

ACR 814. Supplemental Project Documentation

March, 10th, 2023

ODS projects results in permanent destruction of greenhouse gases. The key components that establish the quantifiable impact of these projects include documentation that 1) establishes that the ODS materials were collected and moved through a traceable chain of custody to a qualified destruction facility; 2) a Certificate of Destruction for the ODS material contained in the project; 3) calculations of the climate impact based on emission factors and requirements of the offset protocol.

Chain of Custody and Ownership Documentation

Chain of custody and ownership documentation is collected and maintained beginning at the point of origin through destruction. This flow diagram outlines the parties involved throughout the custody and material movement process. Material from the point of origin is aggregated into an ISO tank, a sample is taken and analyzed, and the material is moved to final destruction to a qualified destruction facility (Waste Management Siam, Samut Prakarn, Thailand).

Certificate of destruction

The Certificate of Destruction is provided by the qualified destruction facility (Waste Management Siam) certifying the dates, mass and species of materials contained in the ISO tank and destroyed.

GHG Emissions Reduction Assertion Spreadsheet

Project data and greenhouse gas emissions reductions are quantified by comparing actual project emissions to calculated baseline emissions in the absence of the Project (the destruction of materials contained in the ISO tank and destroyed at WMS). Calculation methods, factors, and constants are applied per the provisions and equations in this Methodology.

Credits were allocated as follows: 78 271 tCO_{2e} in 2022 and 113 973 tCO_{2e} in 2023 for a total of 192 244 tCO_{2e}

A

Customs "Source" Locations

Project: Thailand 1.0

Investigation & Suppression Bureau, Bangkok

Bangkok Port Customs

Hay Yai Airport

Bang Sao Thong Customs

Bandon Customs House

Padang Besar Customs House

Chongmek Customs House

Prachuap Kirikhan Customs House

Satun Customs House

Aranyaprathet Customs House

Chiangkong Customs House

Mukdanhan Customs House

B

Movement by Truck

C

WMS warehouse

D

Consolidation into ISO tank

BNFU622110 9 (ISO 01)

E

WMS destruction facility

A

Transfer of Ownership Customs to WMS

- Location
- Number of cylinders per refrigerant type
- Number of case files

C

Transfer of Ownership WMS to Tradewater

Transfer of Ownership

B

Delivery Manifest(s)

- Indicate:
- Location
 - Date of delivery
 - Number of cylinders per refrigerant type

Truck Manifest(s)

- Indicate:
- Date of delivery
 - Truck ID number

Chain of Custody

D

Consolidation Report

- Indicate:
- Crate ID number
 - Cylinder ID number
 - ISO tank ID number

Certificate of Destruction

Project Information

Destruction Facility

WMS

Project Proponent

Tradewater International
1550 W Carroll Ave. STE 213

Address

Chicago, IL 60607

Certificate ID BP 001

ISO tank ID number ISO 1

Feed Tank Serial Number BNFU6221109

The following quantity of Ozone Depleting Substances was destroyed:

Destruction Start

Date and Time Dec, 17, 2022 (7:00 A.M.)

Starting Batch Weight

40490 kg

Ending Batch Weight

20570 kg

Destruction End

Date and Time Jan, 23, 2023 (2:15 A.M.)

Residue/Oil level

-16.98 kg

Total Weight Destroyed

19937 kg

The sample was analyzed by *Bureau Veritas* to quantify the amount of each compound present. The sample contains:

Compound	Percent Composition (%)
R-12	>99.9

WMS Representative


Mr. Arpakan Pompet

Title

Environmental Supervisor

Date

23/01/2023

Reference Values Obtained from ODS Protocol for CFC-12, CFC-11, CFC-113, CFC-114, CFC-115- Credits for 2022

		CFC-12	CFC-11	CFC-113	CFC-113	CFC-114	CFC-115	
CFC-12 10-Year Cumulative Emissions Rate (%/10 Years)	ER	95%	89%	61%	89%	78%	61%	Sec. 5.1.1 (Table 5.2)
Refrigerant Substitute Emissions Factor (tCO ₂ e/tODS)	SE	686	223	7144	220	659	1139	Sec 5.2.1 (Table 5.4)
Global Warming Potential (tCO ₂ e/tODS)	GWP	10900	4750	14400	6130	10000	7370	Sec. 5.1 (Table 5.1)
Default Emission Factor for Transportation and Destruction of ODS (tCO ₂ e/tODS)	EF	7.5						Sec. 5.2.3

	Refrigerant Type	Measured Values		Gross Quantity of Refrigerant Destroyed (kg)	Moisture Reduction	High Boiling Residue Reduction	Total Eligible Refrigerant Destroyed (kg)	Quantity of Refrigerant Destroyed (metric tonnes)	GHG Emissions from Substitute Refrigerants	Quantity of ODS Transported to Destruction Facility	Transportation and Destruction Default Emissions Factor (tCO ₂ e)	Total Project Emissions (tCO ₂ e)	Total Project Baseline Emissions (tCO ₂ e)	Total GHG Emissions Reductions (tCO ₂ e)
		Mass of ODS in COD in kg	Concentration of ODS in Tranche											
		m	c	Q _g	mr	hbr	Q	Q _{ref}	Sub _{ref}	Q _t	Def	PE	BE _{ref}	ER
				Q _g = m x c			Q = Q _g - (Q _g x mr) (Q _g x hbr)	Q _{ref} = Q x .45359/1000	Sub _{ref} = Q _{ref} x SE		Def = Q _t x EF	PE = Sub _{ref} + Def	BE _{ref} = Q _{ref} x ER x GWP	ER = BE _{ref} - PE
ISO 01	CFC-12		99.90%	8102.19			8101.35	8.10	5557.52				83889	
ISO 01	CFC-11		0.00%	0.00			0.00	0.00	0.00				0	
ISO 01	CFC-13	8110.3	0.00%	0.00	0.000004	0.00010	0.00	0.00	0.00	8.11030	60.83	5618	0	78271
ISO 01	CFC-113		0.00%	0.00			0.00	0.00	0.00				0	
ISO 01	CFC-114		0.00%	0.00			0.00	0.00	0.00				0	
ISO 01	CFC-115		0.00%	0.00			0.00	0.00	0.00				0	

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ISO 01	CFC-12		99.90%	11797.89			11796.66	11.80	8092.51				122154	
ISO 01	CFC-11		0.00%	0.00			0.00	0.00	0.00				0	
ISO 01	CFC-113	11809.7	0.00%	0.00	0.000004	0.00010	0.00	0.00	0.00	11.80970	88.57	8181	0	113973
ISO 01	CFC-113		0.00%	0.00			0.00	0.00	0.00				0	
ISO 01	CFC-114		0.00%	0.00			0.00	0.00	0.00				0	
ISO 01	CFC-115		0.00%	0.00			0.00	0.00	0.00				0	