BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL
SOUTH BENCH AT CHENNAI

Appeal No.29 of 2020

IN THE MATTER OF:

S.K.VIJAYKUMAR ...Appellant

-Vs-

Karnataka State Environment Impact Assessment Authority and 6 others ...Respondents

VOLUME – I

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Place: Chennai
Date : 28.01.2023

THROUGH:

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Esplanade, Chennai – 600 104.
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K. M. VIJAYAN ASSOCIATES ★ ADVOCATE & SOLICITORS ★ Chennai 600 104

Annexure - I

1

RESONANCE
bonds beyond chemistry

Regd. Office & Factory Address:
Resonance Laboratories Pvt. Ltd.
No. 8C & 9A, KIADB Industrial Area
Bashettihalli, Doddaballapur – 561203
Bangalore, INDIA
Tel : +91 80 27623495, +91 80 27630180
Fax : +91 80 27623010
e-mail : office@resonance-labs.com
CIN : U24110KA1980PTC045343

Date 29.05.2020

To:
The Member Secretary,
State Environmental Impact Assessment Authority, Karnataka,
7th Floor, M S Building,
Bangalore – 560 001

Sir,

Sub: Environmental Clearance for proposed Change in Product-mix in existing manufacturing facility for Bulk Drugs, API's Manufacturing by M/s. Resonance Laboratories Pvt. Ltd., at Plot No. 8C & 9A, KIADB industrial area, Bashettihalli, Doddaballapur – 561203, Bangalore Rural District, Karnataka.

Ref: Proceedings of 242nd SEAC meeting held on 7th & 8th May 2020 &
Project File No: SEIAA 15 IND (VOIL) 2018

With Reference to the above it is to be informed that the SEAC, Karnataka in the 242nd meeting held on 7.5.2020 has appraised our proposal of change in product mix vis-a-vis EIA /EMP report. The committee has recommended to SEIAA to issue Environmental Clearance subject to the submission of following information:

- **Observation 1:** Revised EMP incorporating proposed ETP along with flow chart in order to achieve ZLD may be worked out and submitted.
  Response: Appended as Observation I.

- **Observation 2:** Revised Land use and land cover analysis of study area based on high resolution satellite imagery may be prepared and submitted.
  Response: Appended as Observation II.

- **Observation 3:** Detailed damages and remediation measures caused due to this plant may be worked out and submitted as per Kyoto protocol.
  Response: Appended as Observation III.

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e-mail : office@resonance-labs.com
CIN : U24110KA1980PTC045343

Further in the proceedings, SEAC recommended for imposing the following conditions:

- **Condition 1:** Toluene solvent may be replaced by alternative.
  Response: Toluene is a Class-2 ICH listed solvent (ICH limit is 890 ppm) and can be safely used in the manufacturing process. Toluene recovery percentage is very high (more than 95%) when compared to other solvents. Toluene is widely used in the global chemical industry and its use is accepted in India by the GOI. Figures from GOI's Ministry of Chemicals and Fertilizers indicate that in 2017-18 domestic consumption of Toluene was 517,000 MT and grew at 7.5% annually for the past 7 years. Toluene consumption was 3-fold higher than consumption of another common chemical such as Isopropanol (IPA). IPA consumption was 171,000 MT in 2017-18. (Source: Chemical and Petrochemical statistics at a glance - 2018; Report by Ministry of Chemicals and Fertilizers, GOI, Table 10: page 85-88; from https://chemicals.nic.in/document-report/reports)

  Toluene has special characteristics such as its non-polar nature and its boiling point of 110°C that make it an ideal process solvent to conduct certain reactions safely and ensure minimal impurities. Any exposure risk from toluene is mitigated for two reasons: one, toluene recovery is >95%, and two, toluene content within pharmaceutical ingredients is limited to 890 ppm by the International and Indian guidelines mentioned above. All our products meet this stringent requirement and are therefore safe to consumers.

  Furthermore, a change in solvent is a significant change from a pharmaceutical regulatory standpoint and several regulatory approvals will need to be processed before such a replacement can be in effect.

  Given the above facts on widespread acceptability of Toluene (including within India), its utility as a safe reaction promoter for specific processes, and its limited exposure risk due to already existing internal company controls, we request the committee to allow us to continue with Toluene as per current process definitions.

- **Condition 2:** Install separate ETP instead of sending effluents to CETP in order to achieve ZLD.
  Response: ZLD concept will be followed and the proposal for revised treatment scheme for ETP is appended as Observation I.

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e-mail : office@resonance-labs.com
CIN : U24110KA1980PTC045343

- **Condition 3:** For boiler fuel biomass briquettes may be used.
  Response: At present we are using High Speed Diesel (HSD) as fuel in the boiler. Even though the cost of HSD is high we are using this fuel considering its availability throughout the year and its less polluting nature. For dispersion of gases we have provided the chimney as per the stipulations of KSPCB. HSD falls in Class B Category with minimum flash point of 52° C, very less ash content (<0.001% by weight), Total Sulphur content Maximum of 0.005% by weight and calorific value of min. 10,500 Kcal/kg. Whereas, briquette is not having a guaranteed supply, calorific value is 3,000 - 4500 kcal/kg, ash content is high (3 to 19 % by weight depending on the type of briquette). It also requires air pollution control equipment and even after such controls there will be residual smoke. Therefore, we request to permit us to continue using High Speed Diesel (HSD).

We request you to kindly consider the above and grant EC and oblige.

Thank You.
For Resonance Laboratories Private Limited.

Tushar Gore, PhD
Director

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Annexure-II

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G. Dayananda Sagar. - Request for Transfer of Environmental Clearance of M/s C P T Stone Cruasher- (SEIAA 20 MISC 2021)

Environmental Clearance has been issued to this project vide letter No. DEIAA /004/2016/B.S/RMN dated 06.02.2018 by DEIAA Ramanagara District for Building Stone Quarry Project at Sy.Nos. 40, Gowdagere Village, Channapatna Taluk, Ramanagara District (2-00 Acres of Govt.Land) by Sri G. Dayananda Sagar.

M/s CPT Stone Crusher have requested vide letter dated 25.02.2021 for Transfer of above said EC in favour of M/s CPT Stone Crusher as the quarry lease has been transferred to M/s CPT Stone Crusher through the Dept. of Mines and Geology.

The Authority perused the request made by M/s CPT Stone Crusher and decided to transfer the EC in favour of M/s CPT Stone Crusher subject to the following conditions

1. *The applicant shall furnish Notorised affidavit of Sri G. Dayananda Sagar relinquishing his claim (duly witnessed by Authorized Signatiory of M/s CPT Stone Crusher)*
2. *Original Copy EC*
3. *Notarised Copy of Form-T.*

203.4.15. Change in product mix with the existing manufacturing facility at Plot No. 8C & 9A KIADB industrial area, Bashettihalli, Doddaballapura Taluk, Bangalore Rural District by M/s. Resonance Laboratories Pvt. Ltd, (SEIAA 15 IND (VIOL) 2018). - Request for amendment in Environmental Clearance.

This is a project from M/s. Resonance Laboratories Pvt. Ltd. seeking Environmental clearance for change in product mix of active Pharmaceutical ingredients with the production capacity of 10.29 TPA with 9 No's of APIs to 19 No's of APIs with same capacity in existing manufacturing facility having plot area of 32,374.9 Sq.m.

The details of the APIs are as follows:

Sl. No.	Products	Existing Quantity (TPA)	Proposed Qty (TPA)	Variation in quantity	Change in productmix scenario
1.	Imipramine Hydrochloride	1.00	1.00	0	No change
2.	Mepyramine Maleate / Base	2.24	0.70	-1.54	Decrease
3.	Oxyphenonium Bromide	0.50	0.50	0	No change
4.	Oxybutynin Chloride	2.00	2.00	0	No change
5.	Clidinium Bromide	2.00	2.00	0	No change
6.	Isopropomide Iodide	0.50	0.50	0	No change
7.	Mebrophenhydramine Hydrochloride	1.00	1.00	0	No change
8.	Carbinoxamine Maleate	1.00	0.43	-0.57	Decrease

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9.	Buprenorphine Hydrochloride	0.05	0.05	0	No change
10.	Atropine Sulfate	-	0.5	0.5	New Product
11.	Baclofen	-	0.3	0.3	New Product
12.	Glycopyrrolate	-	0.05	0.05	New Product
13.	HomatropineHydrobromide	-	0.15	0.15	New Product
14.	HomatropineMethylbromide	-	0.5	0.5	New Product
15.	Methylphenidate HCl	-	0.05	0.05	New Product
16.	Naloxone Hydrochloride	-	0.02	0.02	New Product
17.	Naltrexone Hydrochloride	-	0.02	0.02	New Product
18.	Pramoxine Hydrochloride	-	0.5	0.5	New Product
19.	Ipratropium Bromide	-	0.02	0.02	New Product
	Total	**10.29**	**10.29**		

The committee meeting held on 19.5.2018 appraised the proposal as per the Notification dated: 8-3-2018 issued by MoEF & CC considering the information provided in the statutory application-Form I, pre-feasibility report, proposed TORs and clarification/additional information provided during the meeting. The committee decided to recommend the proposal to SEIAA for issue of Standard TORs along with additional TORs to conduct the EIA studies in accordance with the EIA Notification 2006 and relevant guidelines and to conduct public hearing. The Authority during the meeting held on 1.6.2018 decided to issue ToR as recommended by SEAC for conducting the Environment Impact Assessment study in accordance with EIA Notification, 2006.

The Authority during the meeting held on 1.6.2018 perused the proposal and took note of the recommendation of SEAC. The Authority noted that the proponent have stated that they had Consent for Establishment/ Operation for 9 products with at total capacity of 9.29 TPA and they have subsequently added 10 products after the inception of EIA Notification, 2006 for manufacture without increase in the total quantity of products. However, no prior Environmental Clearance has been obtained for change in the product-mix. The Authority therefore opined that the activity in the industry is in violation of the provision of the EIA Notification, 2006 having undertaken manufacturing of bulk drugs without prior Environmental Clearance as required under

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EIA Notification, 2006. In view of the above facts and circumstances the Authority decided to issue ToR for conducting the Environment Impact Assessment study with public consultation following the procedure laid down in the Notification No. S.O. 804 (E) dated 14th March 2017, Notification No S.O.1030 (E) dated 8th March 2018.

Accordingly TORs were issued on 15-06-2018. The proponent has submitted the EIA report on 28-04-2020.

The proposal was placed before 242nd SEAC online meeting for EIA appraisal.

The proponent and consultant attended 242nd SEAC meeting held on 07-05-2020 for EIA appraisal. The Committee noted that as seen from the records the project was started in 90s and continues to operate based on the CFE and CFO issued by KSPCB and the plant is operating till today. This has been categorized under violation category for the fact that the proponent has not obtained EC as per the EIA notification 2006. As per the EIA report the proponent is proposed to take effluents to CETP and for this he has agreed to convert into ZLD. The proponent has also agreed that he will go for alternatives to toluene solvent.

As far as damages due to violation the proponent has stated that all the parameters are within the permissible norms and hence he reiterated no damages have been caused due to the operation of the plant in the absence of EC. However in this regard he came forward to earmark Rs15 lakhs towards the remediation measures and he has also agreed to submit the detailed damages caused due to this plant as per Kyoto protocol.

As far as CER is concerned the proponent has stated that he will contribute Rs 10Lakhs to PM care account. The committee after discussion and deliberation decided to recommend the project for issue of Environmental Clearance subject to submission of the following information to SEIAA.

1) Revised EMP incorporating proposed ETP along with flow chart in order to achieve ZLD may be worked out and submitted.
2) Revised land use and land cover analysis of study area based on high resolution satellite imagery may be prepared and submitted.
3) Detailed damages and remediation measures caused due to this plant may be worked out and submitted as per Kyoto protocol.

The committee also imposed the following condition.

1) Toluene solvent may be replaced by alternatives.
2) Install separate ETP instead of sending effluents to CETP in order to achieve ZLD.
3) For boiler fuel biomass briquettes may be used.

The Authority perused the proposal and took note of the recommendation of SEAC.

The Authority after discussion decided to issue Environmental Clearance subject to submission of the following:

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a) Bank guarantee for an amount of Rs.15 Lakhs with the Karnataka State Pollution Control Board, Bengaluru along with details of remediation plan and Natural and Community Resource Augmentation Plan and the time frame for execution of the same.

b) An action plan with activities proposed under CER in accordance with O.M F. No.22-65/2017-IA.III dated 1st May 2018 issued by MoEF&CC, Government of India, allocation of funds against each of the activities and the time frame within which such activities will be completed. The funds so earmarked shall be in accordance with para 6 (II) and the activities shall be in accordance with para 6 (V) of the said O.M.

The Authority also decided to impose an additional condition that the project authority should establish ETP with zero liquid discharge ZLD) facility before commencing proposed expansion/modification.

The Authority also decided to file a complaint against the project proponent before jurisdictional court of law for the alleged violation under section 19 of the Environment (Protection) Act 1986, later that is after the relaxing of the lockdown situation due to COVID 19. The Authority also decided to authorize Shri H.K.Vasanth, Advocate and Shri Ravikumar J.K., Scientific Officer, Department of Forest, Ecology and Environment for filing the complaint.

Accordingly compliant has been filed before the Hon'ble court of II additional, Chief Judicial Magistrate at Bangalore Rural, Bangalore on 23.08.2021.

Environmental Clearance has been issued to this project vide letter No. SEIAA 15 IND (VIOL) 2018 dated 24.08.2020 for Change in product mix with the existing manufacturing facility at Plot No. 8C & 9A KIADB industrial area, Bashettihalli, Doddaballapura Taluk, Bangalore Rural District to M/s. Resonance Laboratories Pvt. Ltd,

The project Authorities vide letter dated 23.06.2021 have requested this Authority to issue an addendum to the EC issued to facilitate them to handover the effluent generated in their unit to the CETP which is being established from the said unit after primary treatment.

The Authority perused the request made by the project authorities and after discussion decided to issue corrigendum subject to decision of NGT or Appeal thereof if any.

203.4.16. Proposed Shahbad Stone Quarry Project at Sy.Nos. 67/1, Gandhinagar Village, Chittapur Taluk, Kalaburgi District (2-00 Acres of Patta Land) by Sri T. Sharanabasappa., - DEIAA/0184/MIS/2017-18 - Request for Transfer of Environmental Clearance in favour of Smt. Kasturibai.

Environmental Clearance has been issued to this project vide letter No. DEIAA/0184/MIS/2017-18 dated 20.12.2018 for proposed Shahbad Stone Quarry Project at Sy. Nos. 67/1, Gandhinagar Village, Chittapur Taluk, Kalaburgi District (2-00 Acres of Patta Land) to Sri T. Sharanabasappa.

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Annexure - III

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OBSERVATIONS

For Resonance Laboratories Pvt. Ltd.

Director

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List of Observations

SL. No.	Description
Observation I	Revised EMP incorporating proposed ETP along with flow chart in order to achieve ZLD
Observation II	Revised Land use and land cover analysis of study area based on high resolution satellite imagery
Observation III	Detailed damages and remediation measures caused due to this plant assessed as per Kyoto protocol

For Resonance Laboratories Pvt. Ltd.

Director

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OBSERVATION I

For Resonance Laboratories Pvt. Ltd.

Director

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10/02/19

Addendum to Chapter 10, Environmental Management Plan of EIA Report

The proposed project was presented in 241st SEAC meeting held on 23rd April, 2020. The committee did not agree for treatment of High TDS effluent in CETP and recommended that an in-house facility to be provided to treat and reuse the treated effluent and the plant to be ZLD compliant. The committee recommend that, issue of Environmental Clearance could be considered by SEIAA subject to submission of information to SEIAA related to revised EMP incorporating proposed ETP along with flow chart in order to achieve ZLD.

Revised Treatment Scheme for Wastewater Treatment:

Low & High TDS Effluent are generated from the manufacturing process. The Effluents are segregated at source. The Low TDS Effluent is mainly from boiler blowdown, cooling tower blowdown and washings. The high TDS effluent is from the reactors & solvent stripping process.

Previously, it was proposed that the low TDS effluent, Domestic sewage and R.O reject is treated in inhouse effluent treatment plant. High TDS effluent is sent to M/s. Pai & Pai Chemicals (I) Pvt. Ltd. (CETP) after primary treatment.

In the revised treatment scheme, no effluent will be sent to CETP. It is proposed that all the wastewater generated within the plant, both LTDS & HTDS effluents, will be treated in primary treatment followed by MEE and ATFD for HTDS effluent and LTDS effluent will be treated in biological ETP along with sewage and the treated effluent will be tertiarily treated in RO and the permeate will be used for cooling tower, excess if any will be used for flushing and washing. ZLD concept will be followed. No treated water will be discharged outside. Treatment Scheme for Wastewater is provided below.

The effluent HTDS and LTDS will be segregated at source and treated separately;

a. Treatment of High TDS Effluent

High TDS effluent is collected in a collection tank and the effluent is neutralized using Caustic Soda Lye or lime (Calcium Oxide) in neutralization tank. Effluent is then sent to Filter press, for removal of solids after primary treatment. The HTDS effluent after primary treatment and the filter press liquid will be subject to solvent stripper followed by evaporator. Evaporator condensate is sent to Low TDS ETP for further treatment along with sewage. HTDS concentrate is treated in ATFD. Salts / sludge collected from Filter press & ATFD is filled in bags & stored in the shed and sent to TSDF.

b. Treatment of Low TDS effluent

For Resonance Laboratories Pvt. Ltd.

Director

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The Low TDS effluents comprising of Evaporator condensate from High TDS plant, boiler blow down, cooling tower bleed, washings, process LTDS and sewage is collected in a Collection sump. The effluent is neutralized using Caustic Soda Lye or lime (Calcium Oxide). Then the liquid effluent is treated in extended aeration system and is fed to settling tank. Further the effluent is filtered in multigrain filter and activated carbon filter. The treated effluent is contained in the polishing pond where the RO reject from fresh water treatment plant is added. This treated effluent will be further treated in RO and the permeate will be reused in the cooling tower water makeup, washing and flushing.

The secondary sludge from clarifier is used as manure. Online flowmeter is installed to measure the flow of HTDS. Online monitors for flow, TSS, BOD, COD and TSS will be installed for treated effluent, budgetary provision is made in EMP.

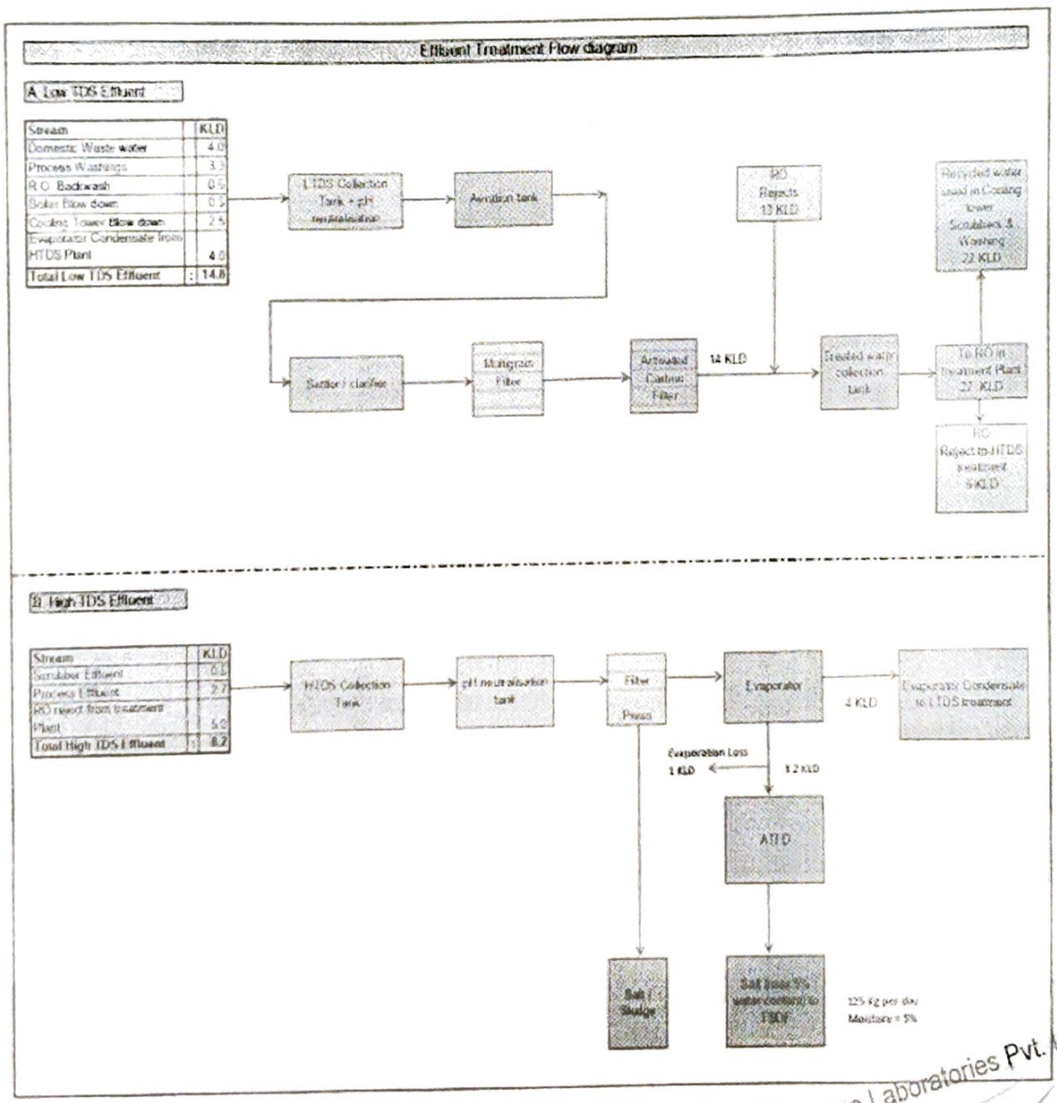

Figure: Effluent Treatment Flow Diagram

For Resonance Laboratories Pvt. Ltd.

Director

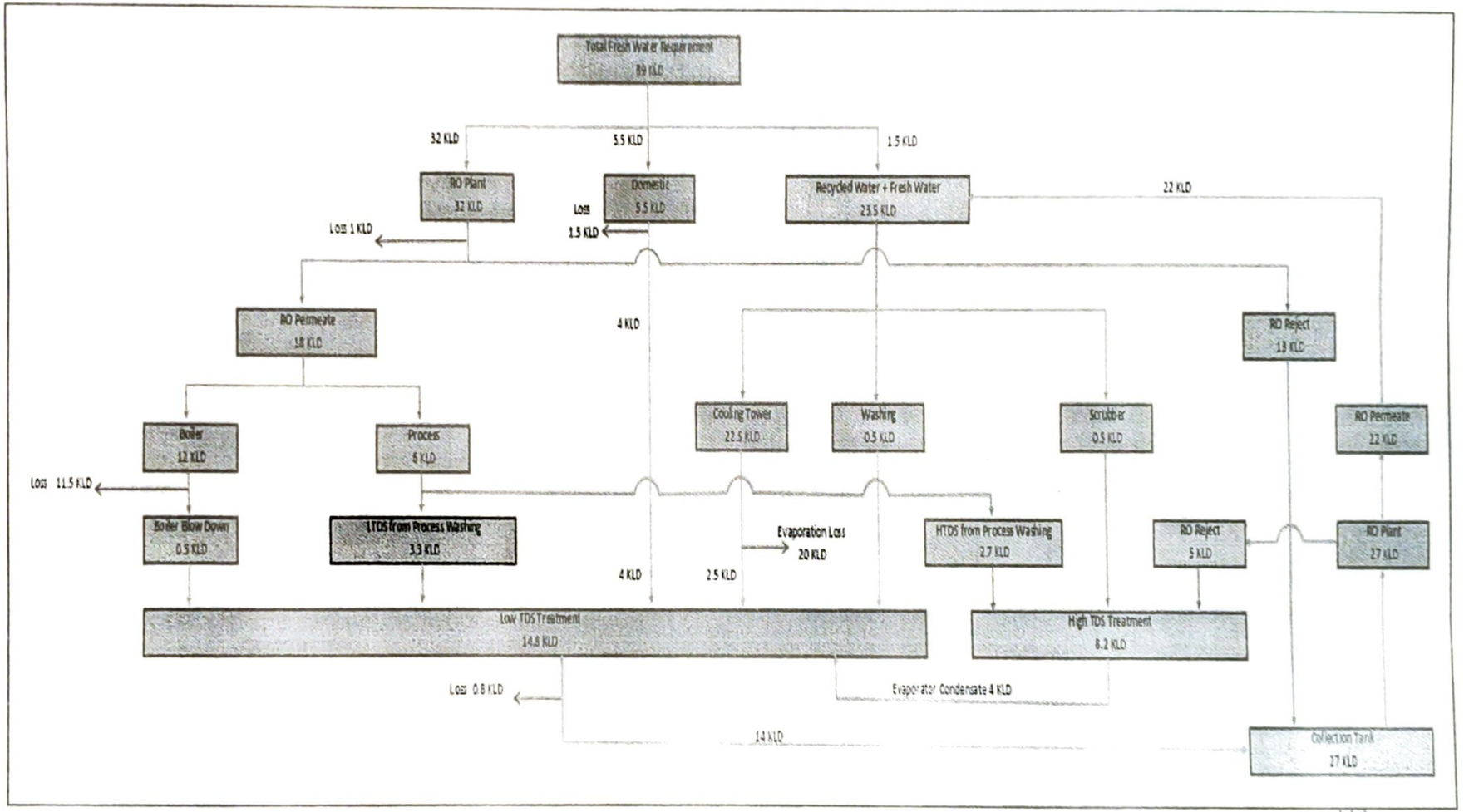

Figure: Water and Effluent Balance flow diagram

For Resonance Laboratories Pvt. Ltd.

Director

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Environmental Management budgetary provision

Revised EMP budgetary provision is as provided in the Table below:

Table: Environmental Management budgetary provision

Sl. No.	Description	Financial provision in Rs./annum
A	RECURRING COST	
1	Personal protection safety gadgets and health care	3,00,000
2	Tree plantation and landscaping measures (578 saplings @ Rs100 per each)	58,000
3	Environmental monitoring (air, noise, water and hazardous waste)	2,92,400
4	Maintenance of online monitoring system	1,00,000
5	Hazardous waste management & wastewater treatment operation and maintenance	40,00,000
	TOTAL	**47,50,400**
B	CAPITAL COST (proposed)	
1	Rainwater harvesting & groundwater recharging structures 10 nos @ Rs 10000	1,00,000
2	Tree plantation (580 saplings@ Rs300 per each)	1,73,500
3	Zero Liquid Discharge treatment plant for HTDS stream (Evaporator + Agitated Thin Film Drier + supporting boiler and auxiliary equipment)	50,000,00
	TOTAL	52,73,500

For Resonance Laboratories Pvt. Ltd.

Director

24/02/19

OBSERVATION II

For Resonance Laboratories Pvt. Ltd.

Director

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REVISED LAND USE AND LAND COVER OF THE STUDY AREA

The proposed project was presented in 241st SEAC meeting held on 23rd April, 2020. The committee after discussion and deliberation decided to recommend the project for issue of Environmental Clearance subject to submission of information to SEIAA related to revised land use and land cover analysis of the study area based on high resolution satellite imagery.

Introduction:

Land-use refers to the way in which the land has been used by humans and their habitat, usually with accent on the functional role of land for economic activities. It is the intended employment of management strategy placed on the land-cover type by human agents, and/or managers. Land-cover refers to the physical characteristics of earth's surface, captured in the distribution of vegetation, water, soil and other physical features of the land, including those created solely by human activities; for example - settlements. The land use and Land cover are complex and largely continuous pattern and in order to understand its complexity, it is necessary to characterize them.

The satellite remote sensing, with its synoptic view and repetitively, is very helpful in order to cover large areas within a short time to characterize land use / land cover qualitatively. Remote Sensing is a powerful and accurate means of collecting data. The study of satellite imagery gives an excellent opportunity to monitor the quantitative extent of vegetation cover as well as qualitative changes due to changes in environment.

Methodology:

The Satellite data or Satellite Image downloaded from U.S. Geological Survey web site USGS Earth Explorer (www.earthexplorer.usgs.gov) and a land-use map was prepared. The following are the steps involved in preparation of Land use Land cover map.

The optimal season and latest cloud free data chosen for better discrimination of various land use types in the study are during the month of January. Accordingly, all the satellite scenes were selected on the USGS website by giving the geographic coordinates of the study area and acquired the satellite image. The satellite image selected is from Landsat 8 with ETM sensors with 11 bands. The bands from 1 to 7 have the spatial resolution of 30 m and the band 8 is having the spatial resolution of 15 m (panchromatic). The band 9 - 11 are thermal bands with spatial resolution of 100 m, but resampled to 30 m. We have used bands 1 - 7 for classification. The date of acquisition of the satellite image is 27 January 2020 with the path and row of 144 and 51, respectively. The satellite image thus acquired is subject to image enhancement including band combinations before subject to classification for better understand of the land use land cover classes. Histogram stretching which is one of the image enhancement techniques is applied to a 16-bit multispectral data. Then the subset of image was taken according to the boundary of the

For Resonance Laboratories Pvt. Ltd.

Director

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study area (10 km radius from the project site). The digital classification technique has been used for the extraction of the land use/land cover information from the imagery. Unsupervised classification method with nearest neighborhood algorithm was used to classify the satellite image. After the completion of the initial classification, the classified image was subject to post classification improvements. Here, the misclassified pixels were re-classified considering small areas of interest (AOI) or through interactive editing (onscreen visual interpretation) for improved accuracy. For onscreen interpretation, the satellite data was displayed in standard false color composite (FCC) format by assigning blue, green and red color of the monitor to the green, red and near infra-red bands of satellite data respectively, in ordered to discriminate the land use features clearly. Other band combination was also used in discriminating the different land use classes. Satellite image was subjected to pan sharpening to enhance the resolution by keeping the multispectral feature. For this the band 8 of the satellite data with 15 m resolution is merged with the multispectral image having bands 1 to 7 with 30 m resolution to get the enhanced image (Figure a). This enhanced image was used to identify the misclassified pixels and re-classify them into correct classes.

The classified output has a 'salt and pepper' appearance, because of the difference in reflectance value of each pixel. A low pass filter (3 x 3) was applied for smoothening of the output data and to minimize the 'salt and pepper' effect.

Land use - Land cover classification:

Five different land use/land cover classes have been identified in the study area and the image was classified accordingly. Table below shows the information about the extent of land use/land cover classes thus derived from the satellite image in the study area and represented in Figure b.

Following are the land use land cover classes in the study area with descriptions of each class.

a) **Agriculture/Agricultural Plantations**
   This land cover class is the Agriculture and plantations of Coconut in the study area. These can be readily recognized in the satellite image with bright red tone and having definite structure with clear boundaries. Total area of this land cover is 14472.05 ha, which is 45.34% to the total area. This is largest land cover class in the study area.

b) **Agriculture Fallow**
   This land use class is Agriculture land but currently not in cultivation. Out of total area, 7832.79 ha area comes under built-up land use land cover class. This is 24.98% of total area.

c) **Forest**

For Resonance Laboratories Pvt. Ltd.

Director

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This land cover class is the area that is covered by forests or the forest canopy or open woodland. This class comes under vegetation class and is 310.47 ha, which is 0.99% of total area.

d) **Wetland**

This land cover class is weedy vegetation shallow or marshy land around the lakes in the study area. Aquatic species dominate the stand with water hyacinth. This class covers 109.8 ha area with 0.35% to the total study area.

e) **Water body**

This category comprises areas with surface water, in the form of lakes and flowing as rivers. These are seen clearly on the satellite image in blue to dark blue or cyan color depending on the depth of water. These areas were identified and mapped as water bodies; this unit is spatially distributed in 228.93 ha area with 0.73% to the total area.

f) **Built-up Land**

This land use land cover class is defined as an area of human habitat developed due to non-agriculture use. The built-up land in 10 km radius from project site comprises of towns and villages including buildings, Industries, transport and communications utilities. Out of total area, 8,658.56 ha area comes under built-up land use land cover class. This is 27.61% of total area.

Table 3.21: Land use / land cover classes in the study area.

Sl.	Land use Land cover classes	Area (ha)	Area (%)
1	Agriculture/Agricultural Plantations	14218.73	45.34
2	Agricultural Fallow	7832.79	24.98
3	Forest	310.47	0.99
4	Wetland	109.76	0.35
5	Water body	228.93	0.73
6	Built up	8658.56	27.61

For Resonance Laboratories Pvt. Ltd.

Director

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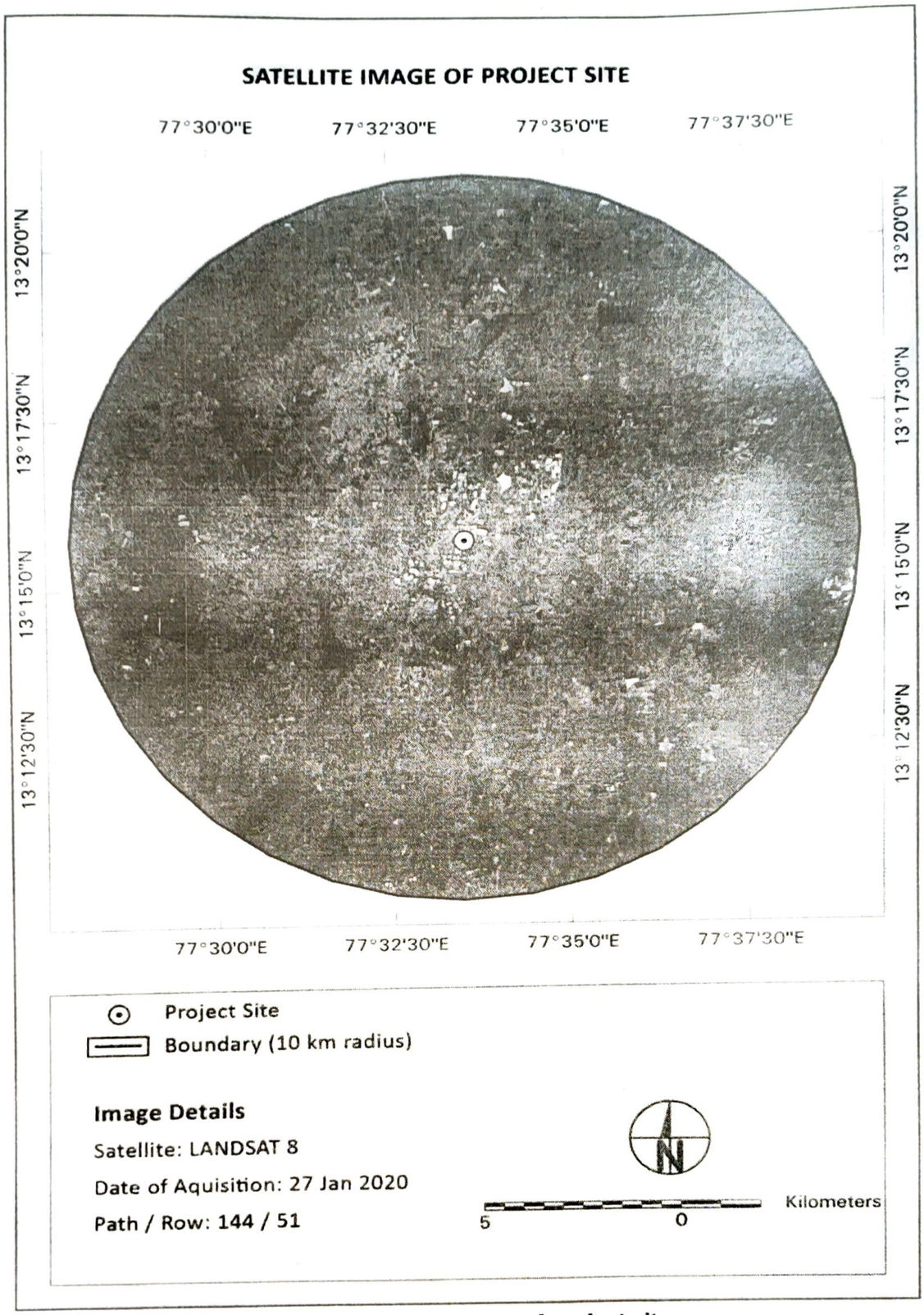

Figure a: Satellite image of project site

For Resonance Laboratories Pvt. Ltd.

Director

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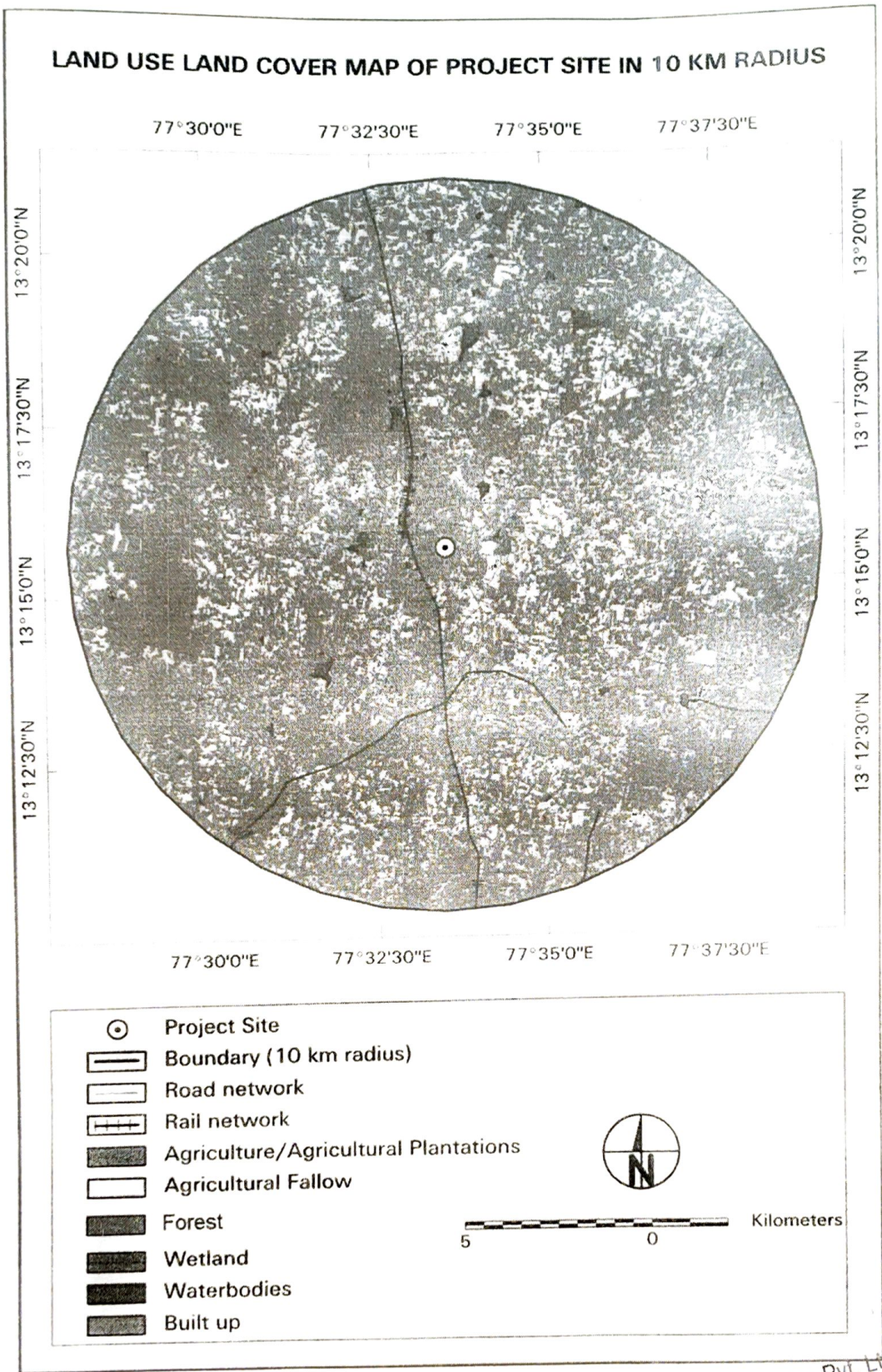

Figure b: Land use land cover map of project site

For Resonance Laboratories Pvt. Ltd.

Director

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OBSERVATION III

For Resonance Laboratories Pvt. Ltd.

Director

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ASSESSMENT OF DAMAGES AS PER KYOTO PROTOCOL:

The proposed project was presented in 241st SEAC meeting held on 23rd April, 2020. The committee after discussion and deliberation decided to recommend the project for issue of Environmental Clearance subject to submission of information to SEIAA related to damages and remediation measures caused due to this plant assessed as per Kyoto protocol.

It is seen from the detailed EIA study, that the violation of M/s. Resonance Laboratories Pvt. Ltd. is only regulatory lapse and the damage to the environment is negligible as all the measures stipulated in the CFO are followed and all pollution control measures were in place during the violation period (2012-2019). However, based on the SEAC recommendation, assessment of damages has been carried out as per Kyoto Protocol is being submitted to SEIAA for consideration.

PREAMBLE

M/s. Resonance Laboratories Pvt. Ltd. is an existing industry established in the year 1992 and in operation from 1994. The unit had obtained EC, for 5 products with a capacity of 37.64 TPA, vide F. No. DEE 117 EPC 91 dated: 20.08.1992 valid up to 2012.

In 2012, the unit had gone for expansion from 5 to 9 products with a capacity of 10.29 TPA & obtained CTE & CTO.

The unit expanded from 5 products with a capacity of 37.64 TPA to 9 products with a capacity of 10.29 TPA and to 19 products of same capacity, without prior Environmental Clearance as per EIA Notification 2006 and its amendments. So, the project falls under violation category as per violation notification vide S.O. 804(E) dated 14th March 2017.

Hence, 2012 is considered as the base year for environmental/ecological damage assessment that is the year where the industry has violated the EIA Notification 2006, ie., started manufacturing new products without the Prior Environmental Clearance and made an economical gain.

Assessment of environmental / ecological damage has been carried out as per Kyoto Protocol for both construction phase & operation phase of the industry during financial year 2012-13 till 2018-19 and are presented under:

A. CONSTRUCTION PHASE:

No construction activity carried out from 2012 till date.

For Resonance Laboratories Pvt. Ltd.

Director

B. OPERATION PHASE:

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Environmental / ecological damage has been assessed from financial year 2012-13 till 2018-19. The Kyoto Protocol is an international treaty which extends the 1992 United Nations Framework Convention on Climate Change (UNFCCC) that commits state parties to reduce greenhouse gas emissions, based on the scientific consensus that (part one) global warming is occurring and (part two) it is extremely likely that human-made CO2 emissions have predominantly caused it.

The Kyoto Protocol applies to the six greenhouse gases (GHG):

- Carbon dioxide (CO2)
- Methane (CH4)
- Nitrous oxide (N2O)
- Hydrofluorocarbons (HFCs)
- Perfluorocarbons (PFCs)
- Sulphur hexafluoride (SF6).

Based on Air Quality data of the industry, all emissions have been considered as CO_2 equivalent for quantification. Thus, Carbon footprint assessment has been used to denote carbon accounting to quantify the damage caused during 2012 to 2019 from activities from this facility.

Carbon Footprint Calculations:

A carbon footprint is the total sum of greenhouse gas (GHG) emissions caused by an organization or industry. The first step towards managing GHG emissions is to measure them.

- **Step 1- Data collection:**
  Electricity and fuel consumption by the facility, has been considered for calculating CO_2e emissions from financial year 2012-13 till 2018-19. Below table provides the details of Electricity and Fuel consumed during financial year 2012-13 till 2018-19.

SL. No.	Particulars		Unit	Quantity
1	Average Electricity Consumed per Year		MWh	59.958
	Total Electricity consumed (During **Financial Year 2012-13 till 2018-19**)		**Mega Watt hours (MWh)**	**419.706**
2	Fuel Consumed (in terms of Terajoules)			
	a	HSD used in Boilers (200 kg/h and 600 kg/h) and Thermic Fluid Heater (1 Lakh kcal/h)	TJ	13.96
	b	HSD used in DG Sets of 100 kVA and 160 kVA	TJ	4.12

For Resonance Laboratories Pvt. Ltd.

Director

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	Total HSD consumed (During **Financial Year 2012-13 till 2018-19**)	**Terajoule** (TJ)	11.578

- **Step 2- Calculation Methodology:**
  - Carbon Footprint for Electricity = (Total Electricity consumed during Financial Year 2012-13 till 2018-19) X (Emission Factor)
    = **419.706 x 0.85**
    = **356.75 tCO_2e**
  - Carbon Footprint for HSD = (Total HSD consumed during Financial Year 2012-13 till 2018-19) X (Emission Factor)
    = **11.578 x 74.1**
    = **857.93 tCO_2e**
  - Total Carbon Footprint (tCO_2e) = (Carbon Footprint for Electricity + Carbon Footprint for HSD)
    = (356.75 + 857.93)
    = **1,214.68 tCO_2e**

Emission factors considered are as under:

- Emission factor for Electricity = 0.85 tCO2e per MWh
  (Source: CO_2 emission factor database, version 06, CEA (Government of India), http://www.cea.nic.in/reports/planning/cdm_co2/cdm_co2.htm)
- Emission factor for High Speed Diesel = 74.1 tCO_2e per TJ
  ***(Source: IPCC 4th Assessment Report,** https://www.ipcc.ch/assessment-report/ar4)*

Carbon Disclosure Project (CDP), annually discloses carbon risk by pricing carbon internally. As per its 2016 & 2017 Annual reports, Lowest and Highest Carbon Pricing reported for India are USD 2.12 and USD 29.41 respectively. (*Source: Source: **Carbon Disclosure Project, 2017. *Carbon Disclosure Project, 2016*** https://www.cdp.net/en).

Carbon pricing for India as reported in CDP were taken and Social Cost of Carbon (SCC) for India was obtained from Dynamic Integrated Climate-Economy model (referred to as the DICE model) (*Source: **William D. Nordhaus, Revisiting the Social Cost of Carbon, Yale University. November 21, 2016***). The SCC value obtained for India is USD 10 per tCO_2e. Considering average USD value for last 10 years, the cost in terms of INR is Rs. 628.29.

Total SCC for Emissions by the facility = SSC value for India (in Rs.) x Total Carbon Footprint in (tCO_2e)

For Resonance Laboratories Pvt. Ltd.

Director

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= 628.29 x 1214.68

= Rs. 7,63,171.29 say Rs. 7.63 Lakhs

All the necessary pollution control measures as per the stipulation of the KSPCB have been implemented. The existing activities have not led to contamination of ambient air, groundwater and soil as is evident from the baseline analysis reports.

It is seen from the detailed study that the violation of M/s. Resonance Laboratories Pvt. Ltd. is only regulatory lapse and the damage to the environment is negligible as all the measures stipulated in the CFO are followed.

Based on the above financial quantification of damage calculated as per Kyoto protocol during violation period and being a Socially & Environmentally responsible company, a Budgetary allocation with respect to remediation, natural and community resource augmentation plan is provided in the Table below.

Table: Budgetary allocation

Sl. No.	*Description*	*Financial provision in Rs. Lakhs*
1	Natural resource augmentation	7.63
2	Community augmentation	1.75
		9.38 say 10
Rupees Ten Lakhs Only		

The SEAC during the appraisal has recommended that Rs.15 lakhs be earmarked for natural resource and community augmentation plan. Since Resonance Laboratories Private Ltd., has under gone loss during the previous years (as detailed in Chapter 13 of EIA report) and the violation is only a regulatory lapse it is requested to allow us to make budgetary provision of Rs. 10 lakhs based on the above calculations. The details of the plan with respect to remediation of natural resource and community augmentation action are as under:

Table: Natural resource & Community Augmentation Plan

Natural resource & Community Augmentation Plan			
Sl. No.	**Activity**	**Fund Allocated (Rs. in Lakhs)**	**Time line (year wise)**
1	Augmenting the resource in government schools	8	2020-21
2	Providing solar street light within the factory premises	2	2020-21
	For Resonance Laboratories Pvt. Ltd. **Total**	**Rs. 10 Lakhs**	

Director

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