	Follow up & Status Compliance w.r.t directions u/s 5 of E(P)A 1986	South Zonal Office, Bangalore
	M/s Ranipet SIDCO Finished Leather Effluent Treatment Co. Ltd (Phase -1) Plot No. 199, SIDCO Industrial Estate, Ranipet- 632403, Vellore District, Tamil Nadu	
Back Ground: <p>M/s Ranipet SIDCO Finished Leather Effluent Treatment Company Ltd., was inspected by a team of CPCB, zonal office Bangalore on March 10, 2008, based on the observations of inspection, the unit was issued direction under section 5 of E(P)A 1986 vide letter dated August 18, 2008.</p> <p>The unit was again inspected by a team of CPCB zonal office Bangalore during October 05-08, 2009 and September 20-24, 2010 to verify the compliance made w.r.t CPCB directions. Based on the short comings observed during inspection, the unit was again issued modified direction under section 5 of E(P)A 1986 vide letter dated June 13, 2011 and directed to submit monthly compliance report to the Central Board. In response to modified directions, the unit submitted the compliance status report vide their letter dated July 23, 2011. Based on the observation made in the compliance report submitted by the unit , the unit was again issued modified direction under section 5 of E(P)A 1986 vide letter dated September 8, 2011</p> <p>Tamil Nadu Pollution Control Board vide their letter dated December 12, 2012 has submitted the compliance status report informing that ZLD status has been achieved by M/s Ranipet SIDCO Finished Leather Effluent Treatment Co. Ltd .</p> <p>In this regard, H.O. asked the zonal office, Bangalore vide letter dated February 20, 2013 re-inspect the CETP and to verify the compliance status for the modified directions issued u/s 5 of the E(P)Act, 1986 as well as ZLD status and to submit the compliance report. In response to H.O. letter, a team of officials from zonal office (south) inspected the above mentioned CETP on June 19, 2013. During inspection the CETP was in operation, the overall observations, details and compliance made w.r.t direction u/s 5 of E(P)A 1986 are as follows:</p>		

1	Name/ address of CETP/ company:	M/s Ranipet SIDCO Finished Leather Effluent Treatment Co. Ltd Plot No. 199, SIDCO Industrial Estate, Ranipet-632403, Vellore District, Tamil Nadu						
2	Area occupied by CETP (plot area):	5.4 acre						
3	Total no. of staff (including operational & skilled persons):	42						
4	Contact person (Name, Designation, and Contact No, FAX, e mail):	Mr. R. AMIRTHAKATESAN Managing Director, 9443222367 Fax: 04172244771 sidcocetp@yahoo.com						
5	Status of CETP: operational or closed (if closed since when):	Operational						
6	Consent & Authorization: <ul style="list-style-type: none"> Valid up to: Applied (date of application): 	<ul style="list-style-type: none"> The validity of the consent under Water and Air Act was expired on June 30, 2007. January 30, 2013 The Hazardous waste authorization was expired on March 2009 <p>Details enclosed as Annexure - 1</p>						
7	Industrial area/estate (s) connected to CETP:	Ranipet Industrial estate						
8	Type of industries in the connected industrial areas: <table border="1" data-bbox="313 1472 1430 1707"> <thead> <tr> <th>Industrial area/estate</th><th>Type of industries</th><th>Number of industries</th></tr> </thead> <tbody> <tr> <td>Ranipet Industrial Estate</td><td>Semi finish – finished leather</td><td>86</td></tr> </tbody> </table>		Industrial area/estate	Type of industries	Number of industries	Ranipet Industrial Estate	Semi finish – finished leather	86
Industrial area/estate	Type of industries	Number of industries						
Ranipet Industrial Estate	Semi finish – finished leather	86						
8.1	Number of member industries of CETP:	The CETP has 86 active member units						

9	Method of collection of effluent (pipeline/tanker): <ul style="list-style-type: none"> If collection is by tankers, average No. of tankers/day: Capacity of tankers, m³: 	The unit receives effluent through underground pipeline.																														
10	Details of flow meters (Type, location and operational status):	The member units have Electromagnetic flow meter at the discharge point to CETP.																														
11	Treatment capacity: Design flow of CETP: m ³ /hr	2.5 MLD 105 m ³ /hr																														
12	Wastewater treated: Average flow reaching CETP : m ³ /hr	0.9 MLD 38m ³ /hr																														
13	Wastewater if bypassed in CETP from treatment: <ul style="list-style-type: none"> Flow/volume of wastewater bypassing treatment units in CETP: 	During inspection no bypass of effluent noticed.																														
14	Treatment units and dimensions (Attach flow chart also):	Copy enclosed as Annexure - 2																														
15	Details of chemicals used: <table border="1"> <thead> <tr> <th>No.</th><th>Name of chemical</th><th>Quantity, kg/day</th></tr> </thead> <tbody> <tr> <td>1</td><td>Lime</td><td>1850</td></tr> <tr> <td>2</td><td>Poly Aluminium Chloride</td><td>1030</td></tr> <tr> <td>3</td><td>Poly electrolyte</td><td>3</td></tr> <tr> <td>4</td><td>Soda ash</td><td>590</td></tr> <tr> <td>5</td><td>HCl</td><td>220</td></tr> <tr> <td>6</td><td>Sodium hypo chlorite</td><td>12</td></tr> <tr> <td>7</td><td>Caustic soda</td><td>18</td></tr> <tr> <td>8</td><td>Sodium meta bi-sulphide</td><td>12</td></tr> <tr> <td>9</td><td>Citric acid</td><td>18</td></tr> </tbody> </table>		No.	Name of chemical	Quantity, kg/day	1	Lime	1850	2	Poly Aluminium Chloride	1030	3	Poly electrolyte	3	4	Soda ash	590	5	HCl	220	6	Sodium hypo chlorite	12	7	Caustic soda	18	8	Sodium meta bi-sulphide	12	9	Citric acid	18
No.	Name of chemical	Quantity, kg/day																														
1	Lime	1850																														
2	Poly Aluminium Chloride	1030																														
3	Poly electrolyte	3																														
4	Soda ash	590																														
5	HCl	220																														
6	Sodium hypo chlorite	12																														
7	Caustic soda	18																														
8	Sodium meta bi-sulphide	12																														
9	Citric acid	18																														

	10	Antiscalent	4	
	11	Sodium Laureth Sulphate (SLS)	1	
	12	EDTA	1	
	13	Antifoam	30	
	14	Sodium chloride	5	
	15	Boiler & cooling tower chemicals	6	
16	Primary sludge management system: <ul style="list-style-type: none">• Primary sludge generation rate (m³/ day or tons/cycle):• Number & capacity of sludge drying beds:• Details of any other methods for sludge thickening (filter press/rotary filters etc.)• Quantity of sludge stored:• Primary sludge disposal- *(Secured landfill or TSDF): *(Co-incineration if any):		<ul style="list-style-type: none">• 1.5 ton/day• 9 nos• Filter press• 9538.52 MT• Secured Land fill	
17	Excess Biological Sludge Management System: <ul style="list-style-type: none">• Excess Biological Sludge generation rate:• Number and capacity of sludge drying beds:• Details of any other methods for sludge thickening (filter press/rotary filters etc.)• Quantity of sludge stored:• Excess Biological Sludge Disposal:		<ul style="list-style-type: none">• 0.5 ton/month• 3 nos• Filter press• Biosludge thickened in filter press along with chemical sludge• Nil	
18	Conveyance system for disposal of treated wastewater: Drains/ Pipeline		Pipeline	

19	Method of Treated wastewater disposal: River/ Land/ Marine/ Others (Specify)	The treated effluent i.e., R.O. permeate is sent to member units through pipeline and R.O. reject is taken into MEE and the concentration is pumped to crystallizer and the condensate is mixed with R.O. permeate.									
20	Capital cost with breakup of sources of funds:	DIPP, GoI: ` Rs 1460 lakhs GoTN: ` Rs 438 lakhs CETP(tanners): Rs 1022 lakhs Total: ` Rs. 2919 lakhs									
21	Operational cost:	Rs 80-90 lakhs									
22	Date of Inspection	June 19, 2013									
23	Inspected by (Name & Designation):	Mrs. H.D. Varalaxmi, Sc. C Miss.Anjana Kumari V, Sc. B Miss Sowmya D, Sc. B									
24	Status of Compliance of directions issued vide CPCB letter dated September 08, 2011:										
	<table border="1"> <thead> <tr> <th>Sl. No.</th><th>Direction issued</th><th>Status of compliance at the time of inspection by CPCB Team</th></tr> </thead> <tbody> <tr> <td>(i)</td><td>All member units will ensure proper primary treatment of the generated effluent in compliance with the CETP inlet standards.</td><td>It is informed that all member units are installed modified pretreatment system to achieve prescribed limit. During inspection raw effluent received from their member unit was collected and analyzed at CPCB Zonal office, analysis results indicates that effluent received from member units are slightly exceeding (TSS of 612mg/l) the CETP inlet standards w.r.t TSS. (Complied)</td></tr> <tr> <td>(ii)</td><td>All member units shall install magnetic flow meters for measurement of effluent being conveyed to CETP and also maintain its record.</td><td>All member units are installed Electromagnetic flow meters. Details are enclosed at Annexure III. (Complied)</td></tr> </tbody> </table>	Sl. No.	Direction issued	Status of compliance at the time of inspection by CPCB Team	(i)	All member units will ensure proper primary treatment of the generated effluent in compliance with the CETP inlet standards.	It is informed that all member units are installed modified pretreatment system to achieve prescribed limit. During inspection raw effluent received from their member unit was collected and analyzed at CPCB Zonal office, analysis results indicates that effluent received from member units are slightly exceeding (TSS of 612mg/l) the CETP inlet standards w.r.t TSS. (Complied)	(ii)	All member units shall install magnetic flow meters for measurement of effluent being conveyed to CETP and also maintain its record.	All member units are installed Electromagnetic flow meters. Details are enclosed at Annexure III. (Complied)	
Sl. No.	Direction issued	Status of compliance at the time of inspection by CPCB Team									
(i)	All member units will ensure proper primary treatment of the generated effluent in compliance with the CETP inlet standards.	It is informed that all member units are installed modified pretreatment system to achieve prescribed limit. During inspection raw effluent received from their member unit was collected and analyzed at CPCB Zonal office, analysis results indicates that effluent received from member units are slightly exceeding (TSS of 612mg/l) the CETP inlet standards w.r.t TSS. (Complied)									
(ii)	All member units shall install magnetic flow meters for measurement of effluent being conveyed to CETP and also maintain its record.	All member units are installed Electromagnetic flow meters. Details are enclosed at Annexure III. (Complied)									

	(iii)	To introduce a mechanism of assessing the effluent quality and quantity received from its member units and subsequently intimating SPCB regularly for necessary action the information of member units sending non-complying or excess effluent against the prescribed limit of 28 m ³ per tonne at the inlet of the CETP	The representatives of the CETP informed that the flow meters are installed at the discharge point of the each member units to quantify the raw effluent disposed to the raw effluent collection tank. Average daily effluent generations from individual units are enclosed at the Annexure-3 . As per the information provided by the CETP, the average effluent generation is worked out about 4- 20 m ³ per tonne of hide process. (Complied)
	(iv)	To ensure compliance of the surface water disposal norms by the treated effluent and maintain records of operation of all the treatment units	During the inspection it was observed that no surface water discharge because the unit has implemented the Zero Liquid Discharge System with effect from July 17, 2012. (Complied)
	(v)	To take necessary steps to prevent deterioration of ground water quality of the surrounding area and submit a monthly status report on ground water quality to CPCB/SPCB.	The CETP has installed ZLD and no effluent is discharged. The representatives of the CETP informed that the ground water quality in the surrounding area is monitored. However a relevant document on groundwater quantity monitoring was not provided by the CETP. (Partially Complied)
	(vi)	To expedite the ongoing work of Zero Liquid Discharge System and get it commissioned.	The unit has implemented Zero Liquid Discharge System with effect from July 17, 2012. (Complied)
	(vii)	To implement the recommendations of CREP regarding installation of automatic monitoring instruments, deployment of well trained & qualified staff and implementation of guidelines for health & safety of workers.	Not steps are taken to install automatic monitoring instruments. The CETP was maintained by qualified and dedicated staff. (Partially Complied)
	(viii)	The CETP be operated with valid consents under Water (Prevention	The Consents under Water (Prevention and Control of Pollution) Act 1974 and Air

		and control of Pollution) Act 1974, Air (Prevention and Control of Pollution) Act 1981 and Authorization under Hazardous Waste (Management, Handling and Transboundary Movement) Rules 2008.	(Prevention and Control of Pollution) Act 1981 was expired on June 2007. Hazardous Waste (Management, Handling and Transboundary Movement) Rules 2008 was also expired on March 2009. (Not Complying)
	(ix)	The CETP will submit a time bound action plan for compliance of the above directions alongwith a Bank Guarantee of Rs 20.00 lakh (Rupees Twenty Lakh only) for ensuring compliance of the above directions within 20 days of receipt of the directions.	No Bank Guarantee submitted in compliance of direction. However CETP has installed ZLD and no effluent being discharged. (Partially complied)
5	OTHER OBSERVATIONS & FINDINGS		
	<ol style="list-style-type: none"> 1. M/s Ranipet SIDCO Finished Leather Effluent Treatment Company Ltd., has 86 active members out of effluent is receiving from 73 member units. The CETP is receiving the effluent in the range 800-900m³/day against the designed capacity of 2500 m³/day. The unit receives effluent through the underground pipeline. It is also informed that all their member units are engaged in process of semi finish to finish leather. 2. During the inspection the unit was operational and the validity of consents under the Water Act & Air Act was expired on June 30, 2007 and Authorization under Hazardous Waste was expired on March 2009. 3. The CETP comprises of Collection tank, equalization tank, Flash mixer, clarifloculator, aeration tank, secondary clarifier, reactor clarifier, filter feed tank, multigrade filter, ultra filtration, filtrate tank, organic scavenger, R.O. system followed by MEE and crystallizer. 4. It was informed that member industries are providing pretreatment to reduce suspended solids before sending to CETP. Flow meters are provided at member units to quantify the effluent sent to CETP, however flow meter is installed at inlet and outlet of CETP to assess the quantity of effluent received and treated. 5. The trade effluents are received in collection sump through closed conduit. The pretreated effluent being taken to equalization tank, the chemicals like Lime & 		

poly aluminum chloride are added for precipitation and then pumped to flash mixer, polyelectrolyte being dosed for coagulation of the solids and then sent to clarifloculator for settling and removal of suspended solids. The settled sludge is being pumped to filter press and taken to sludge drying beds. The primary clarifier outlet is then sent to aeration tank, the aerated effluent is then sent to secondary clarifier.

6. The secondary treated effluent is then sent to reactor clarifier where chemicals like lime, soda ash, poly aluminum chloride and poly electrolyte is added for precipitation and then pumped to filter feed tank wherein HCL is added to neutralize the pH of the effluent. The effluent from filter feed tank is then sent to multigrade filter followed by ultra filtration, filtrate tank, organic scavenger, R.O, MEE and crystallizer. During inspection the MEE was under operation and generating salt. It is informed that R.O. permeates and condensate is being sent to member units through pipeline.
7. Flow meters are installed to assess the RO permeate and RO reject, but no flow is installed at inlet of RO, inlet to MEE, for assessment of quantity of MEE concentrate and condensate.
8. During inspection the recovered salts from MEE around 65 tons was found stored under shed in MEE plant section.
9. The Sludge drying beds exist adjacent to the MEE plant was found totally filled and in the verge of over flowing.
10. It was informed that sludge generated from the primary treatment unit is being dewatered through filter press, dewatered sludge is being disposed into their own SLF. The CETP is also accept sludge and other wastes generated from their member units and dispose into their SLF. The CETP has taken steps to make proper ramping system to carry waste to SLF and to spread uniformly.
9. During inspection the effluent from different points of treatment system is being collected and analyzed at CPCB zonal office laboratory. The analysis results are depicted below:

S.N o.	Parameter	Raw effluent	Secondary treated effluent	R.O. Feed	R.O. Permeate	R.O. reject (MEE feed)	MEE condensate
1	pH	4.2	7.4	7.1	6.5	6.9	7.7
2	EC (μ S/cm0	15200	6630	-	786	29500	191200
3	TSS (mg/l)	612	76	16	-	89	4
4	TDS (mg/l)	9948	3746	3089	434	18811	710
5	BOD (mg/l)	978	213	36	-	-	85

		6	COD (mg/l)	2000	408	592	172	400	268	
		7	Chloride(mg/l)	1554	1068	-	-	-	-	
		8	Sulphide (mg/l)	49	8.3	-	-	-	-	
		9	Sulphate (mg/l)	-	1148	1020	63.4	-	50.8	
		10	NH3-N (mg/l)	95.8	37	-	-	-	-	
		11	H.Chromium	BDL	BDL	-	-	-	-	
		12	Copper(mg/l)	0.04	BDL	-	BDL	-	BDL	
		13	Cadmium(mg/l)	BDL	BDL	-	BDL	-	BDL	
		14	Total Chromium(mg/l)	80.50	0.72	-	BDL	-	BDL	
		15	Iron(mg/l)	1.95	0.50	-	BDL	-	BDL	
		16	Manganese(mg/l)	1.67	BDL	-	BDL	-	BDL	
		17	Nickel(mg/l)	BDL	BDL	-	BDL	-	BDL	
		18	Lead(mg/l)	BDL	BDL	-	BDL	-	BDL	
		19	Zinc(mg/l)	BDL	BDL	-	BDL	-	BDL	
		20	Cobalt (mg/l)	BDL	BDL	-	BDL	-	BDL	

Parameter	Aeration tank
MLSS (mg/l)	3075
SVI	16

13. It is informed that Tamil Nadu State Pollution control Board has given only Suspended solids concentration limit < 600 mg/l for receiving effluent from member units. From the above result, it is observed that the raw effluent received from their member units slightly above the standards. The MLSS concentration (3075 mg/l) of aeration tank indicates the good bio mass in aeration tank which also indicates the good efficiency of secondary treatment system. However the concentration of total chromium in raw effluent found in higher side but Hexavalent chromium was found in Below Detectable Level.

14. From the analysis results, the concentration of COD (172 & 268 mg/l) in RO permeate & MEE condensate was found in higher side which indicates the poor efficiency w.r.t quality. Based on the TSS and TDS concentrations of RO permeate and RO reject, the efficiency of RO is worked about 83% and generates 17% of RO reject.

15. Out of 9 directions, 5 directions are completely complained, 3 directions are partially complained and 1 direction is not complained.

26	Recommendations w.r.t specific observations made during follow up inspection:
----	--

The CETP shall be directed to implement the following in a time bound manner :

1. To obtain consent under the Water and Air Acts.
2. To instruct the member units to pre-treat the effluent to the prescribed norms before

	<p>conveying to the CETP.</p> <ol style="list-style-type: none"> 3. To introduce a mechanism of assessing the effluent quality and quantity received from its member units and subsequently intimating SPCB regularly. 4. To maintain proper records of effluent received from individual unit, RO permeate sent to member units and quantity of fresh water used for processing by their member units. And to made available all records to the officers of SPCB/CPCB during inspection. 5. To install flow meters to RO inlet and different points of MEE to assess the quantity of effluent fed to the system and to assess the quantity of RO reject, RO permeate MEE concentrate and condensate generated. 6. To take immediate steps to remove sludge slurry from drying beds and to dewater through filter press and to disposed into their SLF. 7. To maintain records of energy consumption for treating effluents viz. physico- chemical, biological, tertiary and advanced treatment systems to achieve zero discharge.
Signature of Team Leader/Officer:	
(Sowmya D) Scientist 'B'	(Anjana Kumari V) Scientist 'B'
	(H.D. Varalaxmi) Scientist 'C'
Action Suggested by Zonal Officer: Based on the observations made during inspection of M/s Ranipet SIDCO, Finished Leather Effluent Treatment Company Ltd, it is noted that the CETP is not complying with all directions of CPCB. Hence modified directions may be issued for compliance and implementation of recommendations of inspection team for further improvement.	
Name, Designation and signature	Sh. S. Suresh Sci. 'D'

Photographs of M/s Ranipet SIDCO Finished Leather Effluent Treatment Co. Ltd.,

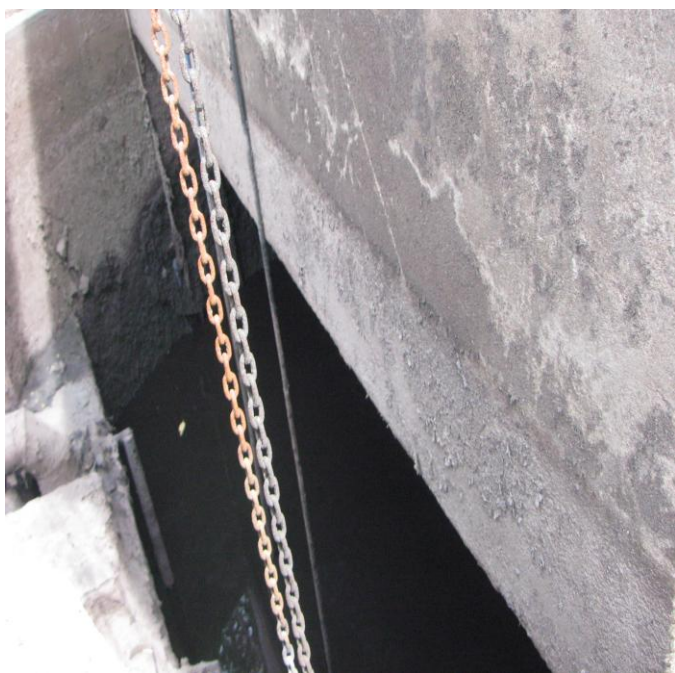


Fig 1: Effluent receiving tank



Fig 2: Equalization tank



Fig 3: Aeration tank



Fig 4: Secondary Clarifier



Fig 5: Filter Press Cake



Fig 6: Multigrade filter



Fig 7: Ultra filtration



Fig 8: R.O System



Fig 9: Multi Effective Evaporator (MEE)



Fig 10: Salt from MEE



Fig 11: Salt storage area in the premises



Fig 12 : Sludge drying bed