TAMILNADU POLLUTION CONTROL BOARD

INSPECTION REPORT OF THE UNIT OF M/s. PRAKASH FEED MILLS PRIVATE LIMITED LOCATED AT S.F. NO. 30/2, 32/1, 1/1,1/3, 30/1A, 32/2, 32/3, 30/1B, KEELAMBI VILLAGE, KANCHEEPURAM TALUK AND DISTRICT BY THE TEAM OF TNPCB ENGINEERS FORMED VIDE PROCEEDINGS DATED 23.02.2024.

Submitted by

Dr. R.Ethirajan, JCEE(M), Chengalpattu Region

Er. K.Prakash, DEE/TNPCB, Sriperumpudur

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I. Background

The unit of M/s. Prakash Feed Mills Private Limited located at S.F. No. 30/2, 32/1,1/1,1/3,30/1A,32/2,32/3,30/1B, Keelambi Village, Kancheepuram Taluk and District has established its facility and started its operations in the year 1995. The unit is surrounded by M/s. Kavin Care Dairy in the Northern direction, agricultural activity in the Southern Direction and vacant lands in other directions. The nearest habitation of Aryaperumbakkam village is located at about 300 m in the west direction from the unit premises.

Consent to Operate for expansion was issued to the unit vide Proc. dated 26.05.2016 and renewed up to 31.03.2029 to manufacture 2000 T/Month of Food supplement for cattle feed and Poultry. The major raw material for the above product is sinews, which is a bye product of bone mill and having moisture content of 13% during wet season and 10% during dry season. The unit stores the raw material (sinews) inside the industrial shed in huge heaps in the process area.

The manufacturing process involves cooking of raw material ie sinews in a digester which is a double jacketed vessel at 135°C under 3 bar pressure for 45 minutes and then passed through hammer mill for crushing to a fineness of 10 mm. These materials are further pulverized in pulverizers to a fineness of 3 mm and blended with other ingredients to meet the requirements of poultry feeds. The unit is having two digesters followed by hammer mills, pulverisers and blenders for its production process. The unit has provided bag filters for the control of particulate emission from pulverisers. The unit has provided a boiler of 3 T/hr capacity with stack for steam generation for its process with briquettes as fuel.

II. Complaints regarding odour nuisance

A Complaint was received on 08.11.2023 from Makkal Mandram, located at Mangalapadi Village, Melkadhirpur Post, Kancheepuram Taluk and District against the unit regarding odour nuisance through CM Cell Complaint Portal. Based on the complaint, the unit was inspected on 09.11.2023 and was instructed to carry out improvement measures to control odour nuisance and to comply with the conditions of consent order vide DEE, TNPCB, Sriperumbudur letter dated 16.11.2023.

The said complainant has again filed a petition during Farmers grievances meeting held in the month of November 2023 to take action against the unit for unbearable odour nuisance and the same was received by DEE, Sriperumbdur vide District Collector Letter No.3/2021 dated 11.12.2023. Hence, the unit and its surroundings were inspected again along with the complainant on 18.12.2023. Also a joint inspection along with the Revenue Divisional Officer, Kancheepuram was made on 19.12.2023. During inspection, it was noticed the unit has not taken any improvement measure for the control of odour and not complied with certain conditions of consent order. Hence, a show cause notice was issued to the unit vide DEE, TNPCB, Sriperumbudur Proc. dt. 19.12.2023.

The unit in its letter dt. 03.01.2024 has furnished its reply for the show cause notice. Meanwhile, based on the public unrest regarding heavy and unbearable odour nuisance from the said unit on 06.01.2024 @11.00 PM and as per the instruction of the District Collector, Kancheepuram District, the unit was instructed to stop the operation immediately.

Subsequently, the Board has issued direction for closure and disconnection of power supply to the unit under section 33A of Water (Prevention and Control of Pollution) Act 1974 as amended and under section 31A of Air (Prevention and Control of Pollution) Act 1981 as amended vide Proc dated 09.01.2024. Accordingly power supply to the unit was disconnected by TANGEDCO on 10.01.2024.

III. Orders of the Hon'ble Appellate Authority and Hon'ble National Green Tribunal (South Zone)

Aggrieved by the Board's closure direction, the unit has filed an appeal before the Hon'ble Appellate Authority in Appeal No. 12/2024. In the appeal the unit has stated that

1) the adsorbent spray arrangement provided at the unit's entrance, raw materials storage area, process area, condenser area, cooling tower area, and product storage area for suppression of odour which were found to be in damaged condition have been rectified by the unit
2) Observation No.6 pertaining to storm water drain and observation No.10 pertaining to solar evaporation pan were also rectified.

In view of the above the Hon'ble Appellate Authority in its order dated 07.02.2024 has directed the Board to conduct an inspection within a week and to submit report on 14.02.2024 and also to restore power supply to the unit in advance.

Meanwhile, the Board vide its letter dated 08.02.2024 has requested the unit to approach Hon'ble National Green Tribunal under Section 33B of the Water (Prevention and Control of Pollution) Act 1974 as amended for remedy as closure direction was issued under both Water and Air Acts. Subsequently, the unit has preferred an Appeal No. 26 of 2024 before Hon'ble NGT (SZ) against the closure direction issued by TNPCB vide Proc dated 09.01.2024 under the Water Act.

The Hon'ble NGT(SZ), in its order dated 16.02.2024 has directed the TNPCB to carry out the inspection under the Water (Prevention and Control of Pollution) Act 1974 and Air (Prevention and Control of Pollution) Act 1981, and to file report before the Hon'ble Appeal Authority on the next adjourned date. In this regard, the Board vide its Proc dated 22.02.2024 has first issued temporary restoration of power supply to the unit up to 29.02.2024.

Subsequently, the Hon'ble Appellate Authority vide in its interim order dated 28.02.2024 has directed the Board to conduct inspection within two weeks and till such time electricity should not be disconnected as the power supply to the unit was restored only on 27.02.2024. Accordingly, Board vide its Proc dated 29.02.2024 has extended the temporary restoration of power supply to the unit upto 12.03.2024.

IV. Formation of Inspection Committee

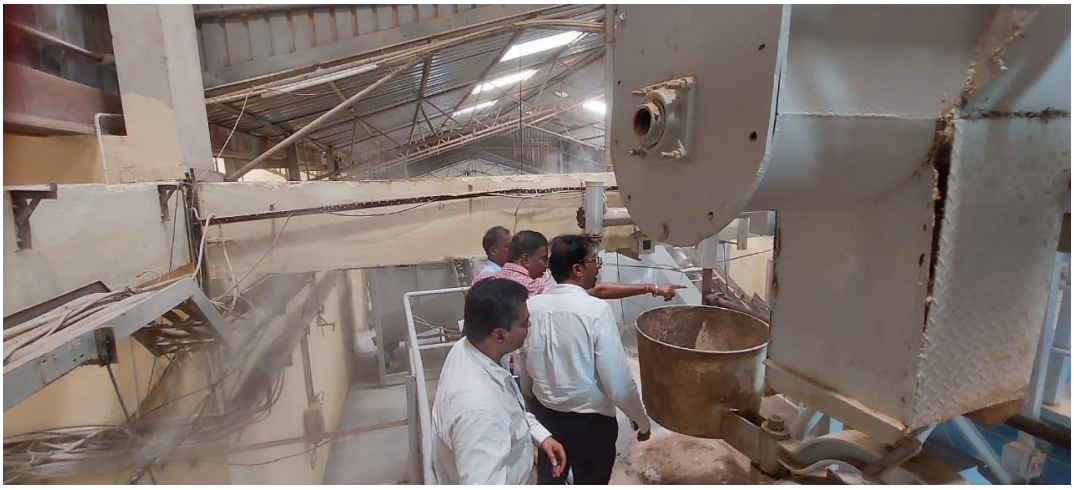
Based on the above said orders of the Hon'ble Appellate Authority and the Hon'ble National Green Tribunal, the Board vide its Proc dated 23.02.2024 has constituted a committee comprising of the following members to inspect the unit and furnish a report;

1) JCEE(M), TNPCB, Chengalpattu,
2) DEE, TNPCB, Sriperumbudur
3) Thiru. P.S.Sampathkumar EE, Corporate Office.

V. Inspection of the unit by the committee

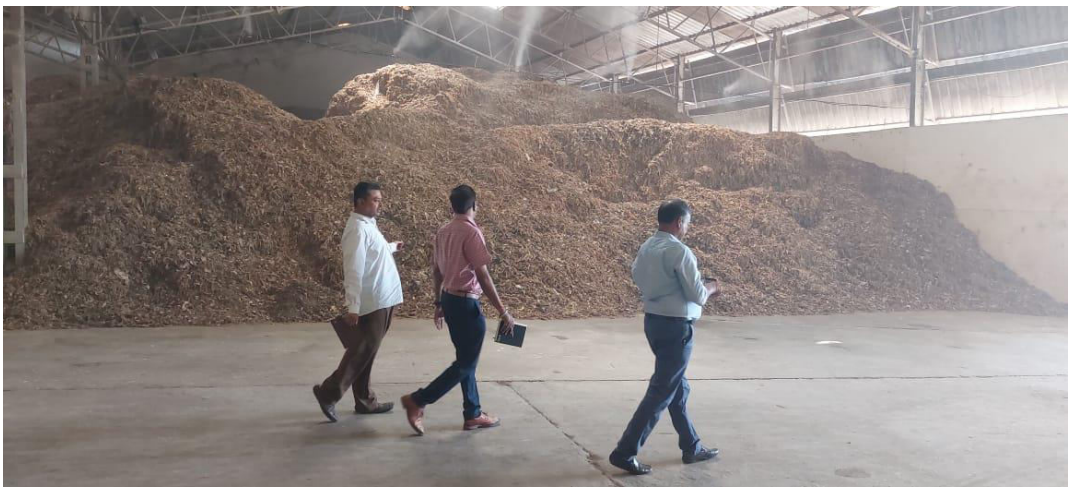
As per the above orders of the Board, the Committee has inspected the said unit on 05.03.2024 with due intimation to the unit authorities and made the following observations.

1. The unit has not yet commissioned the full fledged operation of the plant after the restoration of power supply on 27.02.2024. It carried out only the trial operation for inspection purpose.
2. Only one digester was operated during inspection. The unit operated the hammer mill and pulverizer unit briefly to observe the functioning of those processes.



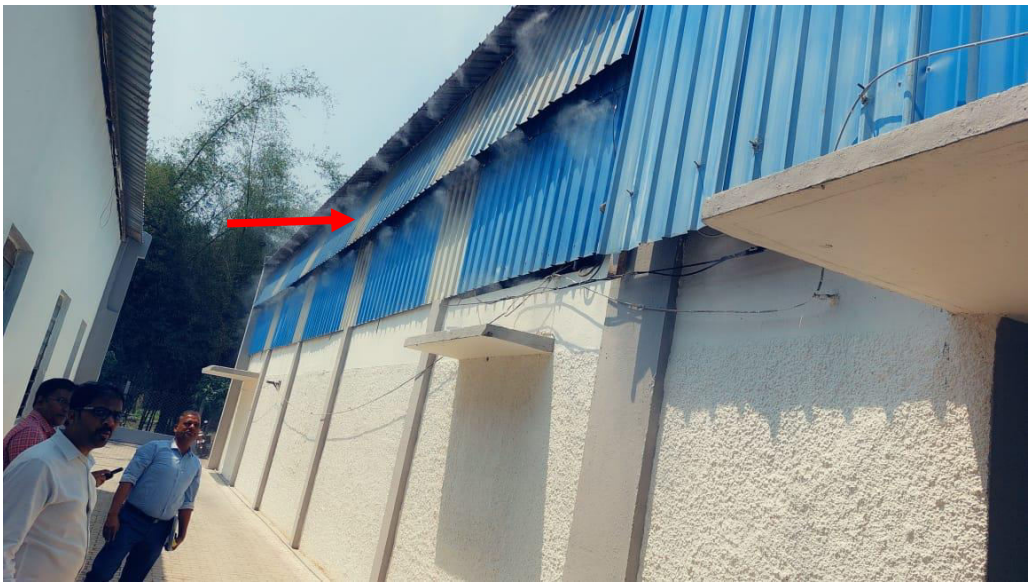
Inspection of hammer mill

3. The raw material ie. sinews is stored as huge heap inside the process shed. About 1000 T of raw materials was found stored in the unit during inspection.



Huge Heap of Sinews stored within unit premises provided with Mist spray

4. Mild odour was observed near the sinews storage area.
5. The unit has replaced the old odour control system ie. mist spray system with new atomizing nozzles and mist spray pipelines, covering the areas at the unit's entrance, raw materials storage area, process area, condenser area, cooling tower area, and product storage area.

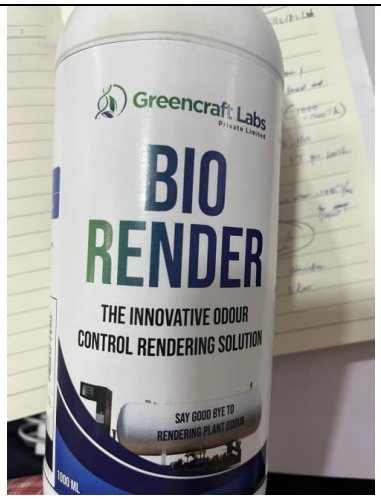


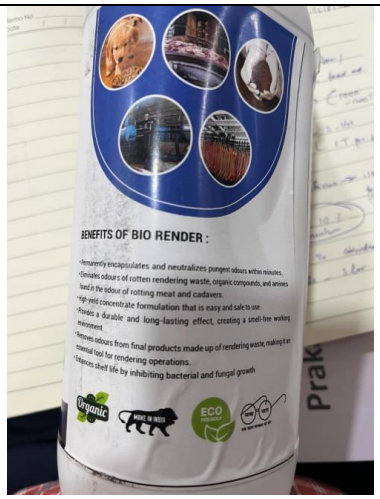
Mist filtration provided at Industrial louvers of unit shed

Mist filtration provided at Industrial louvers of unit shed

6. The unit has informed that, they mix certain essential oil in the atomized droplets to absorb the odour causing substances.

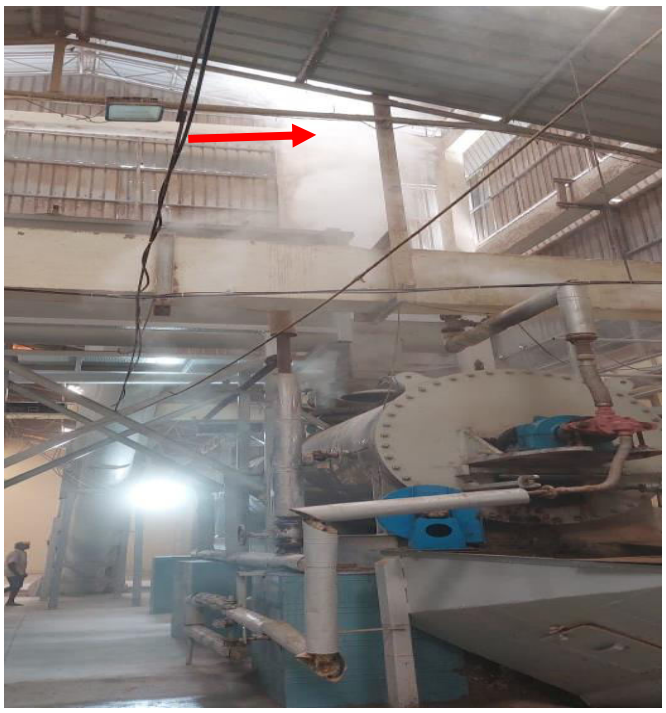
7. The unit has also informed that, it is mixing a new odour neutralizer liquid along with the raw materials in the digester to control the odour.





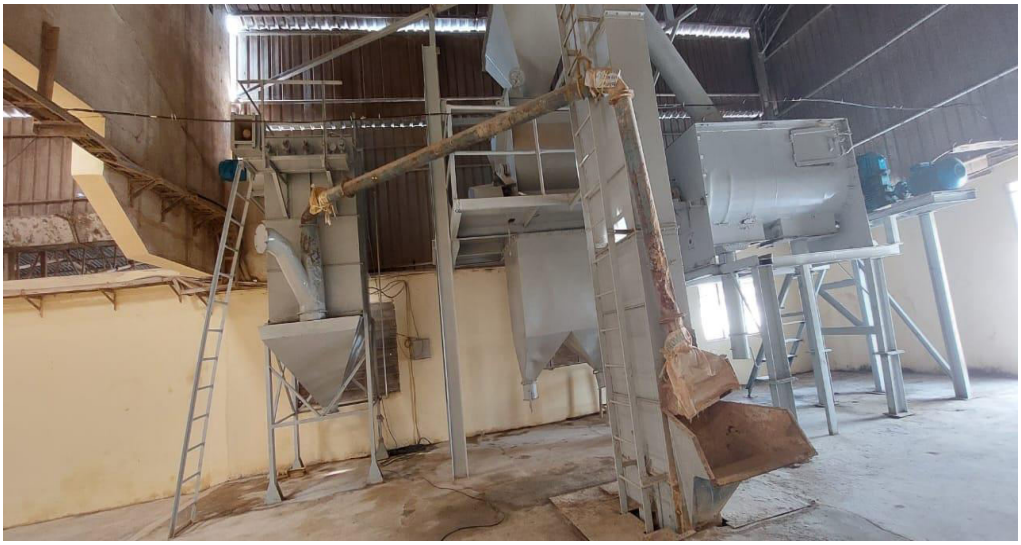
The odour neutralizer added to the sinews in the digestor

8. Major quantity of steam with odour causing substances was released when the digester was opened for the discharge of digested raw materials. These odour causing substances are let in to atmosphere without any control measure. However, the veracity of the odour could be assessed only when the unit carry out its full production

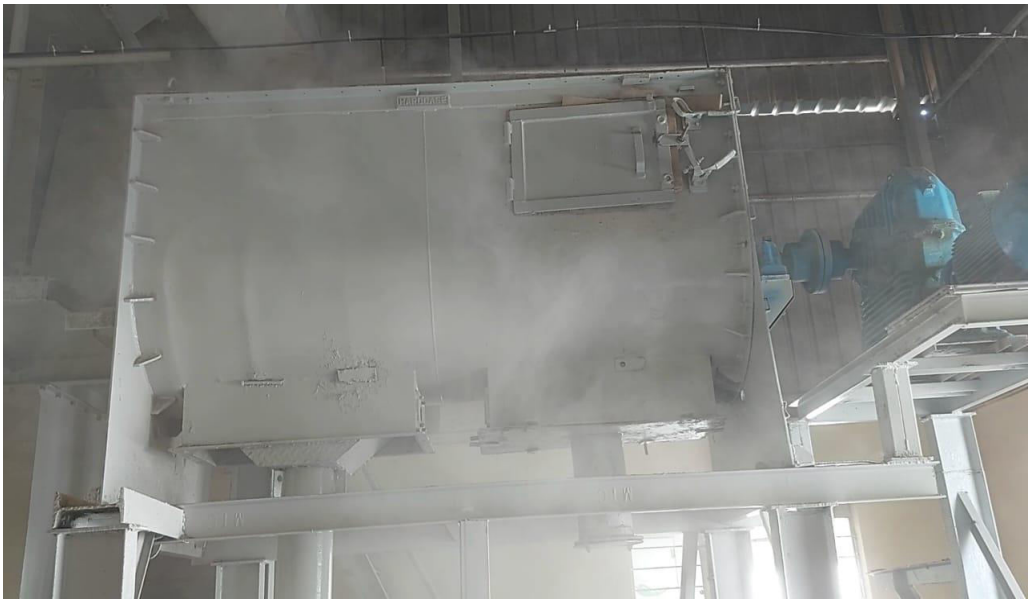


Odour containing vapour escaping from digestor without any control measure

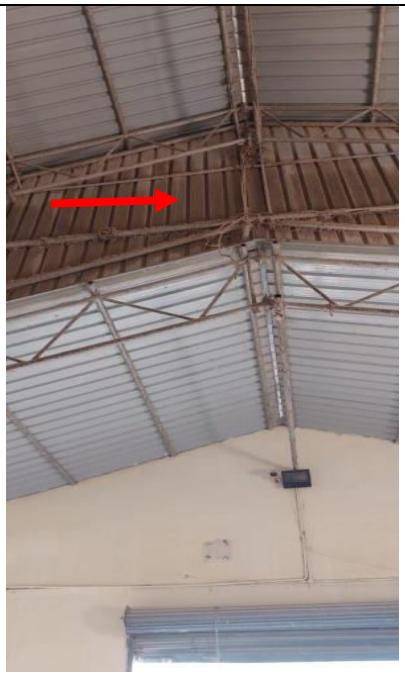
9. The brief operation of the hammer mill and the screw conveyor without having any cover generated lot of dust emission during operation.
10. The operation of the pulverizer produced lot of fine particulate emission, though it has been attached with bag filter arrangement. Hence the back filter attached to the pulverizer is not adequate and high level of dust emission was observed from the pulverizing operation.



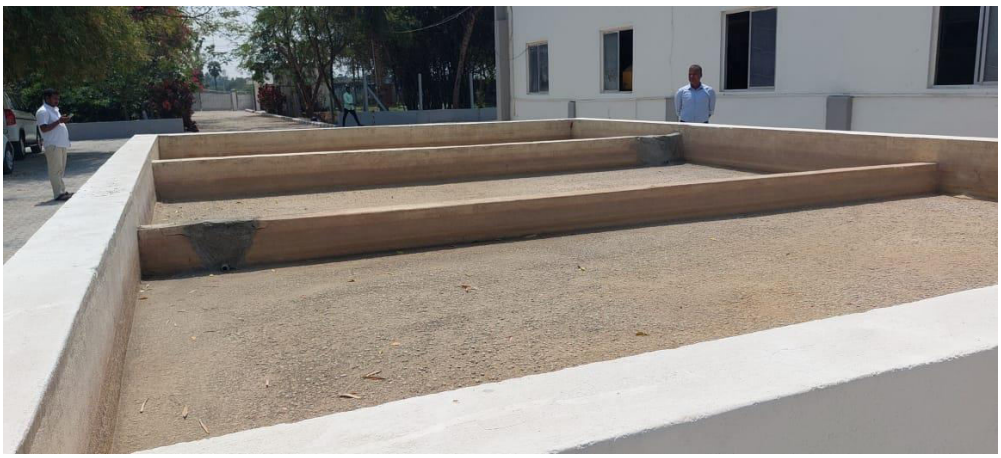
Pulverizer with bag filter arrangement



High Dust generation from pulverizer during operation

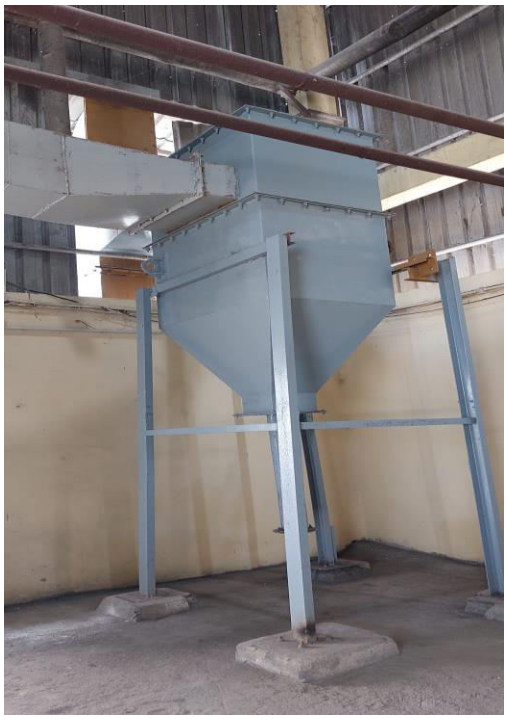
	**Dust accumulation in roof sheets indicates inadequate Air pollution control measure provided to pulverizer**

11. The unit has closed its outlet to discharge the storm water drain outside its premises.
12. The solar evaporation pan provided was not made with 100% impervious bottom and needs to be made impervious and elevated.



Solar evaporation pan without 100% impervious bottom

13. The unit has provided only a small gravity ash collection tank for the control of particulate emission from the briquette fired boiler.



Gravity Ash collection box attached to Boiler

14. The unit is developing greenbelt around the premises but has sufficient vacant area for further greenbelt development.

Vacant area in western direction,(where green belt can be developed)

VI. Status of compliance with the observations made during inspection of the unit on 07/01/2024 for issue of closure direction.

S.No.	Observations as per the closure direction issued	Present Compliance
1.	The unit was not in operation as the unit has stopped its operation in the midnight of 06.01.2024 due to public agitation.	➢ Based on the public unrest regarding heavy and unbearable odour nuisance from the said unit on 06.01.2024 @11.00 PM and as per the instruction of the District Collector, Kancheepuram District, the unit was instructed to stop the operation immediately.
2.	Though the unit was not in operation, obnoxious odour was observed in and around its premises.	➢ Even during the non operation of the plant, storage of sinews in huge quantity as heap inside the shed causes odour. During inspection on 05.03.2024, ➢ Mild odour was observed near the raw material storage area. ➢ About 1000 T of raw materials was found stored in the unit during inspection.
3.	The adsorbent spray arrangement provided at the unit's entrance, raw material storage area, process area, condenser area, cooling tower area and product storage area for suppression of odour was found to be in damaged condition.	➢ The unit has replaced the old odour control system ie. mist spray system with new atomizing nozzles and mist spray pipelines, covering the areas at the unit's entrance, raw materials storage area, process area, condenser area, cooling tower area, and product storage area. ➢ The unit has informed that, they mix certain essential oil in the atomized droplets to absorb the odour causing substances. ➢ The unit has also informed that, it is mixing new odour neutralizer liquid along with the raw materials in the digester to control the odour.

4.	The raw materials such as sinews, pre-processed sinews are stored within the premises and the cooking of raw materials are the main sources of causing odour.	➢ The raw material ie. sinews is stored as huge heap inside the process shed. About 1000 T of raw materials was found stored in the unit during inspection ➢ Mild odour was observed near the bone sinews storage area. ➢ Major quantity of steam with odour causing substances was released when the digester was opened for the discharge of digested raw materials. These odour causing substances are let in to atmosphere without any control measure. However, the veracity of the odour could be assessed only when the unit carry out its full production
5.	During inspection, two loads of fresh raw materials which are being unloaded are found to be in wet condition and thus causing high amount of odour in and around the premises.	➢ The unit has reported that they had sent back both the loads of wet raw material to the raw material supplier.
6.	The unit has not provided proper storm water drain in its premises, thereby the surface runoff along with other waste water find its way outside the premises during downpour.	➢ The unit has closed its outlet to discharge the storm water drain outside its premises.
7.	The unit has not taken action to provide advanced treatment technologies such as bio filtration or ozonation methods to control the odour in the raw material	➢ The unit has not yet taken any action in this regard.

	storage area as well as in the process area as stipulated.	
8.	The boiler blow down from the boiler and the condensate from the digester are not properly collected and solar evaporated. The same has found its way outside the premises along with the runoff.	➢ The unit has made arrangement to collect the boiler blow down and the condensate from the digester and to send it to Solar Evaporation Pan. However, the solar evaporation pan provided was not made with 100% impervious bottom and needs to be made impervious and elevated.
9.	The unit has not maintained proper housekeeping in the process area and found to be poor.	➢ Housekeeping of the unit was found to be improved.
10.	The Solar Evaporation Pan was found to be empty and it was ascertained from the unit's authorities that, the effluent disposed in the Solar Evaporation Pan having high TDS value was further disposed on land for gardening which is against the consent.	➢ The unit has assured that, the effluent will be disposed as per the consent of the Board. However, the solar evaporation pan provided was not made with 100% impervious bottom and needs to be made impervious and elevated.
11.	The dust collector with bag filters provided for the pulverizers were not properly operated and maintained.	➢ The operation of the pulverizer produced lot of fine particulate emission, though it has been attached with bag filter arrangement. Hence the back filter attached to the pulverizer is not adequate and high level of dust emission was observed from the pulverizing operation.
12.	The unit evokes repeated public complaint regarding odour nuisance and discharge of waste water	➢ At present no complaint against the unit. The unit has replaced the old odour control system ie. mist spray system with new atomizing nozzles and mist spray pipelines,

		covering the areas at the unit's entrance, raw materials storage area, process area, condenser area, cooling tower area, and product storage area. As the unit has started only trial production, the adequacy of the improvement made for the control of odour could be assessed only when the unit carry out its full production

VII. Recommendations

In view of the above observations, the committee recommends that, the unit may be permitted to carry out its operation for three months subject to the following conditions so as to assess the adequacy of the improvement measures taken to minimize the odour problem and the status of the complaint from the Public.

1. The unit shall provide suitable suction and hood arrangements to collect the steam/emission released during the discharge of the digested raw material from both the loading and discharge points of digester and an adequate wet scrubber followed by an activated carbon adsorption tower for the control of odour generated from the digestion process within three months time.
2. The unit shall provide a suitable control mechanism to ensure the entire mist spray pipeline network functions all the time during production.
3. The unit shall provide CCTV cameras to monitor the operation of the mist spray pipelines in all the places including raw material storage area and of the APC measures provided to pulverizers and connect the same with CAC of TNPCB within three months time.
4. The unit shall improve the Air Pollution Control measure provided to the pulverisers by plugging all the leaks in the pneumatic conveyers, transfer pipelines and the pulveriser and by providing a bag filter of

adequate capacity within three months so as to completely arrest the fine dust emission from the pulverizing operation.

5. The unit shall provide a detailed proposal along with time line within three months for the installation of bio-filter with suitable blower arrangement to push the air containing odour causing substances from western side to eastern side and pass them through bio- filters for effective odour removal and to avoid odour nuisance to nearby village of Aryaperumbakkam.
6. The unit shall provide proper cover for the hammer mill and the screw conveyers provided in the hammer mill within three months to prevent dust emission from the crushing operation
7. The unit shall operate the plant only during day time ie from 6 AM to 6 PM to avoid odour and air pollution in the nearby village during night time
8. The unit shall ensure that raw material ie. sinews received for processing shall not have moisture content more than the minimum possible value of 8% as reported to minimize the odour from the raw material. .
9. The unit shall store the raw material as minimum as possible to minimize the odour nuisance. The unit shall also ensure that the mist spray arrangements placed around the raw material storage area is in operation even when the plant is not in operation.
10. The unit shall develop thick green belt at all the open spaces available at back yard excluding electrical over head line area.

7-3-24

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