



Ref: SRF-DJ/EC-HY/16-17/01
May 30, 2016

To,
The Chief Conservator Forests (Central)
Ministry of Environment & Forests
Regional Office (WZ), E – 5
Area Colony, Link Road – 3
Bhopal – 462016

Subject: Half yearly Environmental Clearance Compliance Report

Reference: "Environment Clearances vide letter no. J-11011/1261/2007-IA-II (I) Dated: May 07, 2008

Dear Sir,

Please find enclosed herewith Half Yearly Environmental Clearance Compliance Report for your ready reference.

We hope you will find in order.

For SRF Limited

Dhananjay Ranade
Sr. Vice President - Works

CC to:

1. The Member Secretary, Gujarat Pollution Control Board, Paryavaran Bhawan, Sector-10 A Gandhinagar, Gujarat 382010
2. The Member Secretary SEIAA, Gujarat Pollution Control Board, Paryavaran Bhawan, Sector 10 A, Gandhinagar, Gujarat 382010



An ISO 9001-2008, ISO 14001-2004 and OHSAS 18001-2007 Certified Company

SRF LIMITED

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**Compliance of Environmental Clearance J-11011/1261/2007-IA-II (I) Dated: May 07, 2008
(Period October 2015 to March 2016)**

Ref. No.	Compliance Condition	Compliance Status																														
1	This has reference to your letter no nil dated 6 th November 2007 along with form 1 and Prefeasibility report seeking environmental clearance for the above project under the environmental impact assessment notification 2006.	-----																														
2	<p>The Ministry of Environment and Forests has examined the application and noted that proposal is for Environmental Clearance for setting up a Chemical Manufacturing Plant at Dahej Industrial Estate, Bharuch Gujarat by M/s SRF Ltd. The total project area is 546 hectares of which 163.8 hectares (30% of project area), with 30 m width will be provided all along the periphery of the project site for green belt. Total cost of project will be Rs. 2400 crores. Capital and recurring cost earmarked for environmental protection measures are about Rs.71.3 crores and about Rs 10.2 crores, at current prices. Dahej Industrial Estate is located at about 45 km from Bharuch city. Following will be the products and production capacity:</p> <table border="1" data-bbox="252 853 1066 1301"> <tbody> <tr> <td>Anhydrous Hydrofluoric acid (AHF)</td> <td>70000</td> <td>TPA</td> </tr> <tr> <td>Caustic- chlorine (of Cl2)</td> <td>140000</td> <td>TPA</td> </tr> <tr> <td>Sulphuric acid</td> <td>230000</td> <td>TPA</td> </tr> <tr> <td>Tetrachloroethylene (TCE)/ Perchloroethylene (PCE)</td> <td>80000</td> <td>TPA</td> </tr> <tr> <td>Tetrafluoroethylene (HFC-134a)</td> <td>30000</td> <td>TPA</td> </tr> <tr> <td>Difluoromethane (HFC 32)</td> <td>15000</td> <td>TPA</td> </tr> <tr> <td>Pentafluorothane (HFC 125)</td> <td>15000</td> <td>TPA</td> </tr> <tr> <td>Fluoro Specialty Products</td> <td>10000</td> <td>TPA</td> </tr> <tr> <td>Polyster chips</td> <td>150000</td> <td>TPA</td> </tr> <tr> <td>Polyster film</td> <td>100000</td> <td>TPA</td> </tr> </tbody> </table>	Anhydrous Hydrofluoric acid (AHF)	70000	TPA	Caustic- chlorine (of Cl2)	140000	TPA	Sulphuric acid	230000	TPA	Tetrachloroethylene (TCE)/ Perchloroethylene (PCE)	80000	TPA	Tetrafluoroethylene (HFC-134a)	30000	TPA	Difluoromethane (HFC 32)	15000	TPA	Pentafluorothane (HFC 125)	15000	TPA	Fluoro Specialty Products	10000	TPA	Polyster chips	150000	TPA	Polyster film	100000	TPA	<p>Complied. October 2015 to March 2016 Production reports attached. Annexure - I</p>
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3	<p>About 25,000 KLD of water will be required and will be must from GIDC supply from Narmada river. For the purpose of wastewater treatment, it is proposed to mix the effluents from various plants of neutralization. The combined effluent from different units will be taken to a common treatment plant where the effluent will be provided primary, secondary (two stage activated sludge process) and tertiary treatment. The treated effluent will meet disposal norms specified for marine waters. The effluent will be discharged to deep sea through existing pipeline of GIDC. Steam condensate and cooling tower/ boiler blow down will be mixed together (resulting water with ~700ppm TDS) and will be used for greenbelt within the project premises and for cleaning the plants. The process vents will be connected to a central absorption system followed by alkaline and acidic scrubbing systems to control the process emissions within permissible limits. Stacks of adequate heights will be provided for proper dispersion of residual pollutants. Low NOx burners will be used in the power plant to reduce the NOx emissions.</p>	<p>Complied. Water Consumption and source details is attached as per Annexure II</p> <p>Effluent from various plants is collected in equalization tank and neutralized in neutralization tank. The combine effluent treated in designated ETP having primary, secondary (two stage activated sludge process) and tertiary treatment. Treated effluent analysis report is attached as Annexure III. Treated effluent discharged to sea through existing GIDC pipe line.</p> <p>Steam condensate and Cooling tower/ Blowdown treated separately, collected</p>																														

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		<p>and treated by Ultra Filtration & Reverse Osmosis system, permeate is reused in cooling tower makeup and reject used for horticulture purpose after quality check.</p> <p>All process vents are connected with central absorption system having suitable scrubbing system. All flue gas stacks are attached by adequate air pollution control measures system. Photographs are attached as Annexure IV.</p>																								
4	<p>The hazardous waste generated at site will be stored in a secured storage area. The chemical storage and handling areas including effluent treatment areas will be made impervious to prevent groundwater pollution from leachate the quantities of wastes and their disposal will be as given below.</p> <table border="1" data-bbox="258 922 1066 1496"> <thead> <tr> <th data-bbox="258 922 354 990">S. No.</th> <th data-bbox="360 922 603 990">Nature and source of stream</th> <th data-bbox="609 922 794 990">Quantity (MT/month)</th> <th data-bbox="801 922 1066 990">Type of treatment</th> </tr> </thead> <tbody> <tr> <td data-bbox="258 999 354 1102">1</td> <td data-bbox="360 999 603 1102">Chemical sludge from waste water treatment</td> <td data-bbox="609 999 794 1102">36</td> <td data-bbox="801 999 1066 1102">To be sent to authorized TSDF</td> </tr> <tr> <td data-bbox="258 1111 354 1214">2</td> <td data-bbox="360 1111 603 1214">Used/spent oil</td> <td data-bbox="609 1111 794 1214">10</td> <td data-bbox="801 1111 1066 1214">To be sold off to CPCB registered processors</td> </tr> <tr> <td data-bbox="258 1223 354 1281">3</td> <td data-bbox="360 1223 603 1281">Spent catalysts</td> <td data-bbox="609 1223 794 1281">10</td> <td data-bbox="801 1223 1066 1281">To be sent to authorized TSDF</td> </tr> <tr> <td data-bbox="258 1290 354 1348">4</td> <td data-bbox="360 1290 603 1348">Solid waste from brine clarifier</td> <td data-bbox="609 1290 794 1348">18</td> <td data-bbox="801 1290 1066 1348">To be sent to authorized TSDF</td> </tr> <tr> <td data-bbox="258 1357 354 1496">5</td> <td data-bbox="360 1357 603 1496">Sulphur sludge from sulphur</td> <td data-bbox="609 1357 794 1496">7.5</td> <td data-bbox="801 1357 1066 1496">To be sold for sodium bisulphate production/ sugar industry.</td> </tr> </tbody> </table> <p data-bbox="258 1505 1066 1541">* Spent catalysts replacements will be done once in 3 years.</p>	S. No.	Nature and source of stream	Quantity (MT/month)	Type of treatment	1	Chemical sludge from waste water treatment	36	To be sent to authorized TSDF	2	Used/spent oil	10	To be sold off to CPCB registered processors	3	Spent catalysts	10	To be sent to authorized TSDF	4	Solid waste from brine clarifier	18	To be sent to authorized TSDF	5	Sulphur sludge from sulphur	7.5	To be sold for sodium bisulphate production/ sugar industry.	<p>Hazardous waste is stored in secured storage areas with impervious flooring and shed to eliminate chances of contamination of land and water. All necessary precautions is taken during management and handling of hazardous wastes.</p> <p>The chemical storage and handling areas including effluent treatment plant areas having impervious RCC flooring, photographs attached as Annexure V.</p>
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5	<p>The project activity is covered under para 5(e) under category 'A' of EIA Notification 2006. The proposal was considered and appraised by the Expert Appraisal Committee (Industry) in its 79th meeting held during 18th-20th march 2008 at the central level. No public hearing is required as para 7 (i) III Stage (3) of EIA Notification 2006.</p>	Information Noted																								
6	<p>The Ministry of Environment and Forests hereby accords environmental clearance to above project under the provisions of EIA Notifications dated 14th September, 2006 subject to the compliance to the following Specific and General Conditions:</p>	Information Noted																								
A.	SPECIFIC CONDITIONS:	-																								

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i	The company shall install the wastewater treatment plant to treat the wastewater as per the norms prescribed by the Gujarat Pollution Control Board. The company shall make the efforts to utilize treated wastewater for greenbelt development.	The Effluent Treatment Plant (ETP) is established to treat wastewater as per GPCB norms. Photographs Attached as Annexure VI . Treated effluent from ultrafiltration and reverse osmosis is utilized in cooling tower make-up and treated sewage is utilized in greenbelt development. Water balance is attached as Annexure VII .
ii	The company shall produce the agreement letter from GIDC to accept the treated wastewater for discharge into sea along with necessary permission and capacity of the pipeline before commencement of the project.	Company has obtained approval from GIDC and line is laid until the discharge point from ETP for final disposal as allotted by GIDC. Copy attached as Annexure VIII .
iii	The company shall install the continuous monitoring stations to monitor all sources of air pollution including Cl, HF & F. The monitoring report shall be submitted to Ministry's Regional Office at Bhopal.	Regular monitoring being carried out for HF, Cl ₂ , Br ₂ and NH ₃ . Monthly analysis is done by GPCB / NABL approved agency. Reports are attached. Annexure - IX .
iv	The company shall install alarm system for detection of any leakages of chlorine and provide all necessary safety arrangements for accidental leakages.	Chlorine leak detectors are installed at strategic locations. Appropriate control measures are provided to handle accidental leakages.
v	The project authorities shall provide the chilled brine solution in secondary condenser for condensation for the VOCs and ensure that the solvent recovery shall not be less than 95%.	Secondary Condensers are provided having chilled brine solution at appropriate locations to enhance the recovery and reduce loss of solvent.
vi	The company shall provide the monitoring arrangements with vents and regular monitoring shall be carried out and reports submitted to the SPCB, CPCB and Ministry's Regional Office at Bhopal.	Complied Monthly monitoring is being carried out by GPCB / NABL approved agency and monitoring reports submitted regularly. Analysis Report attached as Annexure XIX .
vii	To prevent loss following measures shall be taken	-
	A Reactor shall be connected to chilled brine condenser systems.	Complied
	B Reactor and solvent handling pump shall have mechanical seals to prevent leakages.	Complied
	C The condenser shall be provided with sufficient HTA and residence time so as to achieve more than 95% recovery.	Complied
	D Solvents shall be stored in a separate space specified with all safety measures.	Complied. All relevant safety measures are taken.
	E Proper earthing shall be provided in all the electrical equipment wherever solvent handling is done.	Complied. Proper earthing is provided.

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	F Entire plant shall be flame proof. The solvent storage tanks shall be provided with breather valve to prevent losses.	Complied
viii	The process emissions VOCs and particulate matters from various units shall conform to the standards prescribed by the concerned authorities from time to time. At no time, the emissions levels shall go beyond the stipulated standards. In the event of failure of pollution control systems adopted by the unit, the unit shall be immediately put out of operation and shall not be restarted until the desired efficiency has been achieved.	All parameters are within prescribed limit.
ix	Fugitive emissions in the work zone environment, product, and raw material storage area etc. shall be regularly monitored. The emissions shall conform to the limits imposed by the GPCB.	Complied. Work zone environment monitoring is carried out on monthly basis and records (Form 37) maintained. Reports attached as Annexure X .
x	For control of fugitive emissions and VOCs following steps shall be followed:	-
	A Closed handling systems shall be provided for chemicals.	All chemicals are handled in closed system.
	B Reflux condenser shall be provided over reducer.	Complied
	C Solvent handling pump shall be provided with mechanical seals to prevent leakages.	Complied.
	D System of leak detection and repair of pump/ pipeline based on preventive maintenance.	Preventive Maintenance is being carried out. Leak detection shall be complied
	E Solvent shall be taken from underground storage tanks to reactors through closed pipelines. Storage tanks shall be vented through tap receiver and condenser operated on chilled water.	Complied. No underground storage tank in the premises.
xi	The company shall obtain membership of TSDF and copy shall be submitted to Ministry's Regional Office at Bhopal.	TSDF membership has been taken from M/s. BEIL, Ankleshwar, Saurashtra Enviro Projects Private Limited, Kutch & M/s. RSPL, Panoli for hazardous waste disposal and a copy is attached. Annexure - XI .
xii	During transfer of materials, spillages shall be avoided and garlands drain be constructed to avoid mixing of accidental spillages with domestic waste from storm drains.	All domestic and storm water drains are segregated at site. Spillage and leakage plan attached as Annexure XII .
xiii	The project authorities shall develop greenbelt in 163 ha area of project as per the guidelines of CPCB to mitigate the effect of fugitive emissions.	At present Green Belt is being maintained over 33 % of the total area, photographs attached as Annexure XIII .
xiv	Adequate financial provisions shall be made in budget of the project for implementation of the above suggested environmental safeguards. Funds so earmarked shall not be divert to any another purpose.	Sufficient funds allocated on annual basis.
xv	Occupational health surveillance of the workers shall be done on regular basis and records maintained as per the Factories Act.	Regular health check-up of workers is being done as per The Factories Act.

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xvi	Risk assessment report should be prepared and submitted to the Ministry's within 6 months.	Risk Assessment report was submitted along with EIA report.
xvii	The company shall make the arrangements for protection of possible fire hazards during manufacturing process in material handling.	Adequate firefighting system installed at site.
B	GENERAL CONDITIONS	-
i	The project authorities shall strictly adhere to the stipulations of the SPCB/ state government or any statutory body.	Complied CC&A taken from GPCB which is valid up to 11.01.2017 for the 14583.4 MTPM chemical productions and 25 MW Captive Power Plant.
ii	No further expansions or modifications in the plant shall be carried out without prior approval of the Ministry of Environment And Forests. In case of deviations or alterations in the project proposals from those submitted to this Ministry for clearance, a fresh reference shall be made to the Ministry to assess the adequacy of conditions imposed and to add additional environmental protection measures required, if any.	Complied
iii	The project authorities shall strictly comply with the rules and regulations under Manufacture, Storage and Import of Hazardous Chemical Rules, 1989 as amended. Authorization from the SPCB shall be obtained for collection, treatment, storage, and disposal of hazardous wastes.	Complied Provisions of MSIHC Rules have implemented. Risk Assessment and On-site Emergency Plan is prepared and submitted. Regular mock drills are carried out at site. Mock Drill report is attached as Annexure XIV . LEL detectors for methane, HF, Cl ₂ , HCl, NH ₃ , and Br ₂ are installed at site.
iv	Ambient Air Quality monitoring stations shall be set up in the downwind direction as well where maximum ground level concentrations are anticipated in consultation with the State pollution control board.	Complied Ambient Air Quality Monitoring is done on monthly basis by GPCB / NABL Approved agency. Report copy is attached as Annexure IX .
v	For control of process emissions, stacks of appropriate height as per the Central Pollution Control Board guidelines shall be provided. The scrubbed water shall be sent to ETP for further treatment.	Adequate stack height and suitable air pollution control equipment are provided. Scrubbed water is treated in Effluent Treatment Plant. Photographs attached as Annexure IV .
vi	The company shall take following waste minimization measures:	-
*	Metering of quantities of active ingredients to minimize waste.	Required measures taken.
*	Reuse of by-products from the process as raw materials or as raw materials substitutes in other processes.	
*	Maximize recoveries	
*	Use of automated materials transfer systems to minimize spillages.	
*	Use of "Closed Feed" systems into batch reactors.	

Ref. No.	Compliance Condition	Compliance Status
vii.	The project authorities must strictly comply with the rules and regulations with regard to handling and disposal of hazardous waste in accordance with the Hazardous Waste (Management and Handling) Rules, 2003. Authorization from the SPCB shall be obtained for collections/treatment/storage/disposal of hazardous wastes.	TSDF membership has been taken from M/s. BEIL, Ankleshwar, Saurashtra Enviro Projects Private Limited, Kutch & M/s. RSPL, Panoli for hazardous waste disposal. Annexure - XI.
viii.	The overall noise levels in and around the plant area shall be kept well within the standards (85 dBA) by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all source of noise generation. The ambient noise levels shall conform to be standards prescribed under environment (protection) Act, 1986 rulers, 1989 viz. 75 dBA (day time) and 70 dBA (night time).	Noise level is being monitored and control measures are provided. Monitoring Reports are attached as Annexure XV.
ix	A separate environment management cell equipped with full-fledged laboratory facilities shall be set up to carry out the environmental management and monitoring functions.	We have separate Environmental Management Cell equipped with full-flagged laboratory facility to carry out environmental management and monitoring function. The report of this group is directly to head of the location.
x	The project authorities shall provide rain water harvesting system and ground water recharge.	Complied. Rainwater Harvesting from Roof top photographs is attached as Annexure XVI.
xi	The implementation of the project vis-a vis environmental action plan shall be monitored by Ministry's Regional Office/SPCB/CPCB/. A six monthly compliance status report shall be submitted to monitoring agencies.	Complied
xii	The project proponent shall inform the public that the project has been accorded environmental clearance by the ministry and copies of the clearance letter are available with the SPCB and may also be seen at website of the Ministry at http://envfor.nic.in	The condition regarding information the public about the Environmental clearance had been done. Advertisement copy attached as Annexure XVII.
xiii.	The project authorities shall inform the regional office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of the start of the project.	Complied
6	The ministry may revoke or suspend the clearance, if implementation of any of above conditions is not satisfactory.	Noted
7	The Ministry reserves the right to stipulate additional conditions, if found necessary. The company in a time bound manner shall implement these conditions.	Noted
8	Any appeal against this environmental clearance shall lie with the National Environment Appellate Authority, if preferred within a period of 30 days as prescribed under section II of the National Environment Appellate Authority Act, 1997.	Noted
9	The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention and Control of Pollution) Act, 1974, Air (Prevention & Control of Pollution) Act, 1981, The Environment(Protection) Act , 1986 ,Hazardous Wastes (Management and Handling) Rules, 2003 and The Public Liability Insurance Act, 1991 along with their Amendments and	Noted and PLI copy is attached as Annexure XVIII.

Ref. No.	Compliance Condition	Compliance Status
	Rules.	