



**M/s Eco Green Solutions Systems (P) Ltd.,  
KIADB Industrial Area, Doddaballapur -  
561 203, Karnataka**

**South Zonal  
Office,  
Bangalore**

**Back Ground:**

M/s Eco Green Solution System (P) Ltd., was inspected by a team of CPCB, zonal office Bangalore on November 20, 2012. The report was examined by Competent Authority and directed to re-inspect the unit. In this regard, H.O. asked the zonal office, Bangalore vide letter dated November 07, 2013 to re-inspect and to submit the report. In response to H.O. letter, a team of officials from zonal office (south) inspected the above mentioned CETP on February 10, 2014. During inspection the CETP was found in operation, the overall observations, details and status of operation of CETP are as follows;

1	Name/ address of CETP/ company:	M/s Eco Green Solutions Systems (P) Ltd., No. 48/A-4, KIADB Industrial Area, Doddaballapur - 561 203, Karnataka
2	Area occupied by CETP (plot area):	4305 M <sup>2</sup>
3	Total no. of staff (including operational & skilled persons):	15
4	Contact person (Name, Designation, and Contact No, FAX, e mail):	Mr.V. Sreenivas (Director) Phone no. 080- 23461533/23469715, Fax: 080-23469715 e-mail ID - <a href="mailto:ecogreen@egsspl.com">ecogreen@egsspl.com</a> ,
5	Status of CETP: operational or closed (if closed since when):	Operational
6	Consent & Authorization: <ul style="list-style-type: none"><li>Valid up to:</li><li>Applied (date of application):</li></ul>	The consent under Water and Air Act is valid till 30.06.2017.  The Hazardous waste authorization is valid till 30-06-2015.  Details enclosed as <b>Annexure - 1</b>
7	Industrial area/estate (s) connected to CETP:	KIADB Industrial area, Doddaballapur, Peenya Industrial Area, Dasarhalli,

		Ramnagar, Tumkur, Sarjapur, Hoskote, Kolar, Mahadevpura, Bangalore City East, West, South, Hanekal and Bommanahalli																
8	Type of industries in the connected industrial areas: Enclosed as <b>Annexure - 2</b>																	
8.1	Number of member industries of CETP:	Details of member unit is enclosed as <b>Annexure - 2</b>																
9	Method of collection of effluent (pipeline/tanker): <ul style="list-style-type: none"> <li>If collection is by tankers, average No. of tankers/day:</li> <li>Capacity of tankers, m<sup>3</sup>:</li> </ul>	The unit receives effluents through tankers. <ul style="list-style-type: none"> <li>4 tankers/day</li> <li>Tanker capacity is 8kl, 10.5kl &amp; 16kl</li> </ul>																
10	Details of flow meters (Type, location and operational status):	The unit has not installed Electromagnetic flow meter at the inlet and outlet of CETP.																
11	Treatment capacity: MLD / Design flow of CETP: m <sup>3</sup> /hr	The design capacity of the CETP is 50 KLD.																
12	Wastewater treated: MLD / Average flow reaching CETP m <sup>3</sup> /hr	The unit is treating wastewater of around 40 -45 KLD																
13	Wastewater if bypassed in CETP from treatment: <ul style="list-style-type: none"> <li>Flow/volume of wastewater bypassing treatment units in CETP:</li> </ul>	No by pass arrangement exist																
14	Details of chemicals used:	As informed by the CETP operator																
	<table border="1"> <thead> <tr> <th>No.</th> <th>Name of chemical</th> <th>Dosage in PPM</th> <th>Quantity, kg/day</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>NaoH</td> <td></td> <td>If pH is &lt; 4, 700 kg/day If pH is &gt;6, 300 kg/day</td> </tr> <tr> <td>2</td> <td>Alum</td> <td></td> <td>If pH is &gt;12, 550kg/day If pH is &lt;9, 100 kg/day</td> </tr> <tr> <td>3</td> <td>Ferrous</td> <td></td> <td>If hexavalent Chromium present 600 kg/day</td> </tr> </tbody> </table>		No.	Name of chemical	Dosage in PPM	Quantity, kg/day	1	NaoH		If pH is < 4, 700 kg/day If pH is >6, 300 kg/day	2	Alum		If pH is >12, 550kg/day If pH is <9, 100 kg/day	3	Ferrous		If hexavalent Chromium present 600 kg/day
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3	Ferrous		If hexavalent Chromium present 600 kg/day															

		Sulphate		If trivalent Chromium present 200 kg day
	4	Bleaching		If traces of cyanide presents 200 kg/day If Concentration of cyanide is considerable sodium hypo chloride being dosed @ of 20litre /4000 litre

15	Design parameters & standards given by Karnataka State Pollution Control Board : *All values are in mg/L, except pH					
	Parameters	Designed inlet norms	SPCB inlet norms	Raw effluent after equalization	Final outlet	Discharge limits (Standard s) of KSPCB
	pH	5.5-9.0	Informed that KSPCB has not given any norms for accepting inlet effluent	Not provided	7.0-7.1	6.0 -9.0
	SS	200			80	100
	TDS	9500			2000	2100
	Conductivity				-	-
	BOD	50			20	-
	COD	600			200	
	Sulphate as SO <sub>4</sub>	2500			600	1000
	Total Chromium	60			0.4	2.0
	Hexavalent chromium	-			-	0.1
	Lead	10			0.015	0.1
	Copper	40			0.6	3.0
	Zinc	600			2.50	5.0
	Nickel	250			1.4	3.0
Iron	300	0.85			3.0	
Cadmium	8	0.0245			2.0	
Chloride	5500	550	600			

16	<p>Primary sludge management system:</p> <ul style="list-style-type: none"> <li>• Primary sludge generation rate (m<sup>3</sup>/day or tons/day):</li> <li>• Number &amp; capacity of sludge drying beds:</li> <li>• Details of any other methods for sludge thickening (filter press/rotary filters etc.)</li> <li>• Quantity of sludge stored:</li> <li>• Primary sludge disposal- *(Secured landfill or TSDF): *(Co-incineration if any):</li> </ul>	<ul style="list-style-type: none"> <li>• 250 kg/day</li> <li>• Nil</li> <li>• No</li> <li>• Approximately 10 ton</li> <li>• The sludge generated is send to TSDF Dobbespel once in a month.</li> </ul>
17	<p>Excess Biological Sludge Management System:</p> <ul style="list-style-type: none"> <li>• Excess Biological Sludge generation rate:</li> <li>• Number and capacity of sludge drying beds:</li> <li>• Details of any other methods for sludge thickening (filter press/rotary filters etc.)</li> <li>• Quantity of sludge stored:</li> <li>• Excess Biological Sludge Disposal:</li> </ul>	- NA -
18	Conveyance system for disposal of treated wastewater: Drains/ Pipeline	Through pipeline/tankers and
19	Method of Treated wastewater disposal: River/ Land/ Marine/ Others (Specify)	The treated effluent is being used for gardening inside the premises and also sells to nearby industries for gardening purpose and excess treated effluent being sent to BWSSB STP through tankers.
20	Capital cost with breakup of sources of funds:	Not provided
21	Operational cost:	Not provided
22	Date of Inspection	February 11, 2014

23	Inspected by (Name & Designation):	Mrs. H.D. Varalaxmi, EE Mrs. B.S. Anupama, SSA
<b>OBSERVATIONS &amp; FINDINGS</b>		
<ol style="list-style-type: none"> <li data-bbox="302 365 1503 520">1. M/s Eco Green Solutions Systems (P) Ltd., was commissioned in the year 2006. The unit has 318 active members, the unit receives the effluent in the range of 40-45KLD against the designed capacity of 50 KLD. The unit receives effluent through the tankers.</li> <li data-bbox="302 562 1503 674">2. The unit has 04 tankers of capacity 8kl, 10.5kl and 16kl. During inspection no effluents were received. The unit members informed that, their member units are not providing any pretreatment before sending the effluents to CETP</li> <li data-bbox="302 716 1503 827">3. At the time of inspection, the unit was operational and the validity of consents under the Water &amp; Air Act was upto 30.06.2017 and Authorization under Hazardous Waste is valid upto June 30, 2015.</li> <li data-bbox="302 869 1503 980">4. No flow meter has been installed at the inlet and outlet of CETP to assess the quantity of effluent treated and utilized for gardening , sent to other unit and BWSSB.</li> <li data-bbox="302 1022 1503 1218">5. The CETP comprises of 03 Collection tank out of which 01 tank of capacity 35 m<sup>3</sup> is used for storing chrome bearing effluent and rest 02 tank of capacity 56 m<sup>3</sup> for handling effluent other than chrome, 04 Neutralization tank of capacity 4000 m<sup>3</sup> each, 01 Blending tank, 01 clarifier followed by Dual media filter. The unit has 01 filter press to handle sludge from clarifier.</li> <li data-bbox="302 1260 1503 1688">6. It is informed that the trade effluents are received in collection sump through tankers. It is pumped to 4 neutralization tank of capacity 4000 litre each where FeSO<sub>4</sub> (based on the concentration of Cr<sub>6</sub> and Cr<sub>3</sub>) , Alum, NaoH , Bleaching and polyelectrolyte is added. It is then pumped to Blending tank where aeration is done for uniform mixing of neutralized effluent received from 4 tanks. It is then pumped to the Clarifier, the clarifier outlet is then sent to Dual media filter and the settled sludge is being collected in sludge collection tank and dewater through filter press. The sludge from the filter press is withdrawn once in 02 days and spread on the concrete ground for drying. The effluent from the Dual media filter is being collected in a final treated tank and used for gardening purpose within the unit premises.</li> <li data-bbox="302 1730 1503 1787">2. During inspection out of 03 collection tank only 02 tanks were partially filled with effluent.</li> <li data-bbox="302 1829 1503 1862">3. At the time of inspection, all units of ETP was found in operation. However the</li> </ol>		

effluent from the clarifier was found drawing from the bottom of clarifier instead of over flow from the top. The CETP representative informed that the clarifier designed capacity is more hence after allowing for settling of sludge in the clarifier bottom hopper the clear effluent being drawn from above the clarifier hopper.

4. The final treated effluent being utilized in their garden as well as supplied to
5. The unit representative informed that, the filter press is being cleaned once in 02-3 days and around 700 kg of sludge is generated. The sludge is then taken to the concrete floor within the process area and spread for drying. The dried sludge is then sent to TSDF Dobbespit once in a month.
6. During inspection samples were collected from CETP and analyzed at CPCB zonal office laboratory. The results are depicted below:

Sl. No.	Parameter	Chrome based Raw effluent	General raw effluent	Clarifier out let	Final treated and diluted effluent
1	pH	7.0	6.7	6.8	6.9
2	EC ( $\mu$ S/cm)	-	-	-	-
3	TSS (mg/l)	80	44	4318	6
4	TDS (mg/l)	8334	6633	-	1875
5	BOD (mg/l)	-	BDL	-	1.6
6	COD (mg/l)	-	47	-	40
7	Sulphide (mg/l)	-	-	-	BDL
8	Chloride (mg/l)	2581	1911	1588	720
9	Hexavalent chromium (mg/l)	0.251	-	-	0.025
10	Copper (mg/l)	0.5	0.426	-	BDL
11	Cadmium (mg/l)	BDL	0.077	-	BDL
12	Chromium (mg/l)	22.3	BDL	-	BDL
13	Iron (mg/l)	1.42	0.727	-	BDL
14	Manganese (mg/l)	0.934	0.391	-	BDL
15	Nickle (mg/l)	BDL	0.535	-	BDL
16	Lead (mg/l)	BDL	BDL	-	BDL
17	Zinc (mg/l)	45.6	1.04	-	0.1
18	Cobalt (mg/l)	2.14	BDL	-	BDL

Sample	pH	EC ( $\mu$ S/cm)	TDS mg/l	Chloride mg/l	T.Hardness mg/l
<b>Borewell inside the CETP</b>	7.1	3000	2600	760	1425
7. From the above analysis results, except chloride other parameters of treated effluent which was using for green development were found with in the prescribed standards KSPCB. The concentration of chloride (720 mg/l) found exceeding the prescribed limit (600 mg/l)of KSPCB.					
24	<b>Recommendations w. r. t. specific observations made during inspection:</b>				
<ol style="list-style-type: none"> <li>1. The CETP shall be asked to install magnetic flow meter to assess the quantity of effluent received, treated and utilized for gardening purpose .</li> <li>2. The CETP shall be asked to monitor ground water quality of the surrounding area and to submit reports to CPCB/SPCB.</li> <li>3. The unit shall be asked to modify the clarifier system and to withdraw the clarified water from the top and not from the bottom of the clarifier hopper.</li> <li>4. The unit shall be asked to store sludge as per Hazardous Waste Rule.</li> <li>5. The CETP shall be directed to achieve zero discharge by installing tertiary treatment system and to recycle the treated effluent in their member unit or to send to other industries which are located nearby.</li> </ol>					

**H.D. Varalaxmi**  
**Scientist 'C'**

#### List of Enclosures

Sl. No	Caption of Annexures	Details of Enclosure
1.	Annexure -1	Consent under Water & air Act and HW Authorisation
2.	Annexure -2	Details of member units connected

**Photographs of M/s Eco Green Solutions Systems (P) Ltd.,**



**Fig. 1- Three collection tanks**



**Fig. 2- Chemical dosage tanks**



**Fig.3 - Four neutralization tank of capacity 4000 litre each**



**Fig. 4 - Blending tank**





**Fig. 5 - Clarifier without over flow through weirs**



**Fig. 6 - Sludge slurry storage tank**



**Fig. 7 - Filter press for dewatering of sludge slurry**



**Fig. 8 - Dual media filter**



**Fig. 9 - Treated effluent collection tank**



**Fig. 10 - Sludge cake kept for drying**



**Fig. 11 - Environmental Laboratory of CETP**

No. F. Tech/87/CETP-KA/ZOB/2013-14/

March 07, 2014

To

The Member Secretary  
Central Pollution Control Board  
Parivesh Bhawan  
East Arjun Nagar  
Delhi – 110032

Kind Attention : Shri H.K. Karforma, A.D.&, Incharge, PCI –SSI Division

Sub: Inspection report of M/s Eco Green Solution Systems (P) Ltd., Doddaballapur and M/s Govind Solvent Pvt. Ltd., Kunigal, Karnataka

Ref: B-22013/PCI-SSI/CETP/Karnataka/2013 dated November 7, 2014 and November 29, 2014

Sir,

As directed by H.O., M/s Eco Green Solution Systems (P) Ltd., Doddaballapur and, M/s Govind Solvent Pvt. Ltd., Kunigal, Karnataka, were inspected by the team from Zonal Office, Bangalore. The inspection reports of the above mentioned CETPs are enclosed herewith for kind perusal please.

Yours faithfully,

Encl : As above

(S. Suresh)  
Zonal Officer

