ANDHRA PRADESH POLLUTION CONTROL BOARD
ZONAL OFFICE:: VIJAYAWADA

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Lr. No: CEPI/APPCB/ZO-VJA/2019 **Date: 06.11.2020**

To
The Member Secretary,
A.P. Pollution Control Board,
Board Office, Vijayawada.

Sir,

Sub:- APPCB – ZO – VJA – CPCB, New Delhi instruction on Hon'ble NGT orders in the matter of OA No. 1038/2018 (CEPI matter) - Revised action plan on CEPI, Vijayawada Industrial Development Areas in Kondapalli and Ibrahimpatnam – Submitted - Reg.

Ref:- 1. Z.O. Lr. No. CEPI/APPCB/ZO-VJA/2019, dt. 23.01.2020.
2. E mail received from BO on 08.10.2020 for submission of revised action plan.
3. ZO, Vijayawada conducted video conference on 13.10.2020 with stake holders for revised action plan as suggested by CPCB.
4. RO Vijayawada Action Plan dt.05.11.2020.

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It is to submit that vide reference 1st cited, the Zonal Office, Vijayawada submitted action plan on Comprehensive Environmental Pollution Index (CEPI) pertaining to Vijayawada (industrial Development Areas in Kondapalli and Ibrahimpatnam) which is considered as severely polluting area as per CPCB data.

Vide reference 2nd cited, the Board office requested to modify the action plan as requested by the CPCB, New Delhi duly incorporating i) action points for management of municipal solid wastes, ii) Action points for compliance of CETPs, iii) action points of TPP for compliance of emission norms and 100% recirculation of ash pond overflow, iv) to ensure traffic management and roads for ash and LPG transportation, v) carrying out source apportionment study for further planning of pollution control.

Vide reference 3rd cited, this office has conducted video conference with the stake holders to share the suggestions given by the CPCB for incorporation in the action plan to submit revised action plan for the polluted industrial areas identified as CPAs /SPAs on 13.10.2020.

Accordingly, M/s. Dr. NTTPS, submitted revised action plan duly incorporating the CPCB suggestions viz. i) M/s. Dr. NTTPS constructed STP in B-Colony and will be commissioned by 31.12.2020, ii) achieved 100% fly ash utilization to maintain AAQ, iii) a new clarifier with recirculation and reuse is under construction which is

covered under the scope of main work of construction of 1x800 MW new unit, the construction of clarifier is in progress about 90% works are completed. Procurement of mechanical equipment are in progress, iv) 100% ash pond effluent recycling system is under construction to avoid ash pond effluent discharges into River Krishna. The works for ash pond effluent recycling system are covered in Stage-V (1x800 MW) unit BOP civil construction works being executed by M/s. BGR Energy systems Pvt. Ltd., The ash pond effluent water will be recycled and reused in stage-V unit ash handling system after completion and commissioning of Stage-V unit, v) management of municipal solid waste will be complied by April 2021, iv) compliance of emission norms will be achieved within one year.

M/s. Kondapalli Envirotech Pvt. Ltd., (CETP) submitted revised action plan viz. i) the CETP provided fume extraction system with scrubber for ATFD ii) bag filter erection is under progress and will be completed by end of November, 2020, iii) construction of dedicated LTDS tank to avoid mixing of HTDS and LTDS is under progress and will be commissioned by the end of November, 2020 and iv) and upgradation of the existing MEE capacity from 50 to 80 TPD is under progress and will be completed by March, 2021.

Kondapalli Municipality with a population of around 50,000 have submitted action plan viz. i) for management of municipal solid waste with an intimation that the municipality is recently constituted on 28.02.2020. At present door to door garbage collection and segregation is being carried out at Solid Wealth Processing Centre in Kondapalli and construction of STP to treat the domestic waste water will be taken up after the identification of the land, detailed proposals will be submitted to the Government for construction of STP and for release of funds, since this is a newly constituted municipality and due to paucity of funds.

It is further submitted that Kondapalli and Ibrahimpatnam are in suburban area to the Vijayawada city which are existing at about 20 km. Main source of air pollution to the Vijayawada city is from M/s. Dr. NTTPS. No other major source identified for contribution of air pollution in the Vijayawada City. Vijayawada city is having one million plus population and therefore proposed for source apportionment study for further planning of pollution mitigation measures where the contribution of emissions from M/s. Dr. NTTPS are also to be considered. APPCB awarded Emission inventory and source apportionment, carrying capacity study of Vijayawada city to IIT, Tirupathi under Nation Clean Air Mission (NCAM).

Vide 4th ref cited above, I am here with submitting the Revised Action Plan in consultation with EE, RO, Vijayawada to improve environment quality in Kondapalli and Ibarahimpatnam Industrial cluster in Vijayawada area covered under severely polluting area as per CEPI.

This is submitted for favour of kind information.

Yours faithfully,

6/11/20

JOINT CHIEF ENVIRONMENTAL ENGINEER

6/11/2020

Action Plan to improve environment quality in Kondapalli and Ibrahimpatnam Industrial cluster in Vijayawada area covered under severely polluting area as per CEPI

ANDHRA PRADESH POLLUTION CONTROL BOARD
ZONAL OFFICE:: VIJAYAWADA

Plot No. 41, Opp. SBI, Sri Kanakadurga Officer's Colony, Gurunanak Road, Vijayawada.

Revised Action Plan to improve Environmental quality in Kondapalli and Ibrahimpatnam industrial cluster in Vijayawada area which is covered under severely polluting area as per CEPI.

Introduction

The IDA, Kondapalli is located in Ibrahimpatnam Mandal of Krishna District, Kattubadiaplem, Kondapalli and Ibrahimpatnam are the nearby villages of IDA, Kondapalli, 13 nos. of small and medium bulk durg / API manufacturing units located in the IDA apart fom oil reclamation units. LPG bottling and a steel rerolling unit among other MSME units located in the IDA, Kondapalli. A common effluent treatment plant in the name of M/s. Kondapalli Envirotech Pvt. Ltd., is also existing in IDA, Kondapalli to cater the treatment of effluents generating from the industries in IDA, M/s. Narla Tata Rao Thermal Power Station is located in Ibrahimpatnam village generating 1760 MW power which is a old thermal power plant.

M/s. Kondapalli Envirotech Pvt. Ltd., (CETP) :

M/s. Kondapalli Envirotech Pvt. Ltd., is the Common Effluent Treatment Plant (CETP) being operated in the IDA, Kondapalli, established in 2016 for treatment of effluent generated by the Pharmaceutical / Bulk Drug / Intermediate units in the area. Effluent generated from all the 13 units of Pharma companies are being transported to this CETP for treatment. All the Pharma industries and the CETP are having valid CFO of the Board. The CETP obtained CFO of the Board to treat 100 KLD of HTDS and 100 KLD LTDS effluent. The CETP is having adequate capacity to treat the effluents generated from the IDA, Kondapalli units.

M/s. NTTPS, Ibrahimaptnam:

M/s. Narla Tata Rao Thermal Power Station (NTTPS), a 1760 MW Thermal Power Plant is located at Ibrahimpatnam (V) & (M), Krishna District established in 1979 (1st unit). The power plant is having valid CFO of A.P. Pollution Control Board. The power plant is having four stages of capacity 1760 MW (210 MW x 6, 500 MW x 1). The industry draws water for cooling make up, boiler feed make up and other purposes from the river Krishna to the tune of 4332239 KLD and generates waste water through condenser cooling, boiler blow down, floor washings, ash pond decent and other sources. The above once through cooling water, boiler blow down water from stage I to stage III and the excess waste water after recycling the stage IV is being discharged into Budameru diversion channel which finds its way into river Krishna. The domestic sewage of residential quarters of A-colony, C-colony and security colony is being treated in the STP of 800 KLD capacity. To treat the domestic sewage of residential quarters (NTPS) of B-Colony an STP of 2000 KLD is being constructed which will be commissioned by December, 2020 and also proposed additional STP of 2000 KLD at Security Colony. The raise in temperature of condenser cooling water from inlet to the outlet of condenser is maintained below 10^{o}C stipulated by the Board. Samples are being collected regularly from the unit and observed that the industry is meeting the waste water discharge standards stipulated by the Board. Ground and surface water quality in the vicinity of the unit is observed to be satisfactory. The online effluent monitoring system was provided in the power house and the data is being uploaded to CPCB website regularly.

The industry is having seven boilers (Unit I to VII) of capacity 700 TPH x 2, 690 TPH x 4 and a 1625 TPH, stacks attached to all these boilers are connected to three chimneys. Unit I & II were upgraded to 50 mg/Nm^3 by installing parallel ESPs. Unit III & IV improved to achieve 100 mg/Nm^3 and further upgraded by installing advanced system of ARECA intelligent type controllers. Ammonia dosing is introduced in ESPs and in practice for units I to VI. The industry further proposed to increase the utilization of washed coal and replacement of ESP controllers with latest technology in the current year.

Dust extraction and suppression systems were provided at silos, ash trucks parking yard, wagon tipper, coal transfer points, crusher houses and coal stock yard. Further, annual dust suppression nozzles are placed with fugitive control system in transfer points. Green belt was developed in about 160 ha. of land at various places of the unit. The industry achieved 100% ash utilization during the year 2018 and 2019. 3 nos. of CAAQM stations were provided at Ibrahimpatnam, Kondapalli and near Rayanapadu wagon workshop as specified by the Board and the data is being uploaded to APPCB website regularly. Further, the online stack is being uploaded to APPCB web site.

The CPCB has declared Kondapalli IDA and its surroundings as severely polluted area as the CEPI score counted as 68.04 by taking Zinc and CETP scores as 3 and 15 respectively. The APPCB also calculated the CEPI score as per the guidelines and the score is found to be 22.10 which is well below the normal. The declared severely polluted area is semi urban with low density population and is not having other significant sources of pollution.

Revised Action Plan of APPCB to improve environment quality in CEPI Region of Kondapalli and Ibrahimpatnam Industrial Cluster in Vijayawada area

Sl.No.	Action Plan	Agency responsible	Timeline
Ambient Air Quality Monitoring			
1.	Installation & commissioning of newly sanctioned ambient air monitoring stations under NAMP in Kondapalliand Ibrahimpatnam Industrial Cluster Vijayawada and monitoring of $PM_{2.5}$and PM_{10}.	APPCB	Completed and in operation since Nov. 2018
Industries			
1.	Implementation of SOx and NOx standards notified by MOEF & CC on 29th January 2018 for 35 categories of industries.	APPCB	Implemented
2.	Assess the number of industrial units that are non-complaint and prepare unit/plant wise action plan for time bound compliance.	APPCB	Continuous

2A.	**M/s. NTTPS, Ibrahimpatnam:** **Action Plan:**	NTTPS

a.	To increase the quantity of utilisation of washed coal by 20%.	Coal is supplied from Talcher coal fields in which One coal washery is existing and another washery construction is under progress which is expected to be completed within one year (As reported by M/s. Dr.NTTPS).
b.	To improve the performance of rapping mechanism in the ESPs to reduce emissions	Continuous
c.	To inject ammonia dosing in ESPs to reduce emissions.	Continuous
d.	Retrofitting on ESP in unit III & IV	Completed
e.	To provide permanent water sprinklers along the road leading to ash pond and its service road .	One month

f.	To ensure 100% fly ash utilisation to maintain ambient air quality.	Achieved
g.	Action to stop effluents from stage-IV discharge into irrigation fields by pumping back into the clarifier.	**May, 2021** The civil works for construction of clarifier are in progress about 90% works are completed. Procurement of mechanical equipment are in progress. Due to Covid 19 the work was delayed. However M/s. BGR Energy systems is constantly pursuing for completing the commissioning of ETP and will be completed by **May, 2021.**
h.	To construct one more clarifier to ensure recycling water into ash handling system.	**May, 2021.** The effluents generated from the plant are discharged into Budameru Diversion Channel (BDC) only after proper treatment in the effluent treatment plants provided for the purpose. All the environmental parameters in the effluents discharged into BDC are found to be well within the prescribed limits of APPCB regularly. A new ETP with recirculation and reuse is under construction covered under the scope of main work of construction of 1x800 MW new unit (BOP works) which is under construction. M/s. BGR Energy Systems, contractors of 1x800 MW unit have taken up these works. The civil works for construction of clarifier are in progress about 90% works are completed. Procurement of mechanical equipment are in progress. Due to Covid 19 the work was delayed. However M/s. BGR Energy systems is constantly pursuing for completing the commissioning of ETP and will be completed by **May, 2021.**
i.	To construct STP of 2 MLD capacity to treat domestic effluents.	STP construction completed in B-Colony and will commission the STP by **31.12.2020**.
j.	**To recycle ash pond decanting water into Stage-V (800 MW).**	**Oct., 2021** Ash pond effluent recycling system is under construction to avoid ash pond effluent discharges into River Krishna.

		The works for ash pond effluent recycling system are covered in Stage-V (1x800 MW) unit BOP civil construction works being executed by M/s. BGR Energy systems Pvt. Ltd., The ash pond effluent water will be recycled and reused in stage-V unit ash handling system after completion and commissioning of Stage-V unit. Due to covid, the civil works of recycling pump house could not be commenced & expecting to commence the works shortly. M/s. BGR Energy systems Pvt. Ltd., have completed engineering to these works. The civil works for laying of pedestals for erection of pipe lines for pumping of ash pond recycling water to Stage – V unit are in progress. Due to COVID19 the works are delayed. The firm is being pursued constantly for commencement of recirculation pump house. M/s. BGR Energy systems Pvt. Ltd., is perused for completion of all works for completion and commissioning of ash pond effluent recycling system early by **Oct., 2021**.
k.	Discharge once through cooling system with a temperature not more than the rise of 10^0C	Achieved
l.	Online water quality monitoring system provided for once through cooling discharges	Achieved
m.	Management of municipal solid waste	6 months Dr. NTTPS committed to follow municipal solid waste management duly segregating bio degradable waste and non bio degradable waste in consultion with VMC. within 6 months.
n.	Compliance of emission norms	**Sept. 2021.** APGENCO is taking every care to improve the performance of ESPs all the time and the following measures are implemented from time to time to improve performance.

		Unit-I and Unit-2 were upgraded to 50 mg/Nm3 by installing parallel ESPs. Unit 3 & 4 were improved to achieve 100 mg/Nm3 by implementation of advanced EPIC-II controllers and hopper heater system. Unit-5 and Unit-6 were designed for 100 mg/Nm3 and they have been upgraded by installing advanced system of ARECA intelligent type controllers. Ammonia dosing is in practice for units 1 to 6. All units are performing with the ESP efficiencies ranging from 99.88% to 99.938%. Further various measures like improving ash evacuation, replacing damaged internals in ESPs, arresting air leakages, improving gas distribution etc., were also taken to improve the performance of ESP. Due to the above measures, the SPM values in Units-V, VI & VIII are meeting the APPCB standards. In this context, it is noticed that the ESPs are operating with the efficiency in the order of 99.88% to 99.938%. When the ESPs are to be performed at such high efficiencies, any deviation in the coal quality will slightly deviate its efficiency in the order of 0.01% levels which exceeds particulate matter limits. Supply of high ash coal by the coal suppliers increased inlet dust burden. Due to high ash content in the coal and higher resistivity of ash, secondary current and secondary voltages of electrodes are getting affected. Under these circumstances, outlet dust levels marginally increases occasionally whenever the ash content exceeds abnormally. In order to overcome this abnormal condition, the following measures will be taken to further improve the performance of ESPs and maintaining stacking emission SPM values within the standards regularly with a period of 1 year. • Optimum ammonia dosing by increasing the present rate of dosing. • Improvements of insulater heaters, hopper heaters, plugging of air leakages etc.,

		• Setting of Optimum rapper frequency etc. Ambient air quality levels around Dr. NTTPS are well below prescribed limits of APPCB.
o.	**100% recirculation of ash pond over flow**	**Oct., 2021** Ash pond effluent recycling system is under construction to avoid ash pond effluent discharges into River Krishna. The works for ash pond effluent recycling system are covered in Stage-V (1x800 MW) unit BOP civil construction works being executed by M/s. BGR Energy systems Pvt. Ltd., The ash pond effluent water will be recycled and reused in stage-V unit ash handling system after completion and commissioning of Stage-V unit. Due to covid, the civil works of recycling pump house could not be commenced & expecting to commence the works shortly. M/s. BGR Energy systems Pvt. Ltd., have completed engineering to these works. The civil works for laying of pedestals for erection of pipe lines for pumping of ash pond recycling water to Stage –V unit are in progress. Due to COVID19 the works are delayed. The firm is being pursued constantly for commencement of recirculation pump house. M/s. BGR Energy systems Pvt. Ltd., is perused for completion of all works for completion and commissioning of ash pond effluent recycling system early by **Oct., 2021**.
p.	To ensure traffic management and roads for ash transportation	Achieved. • Ensure that closed ash tankers are being washed completely after filling the ash and open trucks are covered with tarpaulin so that ash will not be spilled out on roads. • Truck parking yard is provided with sprinklers to control dust emissions. • The approach road from ash pond to NH is being wetted regularly.

q.	Carrying out source apportionment study for further planning of pollution control	• The study already conducted through environment protection Training & Research Institute (Ms.EPTRI), Hyderabad during the year 2011-12. • The study on impact of condenser Hot water discharge from M/s. Dr.NTTPS on Aquatic life in River Krishna – Not indicating impact of condenser hot water on aquatic life in the Krishna river. • The study on impact of air pollution on the crops in the vicinity of M/s. Dr. NTTPS not indicating any impact of air pollution on the crop yields in the surrounding villages within 25 km radius of M/s. Dr. NTTPS. • The health studies on water and air pollution impact on animal health condition in influence zone and non influence zone were already conducted by Deputy Director, Animal Husbandry – No severe and adverse cases of diseases were reported due to water and air pollution of M/s. Dr. NTTPS. • The health studies on water and air pollution impact on human health condition in influence zone and non influence zone were already conducted by Medical Officer, Primary Health Centre, G.Konduru, Chandrala. They indicated that no severe and adverse cases of diseases were reported due to water and air pollution of M/s. Dr. NTTPS. • Presence of heavy metals in ground water, the sample collected in various regions of ash pond are being tested by M/s.CMET and found heavy metals are observed well within the limits and some are undetectable. • Hon'ble High Court directed, Siddhartha Medical College, Vijayawada ot conduct random health checkup within 3 km radius of M/s. Dr. NTTPS. The above study is completed and report is to be submitted directly to Hon'ble High Court.

		• Hon'ble High Court directed, the Chancellor, Agricultural University, Lam, Guntur and ICRISAT to conduct necessary soil tests and impact assessment about the fertility of the soil in the surrounding areas, on account of effluents, including generation of heat, on various crops being raised within three kms radius of the Thermal Power Plant. The Agricultural University and ICRISAT has submitted report directly to Hon'ble High Court.

2B.	**<u>CETP, Kondapalli:</u>** **Action plan:**	CETP

a.	To provide fume extraction system for ATFD to avoid odour	Achieved. The CETP provided fume extraction system with scrubber.
b.	To provide scrubber to fume extraction system	Achieved. The CETP provided fume extraction system with scrubber.
c.	To provide bag filters to the boiler.	**November, 2020.** Bag filter erecting is under progress and will complete by end of **November, 2020**. Due to COVID19 pandemic installation of bag filter was delayed.
d.	To provide dedicated LTDS tank to avoid mixing of LTDS and HTDS effluents.	**November, 2020** KEPL ordered for 7.0 lack ltrs capacity GLS tank and will erect and commissioned by end of **November, 2020**. After commissioning of tanks, the facility able to take HTDS and LTDS streams separately.
e.	To upgrade the existing MEE capacity from 50 TPD to 80 TPD.	**March, 2021** 1. The CETP currently evaporating 70 KLD (It contains 55 KLD effluents from member industries and 15 KLD RO reject water) 2. M/s. Enviros India from the last 2 years doing operation and maintenance of the CETP. In

		another three to four months KEPL planning to increase its capacity upto 100 KLD. 3. To enhance the capacity – Capital investment will be required. At this juncture M/s. KEPL in discussion with M/s. Ramky Pharma City to build and operate model with enhanced capacity.
f.	Achieving ZLD	Complied

2C.	**LANCO POWER:** **Action plan:** This unit is not in operation for the past 2 years.	LANCO

2D.	**HPCL:** **Action plan**: This is a LPG storage and bottling unit contributing no significant water and air pollution to the environment. Conversion of bullets into mounded storages is done.	HPCL	Achieved

Control of vehicle emissions			
1.	Emission standard and fuel quality for new vehicles Ensure on-schedule implementation of BS VI fuel and emission standards on April 1st, 2020. Ensure that only BS IV complaint vehicles are registered from this date. Supreme Court order of October 24th, 2018 has directed that no vehicle that is not BSVI compliant can be registered from April 1st, 2020.	Department of Transport	2 years
Emission control measures from on-road vehicles			
1.	Plan and implement adequate number of PUC centres and strengthen periodic auditing and oversight of PUC centres and calibration of equipment and third party checks. Reportedly, there are no designated pollution checking centres in Vijayawada.	Transport Department	Continuous
2.	Enforcement of law against visibly polluting vehicles: remove them from road, impose penalty, and launch extensive awareness drive against polluting vehicles.	Transport Department Traffic Police	Continuous

Open burning (including solid waste and agriculture residues)			
1.	Enforce a complete ban on garbage burning in the entire region.	Kondapalli Municipality	Under implementation
2.	Ensure proper collection of horticulture waste (biomass) and composting-cum-gardening approach; municipal Zonal Offices should be responsible for controlling burning of leaves and garbage on roads/ parks. All horticulture agencies should have compost pits in parks. Implement strong public outreach programme to promote household and community based composting systems (composting pits, shredders, etc.) of vegetative waste to prevent burning.		Already achieved
Management of municipal solid waste by Kondapalli Municipality			
1	The Commissioner, Kondapalli Municipality submitted that Government vide GO Ms No. 89 MA & UD Dept. Dt. 28.02.2020 have merged Ibrahimpatnam & Kondapalli Gram Panchayats constituted Kondapalli Municipality. **Total Population 51817 at present** under Solid Waste Management system, door to door garbage was collected and segregated at Santhinagar Solid Wealth Processing Centre (SWPC) Shed in Kondapalli. Further, submitted that a site to be identified for the construction of STP and after the identification of land, detailed proposal will be submitted to Government for construction of STP and also release of funds, since this is newly constituted municipality and due to paucity of funds.		
Road Dust			
1.	Increase green cover in the region. Undertake greening of open areas, gardens, community places, schools and housing societies. Create tree barriers towards mining areas in the district.	IALA Kondapalli	Under progress and continuous
Carrying out apportionment study of further planning of pollution control			
1.	Kondapalli and Ibrahimpatnam are in suburban area to the Vijayawada city which are existing at about 20 km way. Main source of air pollution to the Vijayawada city is from M/s. Dr. NTTPS. Vijayawada city is having 1 million plus population and therefore proposed for source apportionment study for further planning of pollution control where the contribution of emissions from M/s. Dr. NTTPS are also to be considered. APPCB awarded Emission inventory, source apportionment carrying capacity of Vijayawada city to IIT, Tirupathi under Nation Clean Air Mission (NCAM) at a cost of Rs. 1,06,63,000/-	IIT, Tirupathi	To be completed by **November' 2021**