General Information	
Report Issuing to-	**The Rose Dresses Ltd., Islam Garments Ltd. & Islam Dresses Ltd.**
Project Address	Jamgora, Diakhali, Ashulia,Dhaka
Date of Inspection	1st February, 2025
Date of Report Issue	10th February, 2025
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Approved By

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Managing Director
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Acknowledgement

Eurosia ITC Services Ltd (EISL) is honored to have this opportunity for conducting Environmental Parameter Test (EPT) of **The Rose Dresses Ltd., Islam Garments Ltd. & Islam Dresses Ltd. Eurosia ITC Services Ltd (EISL)** expresses its gratitude to the Managing Director of the responsibility of conducting the Environmental Parameter Test (EPT) of **The Rose Dresses Ltd., Islam Garments Ltd. & Islam Dresses Ltd.** Members of the **EISL** technical team were impressed with the spontaneous response received from the local people in providing information. Their contribution is gratefully recognized by **Eurosia ITC Services Ltd (EISL)** special mention must be made of the people who had given time to respond to the different types of surveys, Rapid Rural Appraisal, Consultation Meetings and group discussions.

Thank you,

Md. Yeahia
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1 Overview

This GHG inventory estimates the GHG emission such as CO_2 emitted by **The Rose Dresses Ltd., Islam Garments Ltd. & Islam Dresses Ltd.** for its utility purpose. This inventory is prepared to quantify their annual CO_2 emission which will help them to incorporate carbon cost in decision making as well as to identify cost saving opportunities.

2 Scope & Boundaries

The annual GHG emission is estimated in following scopes:

- *Scope 1:* The direct emission from stationary combustion sources is considered here.
- *Scope 2:* Indirect emission from purchased electricity.
- *Scope 3:* Corporate value chain (If any).

Organizational Boundary: Total CO_2 emission is considered for the utility sector of the factory identifies that utility is the main and major source of their GHG Emission. In this inventory Scope-3 is not considered as no data has been obtained from the supply chain of the factory.

In this inventory three (3) Greenhouse gases emission are considered and these are CO_2, CH_4 & N_2O. The total GHG emission is considered for total **diesel, gas & diesel** combustion in the factory and total **punches electricity** used in this factory. Fuel properties data (Net Calorific Value, Density) are unavailable at the factory, so some assumptions are done to estimate fuel properties.

3 Reporting Period

The annual GHG Inventory is prepared for the year of **January-2024** to **December -2024**

4 Methodology

The GHG Inventory has prepared in accordance with "***Green House Gas Protocol, (version 4.1)".*** The emission of Greenhouse gases is calculated by applying ***stationary combustion tool (version 4.1)*** and following a standard work instruction stated in the EISL/ENV/WI/08 was followed.

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5 Data Management

SN.	Month	Gas Consumption (m^3)	Diesel Consumption (Ltr.)	Electricity Consumption (KW)
1	Jan-24	123109	358	27784
2	Feb-24	120520	519	25931
3	Mar-24	134028	294	19846
4	Apr-24	95796	1604	25931
5	May-24	140972	1422	26989
6	Jun-24	86528	4333	42600
7	Jul-24	66044	11189	87844
8	Aug-24	83854	7372	136262
3	Sep-24	58734	4603	61914
10	Oct-24	140949	5569	116420
11	Nov-24	157828	1116	50008
12	Dec-24	165777	3676	65089
Total Consumption		1374139	42055	686618

SN.	Month	Octone Consumption (Ltr.)	LPG Consumption (Ltr.)
1	Jan-24	1619	826
2	Feb-24	1415	802
3	Mar-24	1487	891
4	Apr-24	1278	600
5	May-24	1548	878
6	Jun-24	1175	751
7	Jul-24	1094	762
8	Aug-24	1117	775
3	Sep-24	1329	668
10	Oct-24	1412	789
11	Nov-24	1463	638
12	Dec-24	1497	678
Total Consumption		16434	9058

6 Result:

Direct Emission:

✓ *In case of Gas: (Gas Consumption of 1374139 M^3/year)*	
CO_2 Emission	CO_2 emission is ≈ **2590.197**-ton/year
CH_4 Emission	CH_4 Emission is ≈ **4.617E-02**-ton CH_4/year
N_2O Emission	N_2O Emission is ≈**4.617E-03**-ton N_2O /year
Total CO_2e Emission	**2592.713**-ton CO_2/year
	[Reference: Green House Gas Protocol, version 4.1]

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✓ *In case of Gas: (Diesel Consumption of 42055 ltr/year)*	
CO_2 Emission	CO_2 emission is ≈ **112.560**-ton/year
CH_4 Emission	CH_4 Emission is ≈ **4.557E-03**-ton CH_4/year
N_2O Emission	N_2O Emission is ≈**9.114E-04**-ton N_2O /year
Total CO_2e Emission	**112.929**-ton CO_2/year
	[Reference: Green House Gas Protocol, version 4.1]

✓ *In case of Gas: (Octone Consumption of 16434 ltr/year)*	
CO_2 Emission	CO_2 emission is ≈ **37.335**-ton/year
CH_4 Emission	CH_4 Emission is ≈ **1.616E-03**-ton CH_4/year
N_2O Emission	N_2O Emission is ≈ **3.232E-04**-ton N_2O /year
Total CO_2e Emission	**37.466**-ton CO_2/year
	[Reference: Green House Gas Protocol, version 4.1]

✓ *In case of Gas: (LPG Consumption of 9058 ltr/year)*	
CO_2 Emission	CO_2 emission is ≈ **14.599**-ton/year
CH_4 Emission	CH_4 Emission is ≈ **2.314E-04**-ton CH_4/year
N_2O Emission	N_2O Emission is ≈ **2.314E-05**-ton N_2O /year
Total CO_2e Emission	**14.611**-ton CO_2/year
	[Reference: Green House Gas Protocol, version 4.1]

Indirect Emission from Purchase Electricity

- ***From Electricity Consumption*** **(Electricity Consumption of 686618 KWH/year)**

Total CO_2e Emission = (686.618 MWH/year) X (0.67-ton CO_2/MWH) [4]

= 460.03406-ton CO_2/year

TOTAL GHG EMISSION = (2592.713+112.929 + 37.466+14.611+460.03406) ton CO_2/year

= 3217.75306-ton CO_2/year

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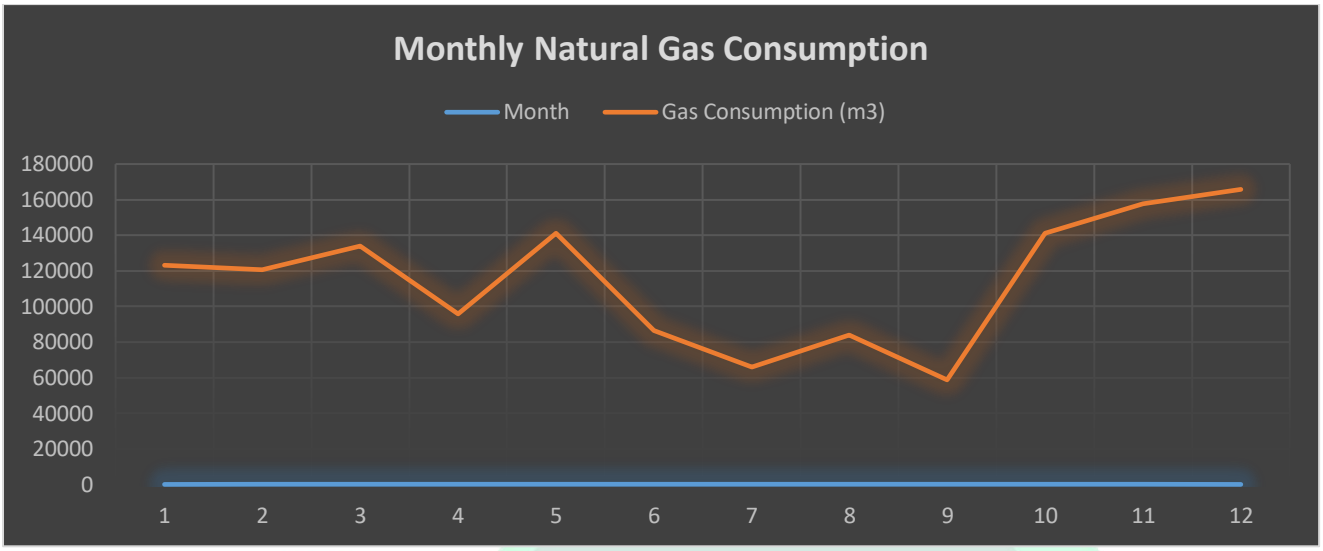
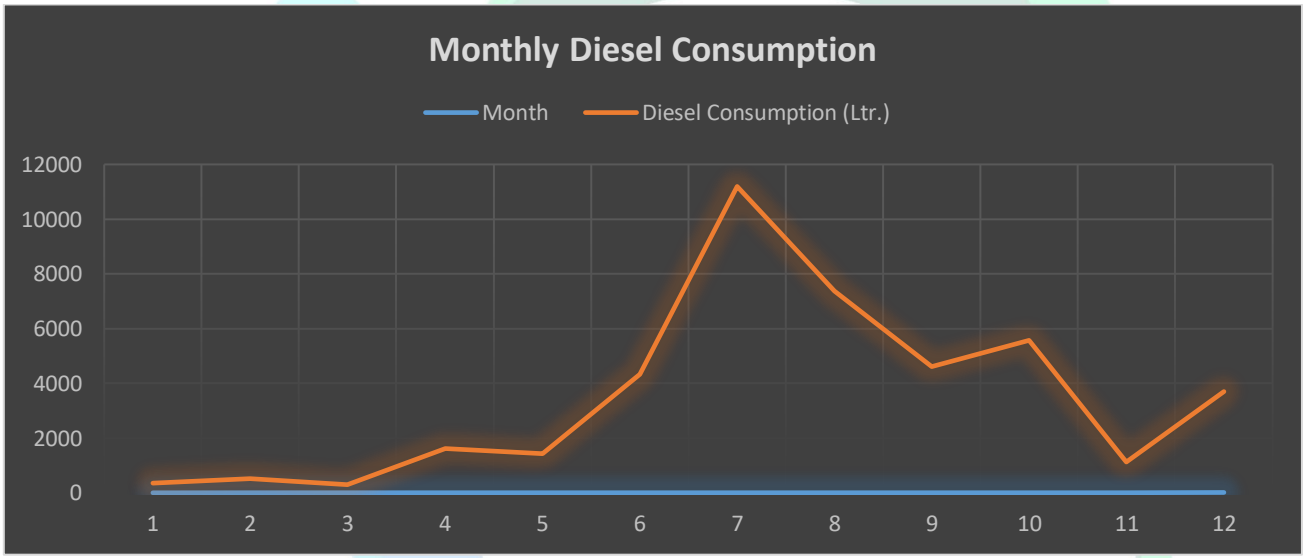
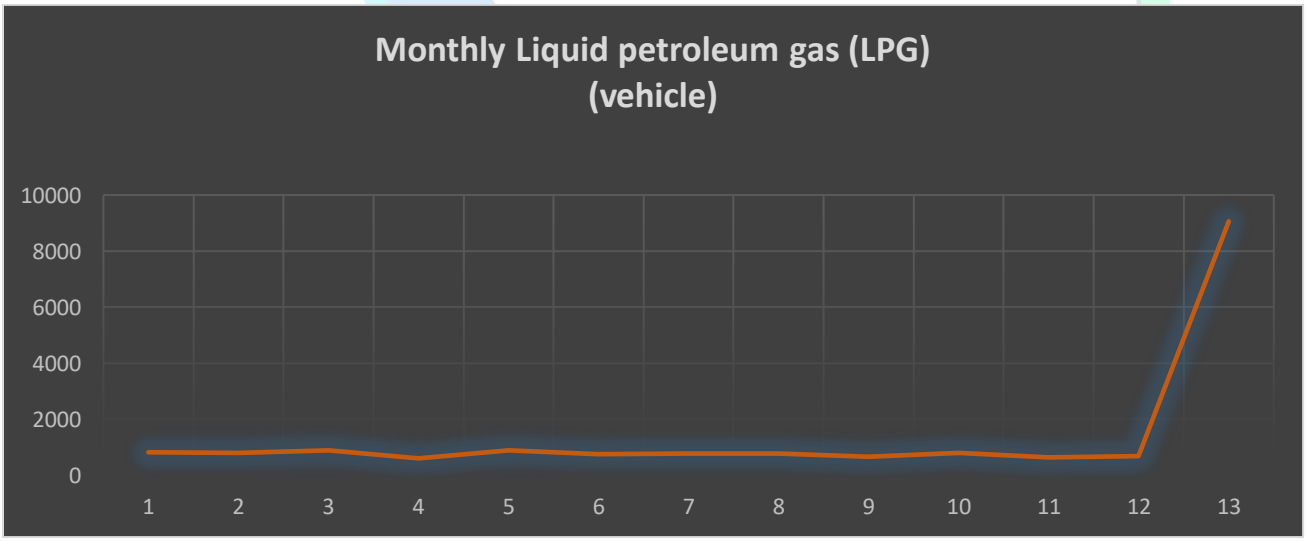
7 Graphical Representation of Results:







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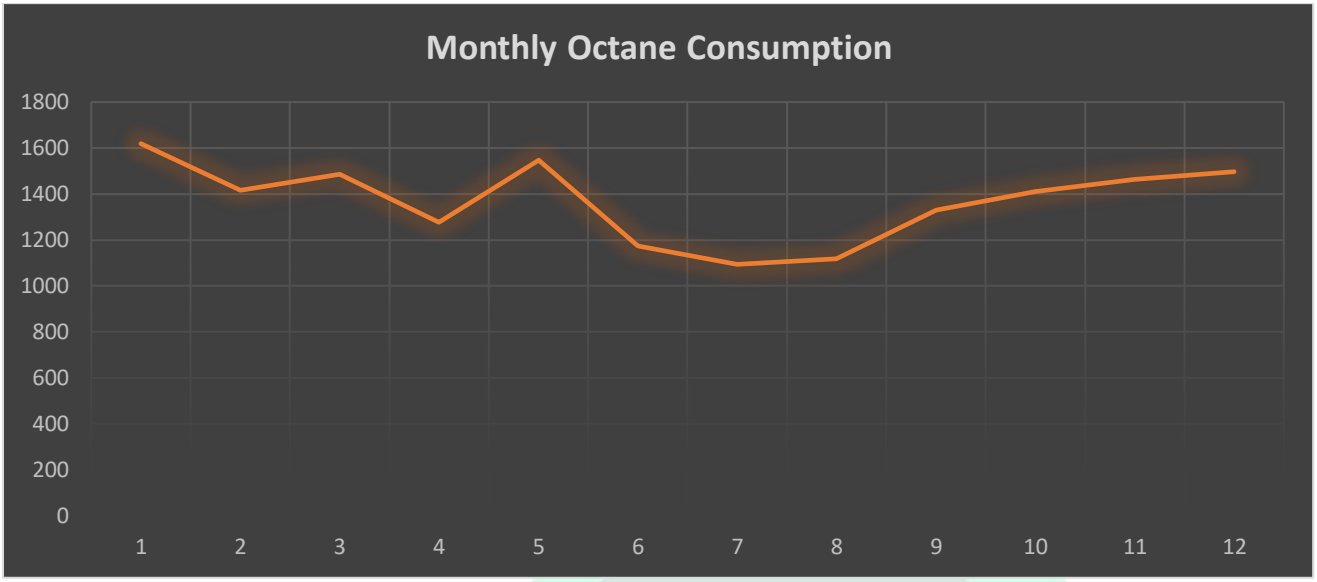

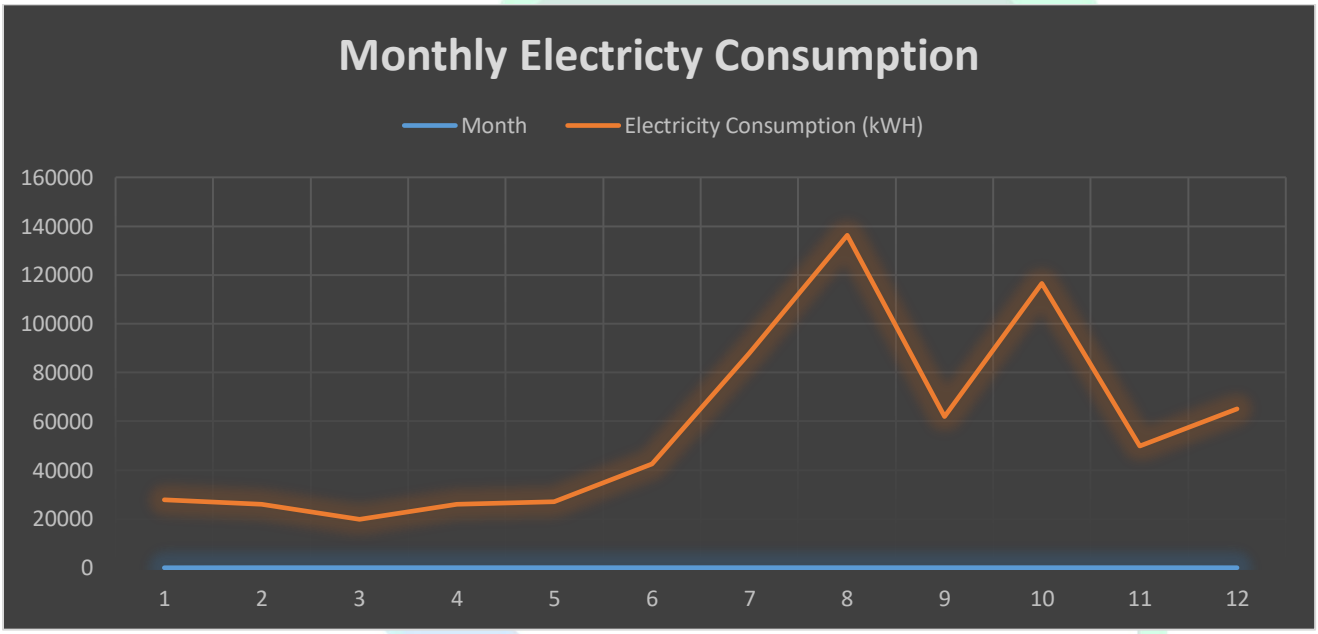

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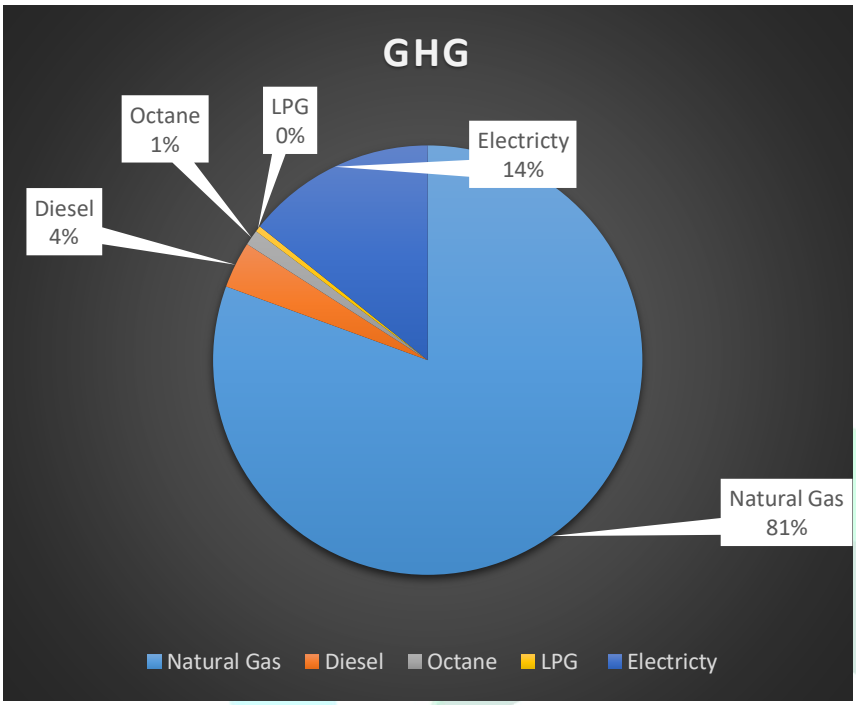

Source	Qunt.
Natural Gas	2592.713
Diesel	112.929
Octane	37.466
LPG	14.611
Electricty	460.0341
Total	**3217.7531**

Figure: Annual GHG Emission Percentage.

Comment: From the GHG Inventory it has been observed that 86% (**2757.719-ton** CO_2/year) of CO_2 is emitted from ***SCOPE:01*** direct emission i.e. from natural Gas, LPG, Octone & Diesel consumption. On the other hand, remaining 14% (**460.03406-ton** CO_2/year) of CO_2 is emitted from ***SCOPE:02*** direct emission i.e. from purchased electricity. It is also found that the emission of CH_4 & N_2O is negligible comparing with CO_2 emission. Furthermore, facility is interested to reduce GHG emission so that carbon management plan is given below.

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8 Carbon Management Plan

8.1 Introduction

This Greenhouse Gas Emissions Reduction Plan (GHG Plan) was prepared as a requirement of factory proponent according to fulfillment of their buyer's requirements. Mitigation Measure was developed during environmental review of Cleanup Plan, Offsite Properties within the Exide Preliminary Investigation Area (referred to as the Cleanup Plan or Project). The purpose and origins of the measure are described in DTSC's Final Environmental Impact Report (EIR) for the Project (State Clearinghouse No. 2016061032). The purpose of the GHG Plan is to monitor and track greenhouse gas emissions as well as to mitigate such emissions if needed to ensure the Project has less than significant impacts on the environment.

8.2 Mitigation Measure

1. Planting of new drought-tolerant and native trees of appropriate size and type for the property that would result in a net sequestration of CO_2 emissions (up to a maximum of two new trees per residential property with property owner permission and based on available funding).
2. Conduct a building energy efficiency audit in accordance with industry standard methods to identify nonstructural retrofits to existing buildings to improve the energy performance. Based on the results of the energy efficiency audit, retrofits may include, but are not limited to, weatherization (e.g., upgraded building insulation, upgraded energy-efficient glazing, reduction of air leakage from window and door seals), installation of smart thermostats, energy efficient lighting upgrades, water efficient faucet and showerhead upgrades, heating, ventilation, and air conditioning (HVAC) system maintenance, or other nonstructural energy efficiency improvements in accordance with state and local permitting standards.
3. Coordinating with property owners, for the installation of "cool roofs", i.e. a roofing system that delivers higher solar reflectance and higher thermal emittance than standard roofing products, with the goal of meeting Title 7 (2016) cool roof performance standards.
4. Coordinating with property owners for the installation of rooftop solar photovoltaic panels or solar water heating in accordance with state and local permitting standards on existing buildings at properties under cleanup. This measure only applies to existing buildings that do not require structural load-bearing improvements to accommodate the solar panels or water heaters and related electrical wiring, inverters, conduits, service panels, metering equipment or other necessary equipment. Solar panels may

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only be installed on rooftops with areas that meet the solar zone requirements in Section 110.10 of the Title 7 (2016) mandatory requirements.
This measure does not provide for on-going maintenance. Post-installation maintenance and costs shall be borne by the property owner.

5. Reviewing, at least once a year, commercial availability of alternatives to diesel powered on-road and off-road equipment. If commercially available in the region, contractors shall be required to use equipment capable of performing the cleanup activities in a comparable manner (with respect to time, safety, etc.) which results in appreciable GHG reductions.
6. Purchasing carbon credits from a reputable carbon market. The plan shall devise mitigation with a priority on fiscal considerations in order to reserve Project funds, to the extent feasible, for actual cleanups. The plan may also include provisions to seek grant funding or other mechanisms to leverage other existing programs that address energy reduction or urban forestation.

8.3 Plan Overview

The GHG Plan is designed to describe a program for ensuring compliance with Mitigation Measure GHG-1, including assurance that the Project GHG emissions will be monitored appropriately for the purpose of reducing GHG emissions impacts to a less than significant level. The organization of the GHG Plan includes:

- Introduction of Role, Responsibility, and Process for Implementation
- Summary of Projected GHG Emissions and Thresholds of Significance
- Process for Tracking and Monitoring GHG Emissions
- Analysis of GHG Reduction Measures to Select and Implement as Necessary

8.4 Project Management Team

- **GHG Mitigation Manager (GHGMM)** – An experienced compliance and GHG assessment specialist will have primary responsibility for ensuring compliance with the requirements of this GHG Plan, and for training and directing GHGMM Delegates. The GHGMM will be employed by the contractor executing the Cleanup Plan.
- **GHGMM Delegate(s)** – The GHGMM Delegate(s) will be employed by the factory and will have responsibility for assisting the GHGMM and will represent the GHGMM when the GHGMM is not present at the site.
- **Workers** – Workers at the work site, including management personnel and will be trained by the GHGMM and GHGMM Delegates to conduct all activities in accordance with the requirements of this GHG Plan, including providing information and resources as necessary to appropriately keep records and monitor GHG emissions. The management personnel will work with the GHGMM to facilitate this training, which will be conducted as necessary throughout the facility.

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8.5 GHG Plan Implementation Approach

In order to meet the required measures to reduce GHG emissions during and after remediation, the GHG Plan has been designed with the following provisions:

- The GHGMM and his/her representatives will be at the cleanup site(s) during work hours at least once per week of the Project period to ensure that proper records are being kept and collect the fuel logs (and any other data as necessary).
- The GHGMM or a GHGMM Delegate will annually review the commercial availability of alternatives to diesel powered on-road and off-road equipment. If commercially available in the region, the GHGMM or a GHGMM Delegate will evaluate whether alternative equipment can perform the cleanup activities in a comparable manner (with respect to time, safety, and effectiveness). If the alternative equipment is determined to meet those standards, the GHGMM or a GHGMM Delegate will ensure the use of that equipment by contractors.
- The GHGMM or GHGMM Delegate(s) will have full access to all areas of the remediation site, and will have the authority to stop any or all Project activities as may be warranted by applicable GHG mitigation conditions.
- The GHGMM or GHGMM Delegate(s) may have other responsibilities in addition to meeting the requirements of this GHG Plan.

8.6 GHG Reduction Measures

This section outlines the specific measures that can be employed as necessary to reduce the Project's annual GHG emissions and describes the measures that can be implemented to ensure and document successful enforcement of these conditions.

8.7 Facility Design Features and Measure to Reduce GHGs during Cleanup

The Project shall comply with the use of low carbon vehicle fuels.

- All off-road diesel equipment greater than 50 horsepower (hp) used for this facility shall meet USEPA Tier 4 off-road emission standards. Documentation of all off-road diesel equipment used for this facility including Tier 4 certification shall be maintained. If Tier 4 equipment is not available, all off-road diesel-powered equipment greater than 50 hp shall meet USEPA Tier 3 emissions standards where available. All equipment shall be outfitted with Best Available Control Technology (BACT) devices including a CARB certified Level 3 Diesel Particulate Filter or equivalent.
- Idling of on- and off-road heavy-duty diesel vehicles for more than five minutes at a time is prohibited. Exemptions to the idling rule include heavy traffic conditions, queuing beyond 100 feet from sensitive land uses, and forced to remain motionless due to weather or safety inspection activities.

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8.8 GHG Reduction Measures to Reduce GHG Impacts to A Less Than Significant Level When Necessary

8.8.1 Planting Trees to Sequester carbon:

If GHG Reduction Measures are necessary, the measures may include planting of new drought-tolerant, high-carbon sequestering, and/or native trees of appropriate size and type for the property that would result in a net sequestration of CO_2 emissions (up to a maximum of two new trees per residential property with property owner permission).

8.8.2 Building Energy Efficiency Audits and Performance Improvements

If GHG Reduction Measures are necessary than property owners can conduct building energy efficiency audits in accordance with industry standard methods to identify non-structural retrofits to existing buildings to improve the energy performance. Based on the results of the energy efficiency audits, retrofits may include, but are not limited to, weatherization (e.g., upgraded building insulation, upgraded energy-efficient glazing, reduction of air leakage from window and door seals), installation of smart thermostats, energy efficient lighting upgrades, water efficient faucet and showerhead upgrades, heating, ventilation, and air conditioning (HVAC) system maintenance, or other non-structural energy efficiency improvements in accordance with state and local permitting standards.

8.8.3 Cool Roofing Systems

If GHG Reduction Measures are necessary, the measures may include coordinating with property owners, for the installation of "cool roofs" (i.e., a roofing system that delivers higher solar reflectance and higher thermal emittance than standard roofing products).

8.8.5 GHG Offset Credits

If GHG Reduction Measures are necessary, the measures may include carbon offset credits certified from a reputable carbon standard including any one of the following:

- American Carbon Registry
- Climate Action Reserve
- Verified Carbon Standard

Other offset credits could be eligible for purchase, if they can be demonstrated to meet the standards of real, additional, quantifiable, permanent, verifiable and enforceable.

References

[1] 2006 IPCC Guidelines for National Greenhouse Gas Inventories for Stationary Combustion, Volume2: Energy, Chapter 2- "Table 2.3 – Default Emission Factors for Stationary Combustion for Manufacturing Industries and Construction"

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[2] *2006 IPCC, Volume 2, Energy, "Table 1.2- Default Net Calorific Values (NCV) and Lower and Upper Limits of the 35 % Confidence Intervals".*

[3] 2.10.2 Direct Global Warming Potentials, IPCC Fourth Assessment Report: Climate Change 2007

[4] *"New Grid Emission Factor"- http://www.doe.gov.bd/old/gef.html*

[5] "USAID CCEB: Task 2 – Baseline Assessment Report"- *http://www.cleanenergybd.org/index.php/component/jdownloads/viewdownload/4-resource center/13-task-2-1-baseline-assessment-report-final*

[6] "Properties of Liquids"- http://webserver.dmt.upm.es/~isidory o/dat1/eLIQ.pdf

[7] "LPG Basic and Grades" *-www.primove.in/images/LPG-Basics-and-Grades.pdf LPG is considered Butane based gas and the density is estimated at gaseous state.*

[8] *Green House Gas Protocol, Stationary combustion tool (Version 4.1).*

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