| Total Amount Before Tax : | 1,030,631.28 |
| Add : CGST : | 61,837.87 |
| Add : SGST / UGST : | 61,837.87 |
| Add : IGST : | 0.00 |
| Tax Amount : GST : | 123,675.74 |
| Add : TCS : | 0.00 |
| Total Amount After Tax : | 1,154,307.02 |

Bank Account name : AXIS BANK LTD

Bank Account Number : 075010200012810

Bank Branch IFSC : UTIB0000075

GST Payable on Reverse Charge : N/A

CGST On Rev. Charges Mechanism : N/A

SGST On Rev. Charges Mechanism : N/A

Company CIN : U24239TG2004PLC042855

Terms and Conditions:

- Cheques may please be issued in favour of "Ramky Pharma City (India) Ltd" payable at Visakhapatnam only.
- This invoice should be cleared within 21 days from the date of Invoice.
- If paid after 21 days a penal interest of 18% will be charged from the due date.
- If the bill is not settled within 30 days from the date of invoice, service will be discontinued without any further notice.
- Any applicable current/future Govt. levies are payable by you.
- All disputes are subjected to Hyderabad Jurisdiction only.

* All amounts are in INR

For Visakha Pharmacy Limited

Authorised Signatory

[E&OE]

This is a Computer Generated Invoice

Registered Office

Visakha Pharmacy Limited, Ramky Grandiose,15th Floor, Sy No 136/2 & 4, Gachibowli, Hyderabad,500032 Telangana,India Ph: 23310091

PORUS LABORATORIES-4

| S.No | Date | Manifest No | Quantity in Kl | Type | PH | Variance | TDS | COD | SS | AN | PRICE TDS | PRICE COD | PRICE SS | PRICE AN | Neutralis ation cost | BASE PRICE | TOTAL | MARGIN 22% | COST PER KL | TOTAL COST (in INR) |
|--------------|----------|-------------|----------------|------|----|----------|--------|--------|----|----|-----------|-----------|----------|----------|----------------------|------------|---------|------------|-------------|---------------------|
| 1 | 01.05.22 | 14557 | 20 | HTDS | 8 | 0 | 73570 | 21551 | 0 | 0 | 646.41 | 123.25 | 0 | | 0 | 2000.5 | 2770.19 | 609.44 | 3379.63 | 67592.66 |
| 2 | 01.05.22 | 14562 | 25 | HTDS | 8 | 0 | 86570 | 22937 | 0 | 0 | 862.21 | 138.04 | 0 | | 0 | 2000.5 | 3000.78 | 660.17 | 3660.95 | 91523.78 |
| 3 | 01.05.22 | 14601 | 25 | HTDS | 8 | 0 | 96180 | 35964 | 0 | 0 | 1021.74 | 277.04 | 0 | | 0 | 2000.5 | 3299.30 | 725.85 | 4025.15 | 100628.77 |
| 4 | 01.05.22 | 14743 | 30 | LTDs | 8 | 0 | 2540 | 1110 | 0 | 0 | 0.00 | 0.00 | 0 | | 0 | 569.04 | 569.04 | 125.19 | 694.23 | 20826.86 |
| 5 | 01.05.22 | 14792 | 25 | LTDs | 8 | 0 | 2530 | 2128 | 0 | 0 | 0.00 | 0.00 | 0 | | 0 | 569.04 | 569.04 | 125.19 | 694.23 | 17355.72 |
| 6 | 01.05.22 | 14781 | 25 | LTDs | 9 | 0 | 3600 | 2341 | 0 | 0 | 0.00 | 0.00 | 0 | | 0 | 569.04 | 569.04 | 125.19 | 694.23 | 17355.72 |
| 7 | 02.05.22 | 14782 | 25 | LTDs | 7 | 0 | 6200 | 2400 | 0 | 0 | 0.00 | 0.00 | 0 | | 0 | 569.04 | 569.04 | 125.19 | 694.23 | 17355.72 |
| 8 | 02.05.22 | 14794 | 25 | LTDs | 9 | 0 | 4290 | 2592 | 0 | 0 | 0.00 | 0.00 | 0 | | 0 | 569.04 | 569.04 | 125.19 | 694.23 | 17355.72 |
| 9 | 02.05.22 | 14857 | 25 | LTDs | 8 | 0 | 6390 | 4768 | 0 | 0 | 0.00 | 0.00 | 0 | | 0 | 569.04 | 569.04 | 125.19 | 694.23 | 17355.72 |
| 10 | 02.05.22 | 14595 | 30 | HTDS | 7 | 0 | 85820 | 31914 | 0 | 0 | 849.76 | 233.82 | 0 | | 0 | 2000.5 | 3084.11 | 678.51 | 3762.62 | 112878.59 |
| 11 | 02.05.22 | 14687 | 25 | HTDS | 8 | 0 | 61110 | 101434 | 0 | 0 | 439.58 | 1316.30 | 0 | | 0 | 2000.5 | 3756.40 | 826.41 | 4582.81 | 114570.28 |
| 12 | 02.05.22 | 14685 | 20 | HTDS | 8 | 0 | 101240 | 31524 | 0 | 0 | 1136.60 | 229.66 | 0 | | 0 | 2000.5 | 3366.79 | 740.69 | 4107.48 | 82149.64 |
| 13 | 02.05.22 | 14689 | 20 | HTDS | 8 | 0 | 84290 | 22956 | 0 | 0 | 824.36 | 138.24 | 0 | | 0 | 2000.5 | 2963.13 | 651.89 | 3615.02 | 72300.48 |
| 14 | 02.05.22 | 14714 | 20 | HTDS | 8 | 0 | 71810 | 43483 | 0 | 0 | 617.20 | 357.26 | 0 | | 0 | 2000.5 | 2974.99 | 654.50 | 3629.49 | 72589.75 |
| 15 | 02.05.22 | 14742 | 25 | HTDS | 8 | 0 | 86780 | 62515 | 0 | 0 | 865.70 | 634.55 | 0 | | 0 | 2000.5 | 3500.78 | 770.17 | 4270.95 | 106773.70 |
| 16 | 02.05.22 | 14847 | 25 | HTDS | 8 | 0 | 64720 | 46513 | 0 | 0 | 499.50 | 389.59 | 0 | | 0 | 2000.5 | 2889.63 | 635.72 | 3525.34 | 88133.58 |
| 17 | 03.05.22 | 14875 | 20 | LTDs | 8 | 0 | 10970 | 6606 | 0 | 0 | 0.00 | 0.00 | 0 | | 0 | 569.04 | 569.04 | 125.19 | 694.23 | 13884.58 |
| TOTAL | | | 410 | | | | | | | | | | | | | | | | | 1030631.28 |

| | | |
|--------------|------------|---------------------|
| HTDS | 235 | 9,09,141.24 |
| LTDs | 175 | 1,21,490.04 |
| TOTAL | 410 | 10,30,631.28 |

Ramky Pharma City (India) Limited

Ramky Pharma City (India) Ltd.,
JNPC, Commercial Hub, Road No.13/RNB, Admin. Block, Parawada Mandal,
Visakhapatnam,531019
Andhra Pradesh,India, Ph: 08924-236001/18,
GSTIN : 37AACCR7170F1ZB
PAN NO : AACCR7170F



IRN No : 0f21f3dd9ad14b81b262f87e8b0b566315840a05900715437082277be35ccbce

TAX INVOICE

Reverse Charge : (No)
Document No. : 1500000012
Invoice Date : 30.04.2022
GSTIN Invoice No. : AP0020000312

Billing Period : 01.04.2022 To 30.04.2022
Reference No. : 26-30 APR2022

State : Andhra Pradesh State Code : 37

Place of Supply : Andhra Pradesh SO Number :

Details of Receiver Billed To :

Details of Consignee Shipped To :

Name: Porus Laboratories Pvt Ltd (Unit-4)
Address: Unit - Iv, Syno.106,107/1,107/2,108/1,108/2 Nuzvid
Constancy
Musunuru,Nuzvid 521213 Andhra Pradesh India

Name: Porus Laboratories Pvt Ltd (Unit-4)
Address: Unit - Iv, Syno.106,107/1,107/2,108/1,108/2 Nuzvid Constancy
Musunuru,Nuzvid 521213 Andhra Pradesh India

PAN No : AABCP7422K GSTIN/UIN : 37AABCP7422K1Z8

GSTIN/UIN : 37AABCP7422K1Z8

State: Andhra Pradesh State Code: 37

State: Andhra Pradesh State Code: 37

| SL.No | Name of Product/Service | HSN/SAC | UOM | Qty. | Rate | Amount | Less: Discount | Taxable Value | CGST | | SGST / UGST | | IGST | |
|----------------|-----------------------------------------------|---------|-----|--------|---------|------------|----------------|---------------|--------|-----------|-------------|-----------|--------|--------|
| | | | | | | | | | Rate % | Amount | Rate % | Amount | Rate % | Amount |
| 1 | HTDS-480 KL Treatment Charges/26 to 30Apr2022 | 999433 | KL | 480.00 | 3778.49 | 1813673.82 | 0.00 | 1813673.82 | 6.00 | 108820.43 | 6.00 | 108820.43 | 0.00 | 0.00 |
| Total : | | | | | | 1813673.82 | 0.00 | 1813673.82 | | 108820.43 | | 108820.43 | | 0.00 |

Total Invoice Amount in Words:
Twenty Lakh Thirty One Thousand Three Hundred Fourteen Rupees Sixty Eight Paise

| | |
|----------------------------------|--------------|
| Total Amount Before Tax : | 1,813,673.82 |
| Add : CGST : | 108,820.43 |
| Add : SGST / UGST : | 108,820.43 |
| Add : IGST : | 0.00 |
| Tax Amount : GST : | 217,640.86 |
| Add : TCS : | 0.00 |
| Total Amount After Tax : | 2,031,314.68 |

Bank Account name : AXIS BANK LTD

GST Payable on Reverse Charge : N/A

Bank Account Number : 075010200012810

CGST On Rev. Charges Mechanism : N/A

Bank Branch IFSC : UTIB0000075

SGST On Rev. Charges Mechanism : N/A

Company CIN : U24239TG2004PLC042855

Terms and Conditions:

- Cheques may please be issued in favour of "Ramky Pharma City (India) Ltd" payable at Visakhapatnam only.
- This invoice should be cleared within 21 days from the date of Invoice.
- If paid after 21 days a penal interest of 18% will be charged from the due date.
- If the bill is not settled within 30 days from the date of invoice, service will be discontinued without any further notice.
- Any applicable current/future Govt. levies are payable by you.
- All disputes are subjected to Hyderabad Jurisdiction only.

* All amounts are in INR

For Ramky Pharma City (India) Limited

Authorized Signatory

[E&OE]

This is a Computer Generated Invoice

PORUS LABS PVT LTD UNIT-4

| S.No. | Date | Manifest No. | Type | Qty | PH | Variance | TDS | COD | SS AN | PRICE TDS | PRICE COD | PRICE SS | PRICE AN | Neutralis ation cost | BASE PRICE | TOTAL | MARGIN 22% | COST PER KL | TOTAL COST Rupees |
|--------------|------------|--------------|------|------------|-----|----------|--------|-------|-------|-----------|-----------|----------|----------|----------------------|------------|---------|------------|-------------|---------------------|
| 1 | 26.04.2022 | 14061 | HTDS | 25 | 6.8 | | 82180 | 22746 | 0 | 789.69 | 135.9998 | 0 | | 0 | 2000.5 | 2926.22 | 643.77 | 3569.99 | 89249.64 |
| 2 | 26.04.2022 | 14063 | HTDS | 25 | 8 | | 81740 | 26186 | 0 | 782.38 | 172.7046 | 0 | | 0 | 2000.5 | 2955.62 | 650.24 | 3605.85 | 90146.37 |
| 3 | 26.04.2022 | 14064 | HTDS | 25 | 7.4 | | 174390 | 40613 | 0 | 4171.59 | 326.6407 | 0 | | 0 | 2000.5 | 6498.76 | 1429.73 | 7928.49 | 198212.24 |
| 4 | 26.04.2022 | 14048 | HTDS | 25 | 7.1 | | 84210 | 20693 | 0 | 823.39 | 114.0943 | 0 | | 0 | 2000.5 | 2938.01 | 646.36 | 3584.37 | 89609.31 |
| 5 | 27.04.2022 | 14169 | HTDS | 20 | 7.3 | | 75340 | 17502 | 0 | 676.14 | 80.04634 | 0 | | 0 | 2000.5 | 2756.72 | 606.48 | 3363.20 | 67263.98 |
| 6 | 27.04.2022 | 14171 | HTDS | 20 | 7.2 | | 64790 | 21045 | 0 | 501.01 | 117.8502 | 0 | | 0 | 2000.5 | 2619.39 | 576.27 | 3195.66 | 63913.22 |
| 7 | 27.04.2022 | 14174 | HTDS | 30 | 7.3 | | 102070 | 25734 | 0 | 1171.03 | 167.8818 | 0 | | 0 | 2000.5 | 3339.45 | 734.68 | 4074.12 | 122223.73 |
| 8 | 28.04.2022 | 14275 | HTDS | 25 | 7.3 | | 72440 | 22956 | 0 | 628.00 | 138.2405 | 0 | | 0 | 2000.5 | 2766.77 | 608.69 | 3375.46 | 84386.62 |
| 9 | 28.04.2022 | 14278 | HTDS | 25 | 7.1 | | 68870 | 21194 | 0 | 568.74 | 119.44 | 0 | | 0 | 2000.5 | 2688.71 | 591.52 | 3280.23 | 82005.72 |
| 10 | 28.04.2022 | 14325 | HTDS | 25 | 7.6 | | 67510 | 24184 | 0 | 546.17 | 151.3433 | 0 | | 0 | 2000.5 | 2698.04 | 593.57 | 3291.61 | 82290.20 |
| 11 | 28.04.2022 | 14327 | HTDS | 25 | 7.3 | | 90130 | 24184 | 0 | 921.66 | 151.3433 | 0 | | 0 | 2000.5 | 3073.53 | 676.18 | 3749.71 | 93742.70 |
| 12 | 28.04.2022 | 14346 | HTDS | 30 | 6.6 | | 66690 | 28455 | 0 | 532.55 | 196.9149 | 0 | | 0 | 2000.5 | 2730.00 | 600.60 | 3330.60 | 99917.96 |
| 13 | 29.04.2022 | 14486 | HTDS | 25 | 7 | | 90560 | 26773 | 0 | 928.80 | 178.9679 | 0 | | 0 | 2000.5 | 3108.29 | 683.82 | 3792.12 | 94802.96 |
| 14 | 29.04.2022 | 14490 | HTDS | 25 | 6.8 | | 102930 | 25093 | 0 | 1206.72 | 161.0423 | 0 | | 0 | 2000.5 | 3368.29 | 741.02 | 4109.31 | 102732.78 |
| 15 | 29.04.2022 | 14465 | HTDS | 25 | 7.1 | | 64370 | 22853 | 0 | 494.04 | 137.1415 | 0 | | 0 | 2000.5 | 2631.71 | 578.98 | 3210.69 | 80267.26 |
| 16 | 30.04.2022 | 14478 | HTDS | 20 | 7.1 | | 81320 | 25600 | 0 | 775.41 | 166.452 | 0 | | 0 | 2000.5 | 2942.39 | 647.33 | 3589.72 | 71794.41 |
| 17 | 30.04.2022 | 14480 | HTDS | 20 | 7.2 | | 77090 | 24933 | 0 | 705.19 | 159.3351 | 0 | | 0 | 2000.5 | 2865.06 | 630.31 | 3495.37 | 69907.44 |
| 18 | 30.04.2022 | 14464 | HTDS | 20 | 7.2 | | 61990 | 23413 | 0 | 454.53 | 143.1167 | 0 | | 0 | 2000.5 | 2598.18 | 571.60 | 3169.78 | 63395.61 |
| 19 | 30.04.2022 | 14558 | HTDS | 20 | 7.6 | | 77640 | 22510 | 0 | 714.32 | 133.4817 | 0 | | 0 | 2000.5 | 2848.34 | 626.63 | 3474.97 | 69499.39 |
| 20 | 30.04.2022 | 14556 | HTDS | 25 | 7.1 | | 99050 | 24348 | 0 | 1069.73 | 153.0932 | 0 | | 0 | 2000.5 | 3223.35 | 709.14 | 3932.49 | 98312.27 |
| TOTAL | | | | 480 | | | | | | | | | | | | | | | 18,13,673.82 |



Sustainability

ORIGINAL

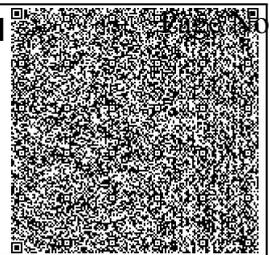
Mumbai Waste Management Limited Annexure - VI Unit: Coastal Waste Management Project-2

Opp. Road to Govt. Veterinary Polytechnic College ,Sy.No: 20-2P1/P2/P3, Raviguntapalli,

Rapur Mandal, SPSR Nellore Dist.,524408 Ph: 9154252951,

Email-ID:madhubabu@ramky.com

CIN: U90001TG2001PLC03782



TAX INVOICE

IRN No : 06c5f500a5526dc457ce9ec07e8e20d317f3852cd53fcc9994fa83dcc6a34156

IRN Acknowledgement No : 112213218916386

Acknowledgement Date & Time : 31-05-2022/11:09:00

| | |
|-----------------------------------------------------|-----------------------------------------------|
| GSTIN : 37AADCM0026A2Z7 PAN No: AADCM0026A | E Way Bill No : |
| Document No. : 9300034149 | Transporter Name : |
| Invoice Date : 31.05.2022 | Transport GSTIN : |
| GSTIN Invoice No. : AP0020000092 | Vehicle Number : Vehicle Type : |
| Member ship No : CWMP/KRN/PLL/276 | GR/LR number : GR/LR Date : |
| State: Andhra Pradesh State Code : 37 | E Way Bill Validity : - |
| Customer Id : 1008603 | Place of Supply : N/A |

| | |
|-----------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| Details of Receiver Billed To :1008603 PAN.No: | Details of Shipped To :1008603 PAN.No: |
| Name: Porus Laboratories Pvt.Ltd. Unit# I, Address: Akkireddi Gudam,, Musunuru (M) Krishna,521213 Andhra Pradesh,India | Name: Porus Laboratories Pvt.Ltd. Unit# I, Address: Akkireddi Gudam,, Musunuru (M) Krishna,521213 Andhra Pradesh,India |
| GSTIN/UIN : 37AABCP7422K1Z8 TAN No: | GSTIN/UIN : 37AABCP7422K1Z8 TAN No: |
| State: Andhra Pradesh State Code: 37 | State: Andhra Pradesh State 37 |

| |
|-----------------------------------------------|
| Type of Service Waste Disposal Charges |
| Billing Period May-2022 |
| PO/WO Number. |

| SL. No | Name of Product/Service | HSN/SAC | UOM | Qty. | Rate | Amount | Taxable Value | CGST | | SGST | | IGST | |
|----------------|-----------------------------|---------|-----|--------|-----------|------------|---------------|--------|-----------|--------|-----------|--------|--------|
| | | | | | | | | Rate % | Amount | Rate % | Amount | Rate % | Amount |
| 1 | CONTAMINATED SOLID WASTE -2 | 999432 | TON | 18.445 | 12,000.00 | 221,340.00 | 221,340.00 | 9.00 | 19,920.60 | 9.00 | 19,920.60 | 0.00 | 0.00 |
| 2 | CONTAMINATED SOLID WASTE -1 | 999432 | TON | 18.980 | 16,000.00 | 303,680.00 | 303,680.00 | 9.00 | 27,331.20 | 9.00 | 27,331.20 | 0.00 | 0.00 |
| 3 | Un Loading Charge | 999432 | TO | 18.445 | 1,014.50 | 18,712.50 | 18,712.50 | 9.00 | 1,684.13 | 9.00 | 1,684.13 | 0.00 | 0.00 |
| Total : | | | | | | 543,732.50 | 543,732.50 | | 48,935.93 | | 48,935.93 | | 0.00 |

| | |
|---------------------------------------------------------------------------------------------------|---------------------------------------------|
| Total Invoice Amount in Words: Six Lakh Forty One Thousand Six Hundred Four Rupees only | Total Amount Before Tax : 543,732.50 |
| | Add : CGST : 48,935.93 |
| | Add : SGST : 48,935.93 |
| | Add : IGST : 0.00 |
| | Tax Amount : GST : 97,871.86 |
| | TCS # : 0.00 |
| | Total Amount After Tax : 641,604.36 |
| | Round Off : 641,604 |

| | |
|--------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|
| Bank Name, Branch : AXIS BANK | GST Payable on Reverse Charge : N/A |
| Current Account Number : 919020084587913 | CGST On Rev. Charges Mechanisem : N/A |
| IFSC : UTIB0002607 | SGST On Rev. Charges Mechanisem : N/A |
| Terms and Conditions : As per Agreement # TCS as applicable w.e.f. 01.10.2020 | Certified that the particulars Given above are true and correct. (Company Seal) |

Remarks:

[E&OE]

This is a Computer Generated Invoice

| | | |
|----------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Certification & Accreditations ISO 9001:2015 ISO 14001:2015 ISO 45001:2018 | | Corporate Office Re Sustainability Ltd. Level 11, Aurobindo Galaxy, Hyderabad Knowledge City, Hitech City Road, Hyderabad Telangana- 500081, India |
|----------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------|



Sustainability

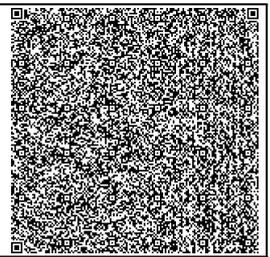
ORIGINAL

Mumbai Waste Management Limited Page No. 62
Unit: Coastal Waste Management Project-2

Opp. Road to Govt. Veterinary Polytechnic College ,Sy.No: 20-2P1/P2/P3, Raviguntapalli,
Rapur Mandal, SPSR Nellore Dist.,524408 Ph: 9154252951,

Email-ID:madhubabu@ramky.com

CIN: U90001TG2001PLC03782



TAX INVOICE

IRN No : 06c5f500a5526dc457ce9ec07e8e20d317f3852cd53fcc9994fa83dcc6a34156

IRN Acknowledgement No : 112213218916386

Acknowledgement Date & Time : 31-05-2022/11:09:00

Declaration:

- 1) Payments shall be made 100% of the invoice value within 15-Days.
- 2) If payments is not made within 15 days 2% interest per month will be charged on the invoice value
- 3) Payment to be made Through NEFT/RTGS (as applicable) favour of M/s. Mumbai Waste Management Limited payable at Gudur.
- 4) Minimum distance consider for transportation is 20KMs irrespective of the industry from TSDF
- 5) Invoice raised based on actual Quantity received by TSDF.
- 6) Any applicable current future Govt. levies are payable by you.
- 7) Any clarification on the invoice shall be raised within 24 hours from the date of invoice, else it will be treated as confirmed invoice.
- 8) All disputes are subject to Hyderabad Jurisdiction only

For Mumbai Waste Management Limited
Unit: Coastal Waste Management Project-2

Finance & Accounts
Authorised Signatory

Project Head.
Authorised Signatory

Marketing & Business Development
Authorised Signatory

Certification & Accreditations

ISO 9001:2015 | ISO 14001:2015 | ISO 45001:2018



Corporate Office
Re Sustainability Ltd.
Level 11, Aurobindo Galaxy, Hyderabad Knowledge City,
HITECH City Road, Hyderabad Telangana- 500081, India

Customer Name : Porus Laboratories Pvt.Ltd. Unit# I

GST Invoice Number and Date: AP0020000092 / 31.05.2022

Customer Number : 1008603

| Sl. No. | Date | Manifest No | Vehicle No | Types of waste | Qty | UOM | Transport Billing Qty. | KM | Rate | Transport Amount | Toll Charges | Path |
|--------------|------------|-------------|------------|-----------------------------|---------------|-----|------------------------|-----|------|------------------|--------------|------|
| 1 | 30.05.2022 | 0000015119 | AP26TB7497 | CONTAMINATED SOLID WASTE -2 | 18.445 | TON | 0.000 | 0.0 | 0.00 | 0.00 | 0.00 | LAT |
| 2 | 30.05.2022 | A14358 | AP24TB4986 | CONTAMINATED SOLID WASTE -1 | 18.980 | TON | 0.000 | 0.0 | 0.00 | 0.00 | 0.00 | LAT |
| TOTAL | | | | | 37.425 | | 0.000 | | | 0.00 | 0.00 | |

NOTE: Transportation charges are calculated by taking into considering minimum 90% of the container loading capacity (As per RTA Permit)



Sustainability

ORIGINAL

Mumbai Waste Management Limited Unit: Coastal Waste Management Project-2

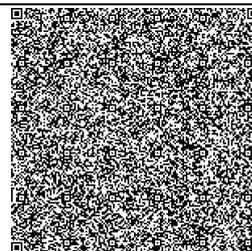
Page No. 64

Opp. Road to Govt. Veterinary Polytechnic College ,Sy.No: 20-2P1/P2/P3, Raviguntapalli,

Rapur Mandal, SPSR Nellore Dist.,524408 Ph: 9154252951,

Email-ID:madhubabu@ramky.com

CIN: U90001TG2001PLC03782



TAX INVOICE

IRN No : da12071a2282296617be7e1c34e6a43c0b00b91b768a78cb0b15e6d451ce924a

IRN Acknowledgement No : 112213221923128

Acknowledgement Date & Time : 31-05-2022/15:38:00

| | | | | | |
|------------------------------|---------------------|---------------------------|------------------------------|---------------------------|-----------------------|
| GSTIN : | 37AADCM0026A2Z7 | PAN No: | AADCM0026A | E Way Bill No : | |
| Document No. : | 9300034430 | Transporter Name : | | Transporter Name : | |
| Invoice Date : | 31.05.2022 | Transport GSTIN : | | Transport GSTIN : | |
| GSTIN Invoice No. : | AP0020000118 | Vehicle Number : | | Vehicle Number : | |
| Member ship No : | CWMP/KRN/PLL/276 | GR/LR number : | | GR/LR number : | |
| State: Andhra Pradesh | State Code : | 37 | E Way Bill Validity : | - | Vehicle Type : |
| Customer Id : | 1008603 | | Place of Supply : | N/A | GR/LR Date : |

| | | | | | | | |
|---------------------------------------------------|----------------------------|----------------|--|---------------------------------------------------|-----------------------------|----------------|--|
| Details of Receiver | Billed To : 1008603 | PAN.No: | | Details of | Shipped To : 1008603 | PAN.No: | |
| Name: Porus Laboratories Pvt.Ltd. Unit# I, | | | | Name: Porus Laboratories Pvt.Ltd. Unit# I, | | | |
| Address: Akkireddi Gudam,, Musunuru (M) | | | | Address: Akkireddi Gudam,, Musunuru (M) | | | |
| Krishna,521213 | | | | Krishna,521213 | | | |
| Andhra Pradesh,India | | | | Andhra Pradesh,India | | | |
| GSTIN/UIN : 37AABCP7422K1Z8 | TAN No: | | | GSTIN/UIN : 37AABCP7422K1Z8 | TAN No: | | |
| State: Andhra Pradesh | State Code: | 37 | | State: Andhra Pradesh | State | 37 | |

| | |
|------------------------|------------------------|
| Type of Service | Waste Disposal Charges |
| Billing Period | May-2022 |
| PO/WO Number. | |

| SL. No | Name of Product/Service | HSN/SAC | UOM | Qty. | Rate | Amount | Taxable Value | CGST | | SGST | | IGST | |
|----------------|---------------------------|---------|-----|--------|-----------|------------|---------------|-----------|-----------|-----------|-----------|--------|--------|
| | | | | | | | | Rate % | Amount | Rate % | Amount | Rate % | Amount |
| 1 | CONTAMINATED SOLID -3(FG) | 999432 | TON | 25.225 | 21,000.00 | 529,725.00 | 529,725.00 | 9.00 | 47,675.25 | 9.00 | 47,675.25 | 0.00 | 0.00 |
| 2 | Un Loading Charge | 999432 | TO | 25.225 | 500.00 | 12,612.50 | 12,612.50 | 9.00 | 1,135.13 | 9.00 | 1,135.13 | 0.00 | 0.00 |
| Total : | | | | | | 542,337.50 | 542,337.50 | 48,810.38 | | 48,810.38 | | 0.00 | |

| | | |
|--------------------------------------------------------------------|----------------------------------|------------|
| Total Invoice Amount in Words: | Total Amount Before Tax : | 542,337.50 |
| Six Lakh Thirty Nine Thousand Nine Hundred Fifty Eight Rupees only | Add : CGST : | 48,810.38 |
| | Add : SGST : | 48,810.38 |
| | Add : IGST : | 0.00 |
| | Tax Amount : GST : | 97,620.78 |
| | TCS # : | 0.00 |
| | Total Amount After Tax : | 639,958.28 |
| | Round Off : | 639,958 |

| | | | | |
|----------------------------------------------|------------------|-------------------------------------------------------------------------|------------------------------------------|-----|
| Bank Name, Branch : | AXIS BANK | GST Payable on Reverse Charge : | N/A | |
| Current Account Number : | 919020084587913 | | CGST On Rev. Charges Mechanisem : | N/A |
| IFSC : | UTIB0002607 | | SGST On Rev. Charges Mechanisem : | N/A |
| Terms and Conditions : | As per Agreement | Certified that the particulars Given above are true and correct. | | |
| # TCS as applicable w.e.f. 01.10.2020 | (Company Seal) | | | |

Remarks:

[E&OE]

This is a Computer Generated Invoice

Declaration:

1) Payments shall be made 100% of the invoice value within 15-Days.

Certification & Accreditations

ISO 9001:2015 | ISO 14001:2015 | ISO 45001:2018



Corporate Office

Re Sustainability Ltd.

Level 11, Aurobindo Galaxy, Hyderabad Knowledge City,

Hitech City Road, Hyderabad Telangana- 500081, India



Sustainability

ORIGINAL

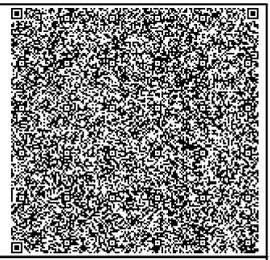
Mumbai Waste Management Limited Page No. 65
Unit: Coastal Waste Management Project-2

Opp. Road to Govt. Veterinary Polytechnic College ,Sy.No: 20-2P1/P2/P3, Raviguntapalli,

Rapur Mandal, SPSR Nellore Dist.,524408 Ph: 9154252951,

Email-ID:madhubabu@ramky.com

CIN: U90001TG2001PLC03782



TAX INVOICE

IRN No : da12071a2282296617be7e1c34e6a43c0b00b91b768a78cb0b15e6d451ce924a

IRN Acknowledgement No : 112213221923128

Acknowledgement Date & Time : 31-05-2022/15:38:00

- 2) If payments is not made within 15 days 2% interest per month will be charged on the invoice value
- 3) Payment to be made Through NEFT/RTGS (as applicable) favour of M/s. Mumbai Waste Management Limited payable at Gudur.
- 4) Minimum distance consider for transportation is 20KMs irrespective of the industry from TSDF
- 5) Invoice raised based on actual Quantity received by TSDF.
- 6) Any applicable current future Govt. levies are payable by you.
- 7) Any clarification on the invoice shall be raised within 24 hours from the date of invoice, else it will be treated as confirmed invoice.
- 8) All disputes are subject to Hyderabad Jurisdiction only

For Mumbai Waste Management Limited
Unit: Coastal Waste Management Project-2

Finance & Accounts
Authorised Signatory

Project Head.
Authorised Signatory

Marketing & Business Development
Authorised Signatory

Certification & Accreditations

ISO 9001:2015 | ISO 14001:2015 | ISO 45001:2018



Corporate Office
Re Sustainability Ltd.
Level 11, Aurobindo Galaxy, Hyderabad Knowledge City,
HITECH City Road, Hyderabad Telangana- 500081, India

Customer Name : Porus Laboratories Pvt.Ltd. Unit# I

GST Invoice Number and Date: AP0020000118 / 31.05.2022

Customer Number : 1008603

| Sl. No. | Date | Manifest No | Vehicle No | Types of waste | Qty | UOM | Transport Billing Qty. | KM | Rate | Transport Amount | Toll Charges | Path |
|--------------|------------|-------------|------------|---------------------------|---------------|-----|------------------------|-----|------|------------------|--------------|------|
| 1 | 31.05.2022 | B15386 | AP24TB4986 | CONTAMINATED SOLID -3(FG) | 6.085 | TON | 0.000 | 0.0 | 0.00 | 0.00 | 0.00 | AFRF |
| 2 | 31.05.2022 | B15385 | AP39TS2783 | CONTAMINATED SOLID -3(FG) | 7.080 | TON | 0.000 | 0.0 | 0.00 | 0.00 | 0.00 | AFRF |
| 3 | 31.05.2022 | B15383 | AP20TC3159 | CONTAMINATED SOLID -3(FG) | 5.805 | TON | 0.000 | 0.0 | 0.00 | 0.00 | 0.00 | AFRF |
| 4 | 31.05.2022 | B15782 | AP20TC3159 | CONTAMINATED SOLID -3(FG) | 6.255 | TON | 0.000 | 0.0 | 0.00 | 0.00 | 0.00 | AFRF |
| TOTAL | | | | | 25.225 | | 0.000 | | | 0.00 | 0.00 | |

NOTE: Transportation charges are calculated by taking into considering minimum 90% of the container loading capacity (As per RTA Permit)

File No.FCT-AC0ACIF(FA)/1/2022-JA(A)-DCIF(VJA)-FACTORIES(KRSN)

GOVERNMENT OF ANDHRA PRADESH
FACTORIES DEPARTMENT

Annexure - VII

From

Smt.S.Usha Sri,
B.Tech (EEE),
Deputy Chief Inspector of Factories,
Vijayawada.

To

Sri.N.Purushothama Rao, age : 66 years,
S/o.N.Veeraju, Occupier,
Sri T.Anil Babu, age : 42 years,
S/o T.Nagamalleswara Rao, Manager,
M/s Porus Laboratories Pvt. Ltd.,
Unit-IV, Akkireddygudem (V),
Musunuru (M), Eluru (Dist)

Sir,

Sub:- Factories Act, 1948 and A.P. Factories Rules, 1950 – Major accident on 13-04-2022 at 10:55 P.M in the premises of M/s Porus Laboratories Pvt. Ltd., Akkireddygudem (V), Musunuru (M), Eluru District – Prohibitory Orders – issued – Regarding.

A major accident involving an explosion and fire had occurred in a reactor No: D-01 in the production block – D of factory M/s Porus Laboratories Pvt. Ltd., Unit-IV, Akkireddygudem (V), Musunuru (M), Eluru (Dist) on 13-04-2022 at 10.55 PM while carrying on the stage-1 process of an drug intermediate by name 4NPI (4 Nitro N-methyl Phthalimide) by engaging 18 persons. All 18 workers have been affected by this accident which resulted into death of 6 persons and hospitalization of 12 persons for critical care due to grievous burn injuries at Vijayawada.

Soon after receipt of the information of the accident, the scene of accident had been visited by Dy Chief Inspector of Factories, Eluru and Dy Chief Inspector of Factories, Vijayawada on 14th April 2022 and preliminary investigation was carried on. On inquiry, the following serious lapses were observed.

1. The manufacturing process of stage 1 of the drug intermediate by name 4NPI had been restarted on 14th February 2022 after a gap of about more than 18 months without reviewing the adequacy of safety integration into the process in the changed settings like change in the man power, change in process asset suitability etc
2. The compliance of Safety recommendations of HAZOP studies carried on for safe

production of 4NPI involving exothermic reactions by a multi-disciplinary team comprising experienced people drawn from Production, QA, QC, Ware house, Maintenance, EHS lead by an expert third party on 23.05.2017 has not been ensured prior to restarting the process for manufacturing of 4NPI in the month of Feb 2022.

Due to these failures, the process of 4 NPI was found not carried on with in safe limits at 10.55 PM on 13.04.2022 which resulted into a major accident as described above, duly indicating the existence of imminent danger to the safety of the people working in the factory if the manufacturing activities in the factory allowed to continue. Therefore, the following orders are issued.

PROHIBITORY ORDER

Section 40(2) :-

A major explosion and fire accident had occurred in the factory on 13.04.2022 at 10.55PM resulting into death of 6 persons and hospitalization of 12 persons with grievous burn injuries caused due to noncompliance of certain provisions under Factories Act & AP Factories Rules. Due to this noncompliance, there is a reason to believe the existence of an imminent danger to the safety of the workers working in the factory in further continuing the manufacturing process in the factory. Therefore, the manufacturing process in the premises of the factory are prohibited with immediate effect until the further orders which will be issued based on the compliance of the following.

1. HAZOP Studies and Layers of Protection analysis study shall be got carried on afresh to all the processes by an expert third party and the reports shall be submitted along with compliance of all the recommendations
2. Training needs shall be got analyzed for workers for each of the unit processes / unit operations to be carried on in the factory and adequate training in an effective manner shall be extended to all workers. A report on third party assessment of training adequacy shall be submitted after completion of training to all workers.
3. The design of Production Blocks in the factory shall be got reviewed with an aim

File No.FCT-AC0ACIF(FA)/1/2022-JA(A)-DCIF(VJA)-FACTORIES(KRSN)

3

of minimizing or preventing the risk of exposure of the persons employed in the blocks at any given time, in order to avoid dire consequences in case of an untoward development like the one happened on 13.04.2022 at 10.55 PM, through an expert third party. A detailed report along with compliance of recommendations shall be submitted.+

4. Dedicated ceiling roof mounted automatic fire detection and suppression system shall be arranged in blocks where flammable chemicals are being stored/handled.

The Prohibitory Orders issued shall be in force until they are revoked.

Yours faithfully,

(S.Usha Sri)
**Deputy Chief Inspector of
Factories, Vijayawada**

Copy submitted to the Director of Factories, Andhra Pradesh, Vijayawada for favour of information.

Copy submitted to the Collector & District Magistrate, Eluru, Eluru District for favour of information.

Copy submitted to the Collector & District Magistrate, NTR District, Vijayawada for favour of information.

Copy to the Deputy Chief Inspector of Factories, Eluru, Eluru District.

Copy to Inspector of Factories, Vijayawada, NTR District.

Signed by Sakhmuri

Ushasri

Date: 16-04-2022 12:19:29

Reason: Approved



ANDHRA PRADESH POLLUTION CONTROL BOARD

D.No.33-26-14D/2, Near Sunrise Hospital, Pushpa Hotel Centre,
Chalamalavari Street, Kasturibaipet, Vijayawada – 520 010.

Regd. Post with Ack Due

OrderNo.225/APPCB/UH-II/TF/VJA/2022-19

Date: 14.04.2022

CLOSUREORDERS

Sub: APPCB – UH-II - TF - M/s. Porus Laboratories Pvt. Ltd., Unit – IV, Sy. No. 87, 92/10, 106/1C, 106/2C, 107/2A, 107/2B, 107/C, 108/1B & 108/2, Akkireddygudem (V), Musunuru (M), Krishna District–An accident happened in the industry on 13.04.2022-Inspection of the Industry by the Board officials on 14.04.2022- Non compliance of CFO conditions and causing pollution in the surrounding areas - **Issue of closure order and specific directions for disposal of waste** – Reg.

Ref: 1. CFO order dt. 05.03.2021 valid upto 31.03.2024.
2. Accident occurred in the industry on 13.04.2022
3. Inspection of the industry by the Board officials on 14.04.2022.

WHEREAS you are operating the industry in the name and style of M/s. Porus Laboratories Pvt. Ltd., Unit – IV, Sy. No. 87, 92/10, 106/1C, 106/2C, 107/2A, 107/2B, 107/C, 108/1B & 108/2, Akkireddygudem (V), Musunuru (M), Krishna District and engaged in the manufacture of bulk drugs and intermediates and speciality chemicals.

WHEREAS the Board vide reference 1st cited, issued CFO order to the industry vide order 05.03.2021 to manufacture 6 products with total production capacity of 22238.59 Kgs/Day and other two by-products and is valid up to 31.03.2024.

WHEREAS an accident occurred in the industry on 13.04.2022 at 10.55 PM, claiming the lives of 6 people.

WHEREAS the Board officials on 14.04.2022, received information that accident was taken place at M/s. Porus Laboratories (p) ltd located at Akkireddygudem(V), Muaunuru(M), presently Eluru District(divided from Krishna dist) and vide reference 3rd cited the Board Officials inspected the industry on 14.04.2022 and observed the following :

- The industry is having 5 production blocks (A, B, C, D and E blocks) in the factory, out of which block A & E are not working for last 18 months. The blocks B, C and D are working and drug intermediates namely M240(1H-Indene-2-carboxylic acid, 5-chloro-2,3-dihydro-2-hydroxy-1-oxo-Methyle ester,(2S)-(M240)) in block B, IP2(Phenolphthalein(first stage of p-phenolphthalein bis Phenol (or) 2-phenyl (3,3 -

bis (4-Hydroxy Phenyl) Phthalimide)) in Block C and 4NPI(4-Nitro-N-methyl phthalimide) in block D are under manufacturing.

- Production Block D is provided with 15 numbers of reactors (10X5KL, 1X3KL, 4X2.5KL). In 10 Nos. of reactors stage II reaction is being carried out and in 5 Nos. of reactors stage I is being carried out. The incident occurred in Stage-I process.
- The representative of the industry Sri D. Prasada Rao, Vice President Technical, informed that the accident of explosion was taken place at Production Block D in the 3 KL capacity reactor in the first stage of 4-Nitro-N-methyl phthalimide, wherein Phthalic Anhydride(Solid) and Mono Methyl Amine (Gas) are the reactants. The reaction is carried out at temperature range between 150 to 180 degrees centigrade. The reaction itself is a highly exothermic reaction and need to be provided with water circulation for controlling the reaction temperature. The uncontrolled reaction temperature might have led to pressurize the Reactor and could be the root cause for explosion followed by fire accident, which had occurred at 10.55PM on 13.04.2022. There were 18 workers working in this block at the time of accident.
- As a result of this incident, 5 workers have died at the spot and one worker died on the way to hospital. Remaining 12 workers have been shifted Government Hospital, Vijayawada. The industry has not given any information about the accident to the Board after its occurrence.
- Phthalic Anhydride and Mono methyl amine are reactants in first stage, which is a highly exothermic reaction. Water circulation to be maintained to control the reaction temperature. Uncontrolled reaction leads to high temperature and pressure, the reactor might have exploded and caught fire in production block D, causing 6 deaths and 12 injuries of employees.
- Production Block D was completely damaged and the reaction mass in the reactors was fallen ground and spread around the production block.
- As a result of this incident, 5 workers have died at the spot and one worker died on the way to hospital. Remaining 12 workers have been shifted Government Hospital, Vijayawada. The industry has not given any information about the accident to the Board after its occurrence..
- Contaminated Fire Hydrant water was partly collected by the industry in collection pit and partly found its way outside the industry premises.
- Total VOC monitoring was carried out all around the production Block D and is recorded as 1.6 to 2.3 PPM on average within the production block and no VOC was reported outside the industry premises.
- It is estimated at about 50 Tons of Hazardous waste of reaction mass fell on ground and 40 KL of water was used for fire hydrant system, which get contaminated was partly collected and partly find its way to outside.

In view of the material facts mentioned above and under the powers vested with the Board under section 33 (A) of the Water (Prevention & Control of Pollution) Act, 1974 and under section 31 (A) of the Air (Prevention & Control of Pollution) Act, 1981, the Board hereby issue **CLOSURE ORDERS** to M/s. Porus Laboratories Pvt. Ltd., Unit - IV, Sy. No. 87, 92/10, 106/1C, 106/2C, 107/2A, 107/2B, 107/C, 108/1B & 108/2, Akkireddygudem (V), Musunuru (M), Krishna District forthwith for non compliance of consent conditions and further causing pollution in the surrounding areas hereby issues the following **directions** in the interest of

safe guarding public health and environment.

- The industry shall collect the entire solid waste of reaction mass and debris of the damaged production block and shall further be disposed to TSDf in a scientific manner.
- The industry shall collect the contaminated water used for Fire Hydrant and shall be disposed to nearby CETP and remediate the contaminated area where the contaminated water was finding its way.

M/s A.P.C.P.D.C.L., has been directed to disconnect the power supply to M/s. Porus Laboratories Pvt. Ltd., Unit - IV, Sy. No. 87, 92/10, 106/1C, 106/2C, 107/2A, 107/2B, 107/C, 108/1B & 108/2, Akkireddygudem (V), Musunuru (M), Krishna District.

You are further directed to take note that if you continue to operate your industry even after receipt of this order, you will be liable for prosecution U/s. 41 of Water (Prevention & Control of Pollution) Act, 1974 and amendments thereof & U/s. 37(1) of Air (Prevention & Control of Pollution) Act, 1981 and amendments thereof.

This Order comes into effect from today i.e., 14.04.2022.

Sd/-
MEMBER SECRETARY

To

M/s. Porus Laboratories Pvt. Ltd., Unit - IV,
Sy. No. 87, 92/10, 106/1C, 106/2C, 107/2A, 107/2B, 107/C, 108/1B & 108/2,
Akkireddygudem (V), Musunuru (M), Krishna District

Copy to:

1. The Joint Chief Environmental Engineer, Zonal Office, Vijayawada for information and necessary action.
2. The Environmental Engineer, Regional Office, Vijayawada for information and necessary action.

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

M. Rajshankar
14/4/22
JOINT CHIEF ENVIRONMENTAL ENGINEER

File No.FCT-AC0ACIF(FA)/1/2022-JA(A)-DCIF(VJA)-FACTORIES(KRSN)

Annexure - IX.

From
Smt. S.Usha Sri.,B.Tech(EEE),
Dy.Chief Inspector of Factories,
Vijayawada.

To
Sri. N.Purushotham Rao, Age 66 Years,
S/o.Veeraju, Occupier,
Sri.T.Anil Babu, Age 42 Years,
S/o.T.Nagamalleswara Rao, Manager,
M/s.PORUS LABORATORIES PVT LTD,
Unit-IV, Akkireddygudem Village,
Musunuru Mandal, Eluru District.

DEPUTY CHIEF INSPECTOR OF FACTORIES VIJAYAWADA

Sir,

Sub:-Factories Act, 1948 and A.P. Factories Rules,1950- Non-Compliance -
PORUS LABORATORIES PVT LTD, Akkireddygudem Village,
Musunuru Mandal, Eluru District -Show Cause Notice issued to
Occupier and Manager, PORUS LABORATORIES PVT LTD -Reg.

Ref:- Inspection Order No. R.No.9947/2022,dt. -05-2022.

&&&

Please Show Cause in writing within a week of receipt of this Notice, why
prosecution should not be taken against you for non-compliance of the Provision of the
above Act and Rules, as detailed in the Inspection Order cited above.

Encl: One inspection Order.

DY.CHIEF INSPECTOR OF FACTORIES,
VIJAYAWADA.

Signed by Sakhmuri
Ushasri

Date: 25-05-2022 11:19:10

Reason: Approved

File No.FCT-AC0ACIF(FA)/1/2022-JA(A)-DCIF(VJA)-FACTORIES(KRSN)

OFFICE OF THE DY.CHIEF INSPECTOR OF FACTORIES VIJAYAWADA

R.NO.9947/2022,

DATED. -05-2022.

INSPECTION ORDER NOTICE

FACTORIES ACT,1948 AND A.P.FACTORIES RULES,1950
AND THE GOVERNMENT NOTIFICATION ISSUED THEREON

Sir,

Upon a recent inspection of your factory on 14-04-2022 at 8:30AM,15-4-2022 at 2:30PM, 16-4-2022 at 11:00AM&18-4-2022 at 10:45AM on special visit by me, along with Dy.Chief Inspector of Factories, Eluru and Inspector of Factories, Vijayawada it was found to the extent indicated below that certain provision of the Act and Rules were not being carried out.

2. The orders below are issued or repeated from previous orders without prejudice to any action that this office may take for non-compliance with the provisions of the Act and Rules there under.

Yours faithfully,

DY.CHIEF.INSPECTOR OF FACTORIES,
VIJAYAWADA.

To
Sri. N.Purushotham Rao, Age 66 Years
S/o.Veeraju, Occupier,
Sri.T.Anil Babu, Age 42 Years,
S/o.T.Nagamalleswara Rao, Manager,
M/s.PORUS LABORATORIES PVT LTD,
Unit-IV, Akkireddygudem Village,
Musunuru Mandal, Eluru District.

File No.FCT-AC0ACIF(FA)/1/2022-JA(A)-DCIF(VJA)-FACTORIES(KRSN)

1. Section 41 and Rule 61-I read with Section 87 Rule 95, Schedule XV Part-II, Para-5,12, Part-III, Para-6:-Failed to provide interlocking arrangement between reaction temperature with the feed of reactant Mono Methyl Ammonia (MMA gas) into the Reactor D-01, of Block-D of the factory as well as supply of steam into the jacket of the said reactor, duly coupled with audio visual alarm system, auto coolant flooding system or inhibitor injection, in order to alert and timely intervene or correct the stage-I process of drug intermediate by name 4 NPI so as to avoid the deviation of process parameters beyond the safe limit which may result into explosion/fire consequences, due to which, on 13-04-2022 at 10:55 P.M, while the said stage-I process of drug intermediate by name 4Nitro-Methyl Phthalimide (4 NPI) was under progress by using phthalic Anhydride and MMA Gas which is an exothermic reaction, the temperature of the reactants in the said reactor exceeded safe limit and resulted into severe explosion causing instantaneous death of 6 persons by names (1) Udrupati Krishnaiah (shift incharge, 1st floor), (2) Karu Ravidas (contract helper), (3) Manoj Mochi (contract helper), (4) Suhas Ravidas (contract helper), (5) Avadesh Ravidas (contract helper) (6) Boppudi Kiran Kumar, (contract helper),and severe burn injuries to 11 more workers by names (1) Munark Paswan, (2) S.Nageswara Rao, (3) Joseph Kumar, (4) Roshan Kumar, (5) M.Naga Raju, (6) Sk.Subhani, (7) Varun Das, (8) Ravi Kumar Das, (9) Sudheer Kumar, (10) Bihari Ravidas, (11) Sudheer Ravi Das. Later out of those 11 workers, 4 workers by names(1) Munark Paswan, (2) S.Nageswara Rao, (3) Joseph Kumar, (4) Roshan Kumarsuccumbedto burn injuries.

This is highly irregular. Had the above safety measures been implemented, this major fire accident would have been prevented.

igned by Sakhmuri

shasri

ate: 25-05-2022 11:18:27

Reason: Approved