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01 December 2023

Ms. Adriana Vargas Corrales
Verification and Logistics Associate
Tradewater, LLC
San Jose, Costa Rica

Validation/Verification Report
Project Plan and Monitoring Report for Tradewater – Thailand 4 (ACR903), Tradewater, LLC,
Samutprakarn, Muang Samutprakarn, Thailand under ACR

Dear Ms. Corrales

1. Introduction

Tradewater, LLC (Client) retained GHD Services Inc (GHD) to undertake a validation/verification of the Tradewater - Thailand 4 Offset Project (Project) for the June 13, 2023 – July 24, 2023 reporting period. The Project is located in Samutprakarn, Muang Samutprakarn, Thailand and follows the requirements of ACR's voluntary offset program (Program). The Project is listed under the Program ID: ACR903.

Tradewater is the Project Proponent for the Project and is responsible for the preparation and fair presentation of the Project Plan, Monitoring Report, and emissions reductions.

The Project utilizes the "Methodology for the Quantification, Monitoring, Reporting and Verification of Greenhouse Gas Emissions Reductions and Removals from the Destruction of Ozone Depleting Substances from International Sources", Version 1.0, dated April 2021 (ACR Methodology).

GHD has prepared this Validation/Verification Report in accordance with ISO Standard *ISO 14064 Greenhouse gases - Part 3: Specification with guidance for the validation and verification of greenhouse gas assertions (ISO 14064-3:2019)* and with the Program requirements.

2. Validation/Verification Objective

The objective of the validation is to provide the Client and the Program with an opinion on whether the Project Plan for the reporting period meets the validation criteria identified in the Program and is free of material misstatements and that the information reported is accurate and consistent with the requirements of the Program.

The objective of the verification is to provide Client and the Program with an opinion on whether the Project Monitoring Report (Report) for the reporting period is free of material misstatements and that the information reported is accurate and consistent with the requirements of the Program.

GHD is responsible for expressing an opinion on the reported GHG emissions reductions based on the validation/verification.

3. Level of Assurance

The verification was conducted to a reasonable level of assurance as per the requirements of the ACR standard.

Based on this level of assurance, GHD determined whether the Project's assertions are:

- Materially correct, free of misstatements and an accurate representation of the GHG data and information.
- The Project Report and documentation were prepared in accordance with the requirements of the ACR Standard and in accordance with the applicable GHG quantification, monitoring and reporting, standards or practices.

If validation/verification opinions could be provided, they were worded in a manner to meet the requirements set forth in the ACR standard.

4. Validation/Verification Standards

For the validation/verification, GHD applied ISO 14064-3:2019 and the Program validation/verification standards.

5. Validation/Verification Criteria

GHD applied the following validation/verification criteria:

- ISO 14064 Greenhouse gases - Part 2: Specification with guidance at the project level for quantification, monitoring and reporting of greenhouse gas emission reductions or removal enhancements, ISO, April 2019 (ISO 14064-2)
- ISO 14064 Greenhouse Gases - Part 3: Specification with guidance for the verification and validation of greenhouse gas statements, ISO, April 2019 (ISO 14064-3)
- International Accreditation Forum Mandatory Document for the Use of Information and Communication Technology for Auditing/Assessment Purposes: Issue 2, July 2018 (IAF MD 4: 2018)
- *ACR Standard, Requirements and Specifications for the Quantification, Monitoring, Reporting, Verification, and Registration of Project Based GHG Emissions Reductions and Removals*, Version 8.0, dated July 2023 (ACR Standard) *
- *ACR Validation and Verification Standard*, Version 1.1, May 2018 (ACR V/V Standard)
- *Methodology for the Quantification, Monitoring, Reporting and Verification of Greenhouse Gas Emissions Reductions and Removals from the Destruction of Ozone Depleting Substances from International Sources*, ACR, Version 1.0, April 2021 (Methodology)
- *Destruction of Ozone Depleting Substances from International Sources V1.0., Errata & Clarification*, ACR, May 5, 2022 (E&C) *

Note:

* - Denotes change from Proposal or Initial Verification Plan

6. Validation/Verification Team and Independent Reviewer

6.1 Roles and Responsibilities

Lead Validator/Verifier/Technical Expert – Gordon Reusing – Mr. Reusing led the validation/verification and was responsible for development of the validation/verification plan. Mr. Reusing reviewed the risk assessment and evidence gathering plan, recalculation of raw data, data management and draft findings. Mr. Reusing reviewed and signed the validation/verification opinion and validation/verification report. Mr. Reusing conducted a site visit of the Project Site.

Co-Lead Validator/Verifier/Technical Expert – Anothai Setameteekul – Ms. Setameteekul led the validation/verification and was responsible for development of the validation/verification plan. Mr. Reusing reviewed the risk assessment and evidence gathering plan, recalculation of raw data, data management and draft findings. Ms. Setameteekul and signed the validation/verification opinion and validation/verification report. Ms. Setameteekul conducted a site visit of the Project Site.

Validator/Verifier – Angela Kuttemperoor – Ms. Kuttemperoor developed and revised the validation/verification plan and evidence gathering plan, developed a risk assessment, recalculated raw data, reviewed management of data quality and prepared draft findings. Ms. Kuttemperoor conducted a site visit of the Project Site.

Independent Reviewer/Technical Expert – Deacon Liddy – Mr. Liddy conducted an independent review of the risk assessment, validation/verification plan, validation/verification report, and findings. Mr. Liddy approved the issuance of the opinion.

6.2 Qualifications

Gordon Reusing, M. Sc., P. Eng.	Role: Lead Validator/Verifier
<p>Professional Summary Mr. Reusing is a greenhouse gas (GHG) Lead Verifier, Lead Validator, and Peer Reviewer with extensive experience including GHG programmes in Alberta, British Columbia, Ontario, Quebec, Nova Scotia, California, and programmes operated by the United Nations Framework Convention on Climate Change (UNFCCC) Clean Development Mechanism (CDM), The Gold Standard, The Climate Registry (TCR), the Carbon Disclosure Project (CDP), and Verra: Verified Carbon Standard (VCS). Mr. Reusing has completed numerous GHG quantification studies for the oil and gas sector, including upstream, midstream, and downstream facilities. Mr. Reusing has conducted GHG verifications as a Lead Verifier, Technical Expert and Peer Reviewer in many jurisdictions, including, but not limited to, the Alberta Carbon Competitiveness Incentive Regulation (CCIR), Ontario Regulations, British Columbia Greenhouse Gas Reduction (Cap and Trade) Act, (B.C. Reg. 272/2009), and Quebec Regulation R.Q.c.Q 2, r.15 (Quebec Regulation).</p>	

Anothai Setameteekul, P. Eng.	Role: Co-Lead Validator/Verifier
<p>Professional Summary Ms. Setameteekul is a GHG and Air Emissions Engineer based in GHD's Calgary office and is a licensed Professional Engineer in the provinces of Alberta and Saskatchewan. She has extensive knowledge and experience in GHG quantification and verification in particular industrial facilities – Oil Sands (In Situ, Mining, Upgrader operations), Hydrogen Production, Petrochemical, Cement, Refinery, Natural Gas Processing, Natural Gas Power Generation with Cogeneration, and Steel Manufacturing. She is familiar with the GHG Regulation in Canadian jurisdictions including British Columbia, Alberta, and Ontario. Ms. Setameteekul is also accredited by the California Air Resource Board as a lead verifier of greenhouse gas emissions for Oil and Gas system, process emissions sectors, fuel pathways, alternative fuel transactions and petroleum-based fuel report. Ms. Setameteekul is also accredited by the Washington State as a verifier. Ms. Setameteekul also has experience working in the accreditation audit process for GHD by ANAB and has training and knowledge of the ISO 14064 and ISO 14065 standards.</p> <p>Ms. Setameteekul graduated with a Masters degree in Industrial System Engineering from the University of Regina. Ms. Setameteekul worked as a research assistant in International Testing Center for CO2 Capture (ITC). Her work was related to CO2 capture using chemical absorption process. Ms. Setameteekul also worked as a process engineer to evaluate process performance such as process efficiency, air emissions, liquid effluent, waste, and utility consumption at a carbon capture test facility.</p>	

Angela Kuttemperoor, E.I.T.

Role: Validator/Verifier

Professional Summary | Ms. Kuttemperoor is an Air Engineer-In-Training with GHD's Greenhouse Gas Assurances Services Team and has 2 years of experience in greenhouse gas verification work. Ms. Kuttemperoor has a Bachelor's of Environmental Engineering (co-op) from the University of Guelph. Ms. Kuttemperoor has experience as a verifier under the Ontario Emissions Performance Standards program and federal Output-based Performance Standards program. Ms. Kuttemperoor has expertise in voluntary offset project validations and verifications conducted under the Climate Action Reserve, ACR and Verified Carbon Standard for landfill gas destruction and ozone-depleting substances destruction projects. Ms. Kuttemperoor has experience with compliance offset verifications for ozone-depleting substances conducted under the California Air Resources Board. Ms. Kuttemperoor has experience in verifications conducted under the Carbon Offsetting and Reduction Scheme for International Aviation.

Deacon Liddy, P. Eng.

Role: Technical Reviewer and Technical Expert

Professional Summary | Mr. Liddy is a Principal with GHD and an experienced GHG validator and verifier, having completed over 100 GHG validation/verifications with 17 years of experience. Mr. Liddy works with large industrial facilities, Provincial governments, and offset project developers to complete risk-based verifications. Mr. Liddy has been the lead verifier for completion of greenhouse gas verifications conducted on behalf of Alberta Environment for emission offset projects for landfill gas, biomass, tillage, composting and fuel switching for lumber kilns. Mr. Liddy has completed verifications of greenhouse gas emission intensity baseline applications and annual compliance reports under the Alberta Specified Gas Emitters Regulation and British Columbia Mandatory Reporting Regulation. Mr. Liddy is a professional engineer in BC, Alberta, and Saskatchewan.

7. Project Description

The Project involves the destruction of eligible ODS refrigerant obtained from the Government of Thailand's Customs Department where ODS had been stockpiled since 2007. The ODS material is aggregated at the WMS Warehouse, prior to transport to the WMS destruction facility in Samutprakarn, Thailand. The ODS is transferred from small cylinders to a few larger ISO tanks, where the ODS is destroyed using fluidized bed incineration technology. Truck scales are used to determine the weight of ODS destroyed by weighing the trucks arriving and departing from the destruction facility. Tradewater utilizes a methodology deviation for the ODS weighing procedure. WMS personnel conduct sampling of the ODS and composition analysis occurs at a third-party lab in Belgium, Bureau Veritas Commodities Antwerp N.V. The weight and ODS composition of the ODS is used to determine the carbon credits generated by the Project. A secondary procedure is used for measuring the weights of the small cylinders of ODS using electronic balances, that are aggregated and destroyed in the larger ISO tanks. From this procedure, a Consolidation report is generated which is used as the offset title for the Project. WMS transfers ownership of the ODS cylinders and ownership of all carbon credits generated from the Project to Tradewater.

7.1 Client Contact

Ms. Adriana Vargas Corrales, Mr. Tip Stama and Ms. Gina Sabatini were GHD's Client contacts for this validation/verification.

8. Validation/Verification Scope

The following sections describe the scope of the validation/verification.

8.1 Project Boundary

The Project is broken down into the following greenhouse gas Sources, Sinks and Reservoirs (SSRs) to be included, as defined in the Program's Protocol:

Baseline:

- SSR 6 – Emissions from ODS from use, leaks and servicing through continued operation of equipment – (ODS)

Project:

- SSR 5 – Transport to Destruction Facility – Carbon Dioxide (CO₂)
- SSR 6 – Emissions of substitute from use, leaks and servicing through continued operation of equipment – CO₂e
- SSR 7:
 - Emissions from ODS from incomplete destruction at destruction facility (ODS)
 - Emissions from the oxidation of carbon contained in destroyed ODS (CO₂)
 - Fossil fuel emissions from the destruction of ODS at destruction facility (CO₂)
 - Indirect emissions from the use of grid-delivered electricity (CO₂)

8.2 Geographical and Operational Boundaries

The validation/verification included the SSRs from the Project Site located at the following address:

Waste Management Siam Company Ltd
965 Moo 2 Soi 3B Bangpoo Industrial Estate
Sukhumvit Rd Bangpoo Mai
Muang Samutprakarn
Samutprakarn 10280
Thailand

8.3 Project Start Date, Reporting and Crediting Period

The start date for the Project is June 13, 2023. The crediting period is from June 13, 2023 – June 12, 2033.

The reporting period for this validation and verification for the Project is from June 13, 2023 – July 24, 2023.

8.4 Use of this Report

The validation/verification report was prepared for the use of Client and the Program.

References from GHD's Validation/Verification Report must use the language in which the opinion was issued, and reference the date of issuance of GHD's report, the applicable validation/verification period and the associated program for which the validation/verification was conducted. The GHG assertion provided by GHD can be freely used by Client for marketing or other purposes other than in a manner misleading to the reader. The GHD mark shall not be used by Client in any way that might mislead the reader about the validation/verification status of the organization. The GHD mark can only be used with the expressed consent of GHD and then, only in relation to the specific time period validated/verified by GHD.

8.5 Use of Information and Communication Technology

As part of the validation/verification process, GHD utilized information and communication technology (ICT) in accordance with IAF Mandatory Document for the use of Information and Communication Technology for Auditing/Assessment Purposes (IAF MD 4:2018) for various aspects of the validation/verification, including conducting video/tele-conferencing with various personnel up to full virtual site visits.

The decision to use ICT permissible if GHD and Client agreed on using ICT. The agreed ICT method was MS Teams. By accepting GHD’s proposal dated August 18, 2023, Client agreed to the use of the afore mentioned ICT methods and their associated information security, data protection and confidentiality measures. Any other ICT method(s) was agreed to in writing (email) between GHD and Client prior to use. The parties did not agree to the use of an ICT method which either party did not have the necessary infrastructure to support. Throughout the entire validation/verification process, including use of ICT, GHD abided by the confidentiality procedures.

8.6 Reported GHG Emissions and Emissions Reductions

The reported baseline and project emissions and emissions reductions includes the following, as listed in the Monitoring Report and Project Plan:

Table 8.1 Reported Emissions

Vintage	Baseline Emissions (tonnes CO ₂ e)	Project Emissions (tonnes CO ₂ e)	GHG Reductions/Removals (Emissions Reduction Tonnes)
Reporting Period in 2023	190,848	13,607	177,241

9. Strategic Analysis

To understand the activities and complexity of the Project, and to determine the nature and extent of the validation/verification activities, GHD has completed a strategic analysis. The strategic analysis involves consideration of the details of the Project Site and its operations, the Project Plan and Monitoring Report and their preparation, and the validation/verification requirements per the Program. The information considered in the strategic analysis is documented in GHD’s working papers and was used to inform the assessment of risks and the development of an evidence gathering plan.

10. Assessment of Risk and Magnitude of Potential Errors, Omissions or Misrepresentations

GHD conducted an assessment of the risk and magnitude of potential errors, omissions or misrepresentations associated with the Project Plan assertion and Monitoring Report. GHD then identified areas where qualitative or quantitative errors could occur and assigned risks to the areas. The inherent and control risks were evaluated, and detection risks were established. The risks were identified as high, medium and low. The risk assessment was a key input to developing an effective evidence gathering plan.

11. Evidence-Gathering Plan

GHD developed an Evidence Gathering Plan (EGP) for internal use based on review of the objectives, criteria, scope, and level of assurance detailed above, along with consideration of the strategic analysis and assessment of risks. The EGP was designed to lower the validation/verification risk to an acceptable level and specified the evidence (data and information) to be reviewed as part of the validation/verification in the evidence gathering activities. The EGP was reviewed and approved by the Lead Validator/Verifier prior to issuing the validation/verification plan. The EGP is dynamic and was revised, as required, throughout the course of the validation/verification. Any modifications to the EGP were reviewed and approved by the Validator/Verifier, with the final EGP completed prior to issuing the final validation/verification report and opinion.

12. Validation/Verification Plan

GHD developed a Validation/Verification Plan based on a preliminary review of the data initially provided. GHD submitted the Validation/Verification Plan to Client on September 25, 2023, prior to GHD's remote Site visit on September 27, 2023. GHD's Validation/Verification Plan was revised, as required, throughout the course of the validation/verification to address questions or initial concerns with data originally provided.

A copy of the final Validation/Verification Plan is included in Appendix A.

13. Quantitative Testing

Quantitative data or raw data was made available to GHD. GHD used the data to recalculate and check the GHG emissions reductions calculations and assess the methodologies that were used in the development of the Project Plan and Monitoring Report.

14. Materiality Level

ACR requires that the materiality threshold for the discrepancies between the reported emissions reductions and those estimated by GHD be less than +/-5%. Before a verification statement will be accepted, the individual and aggregation of errors or omissions which are found to be greater than the ACR materiality threshold, require correcting.

The % error can be calculated using the following equation:

$$\text{Percent Error} = \frac{[\text{Project Emission Reduction Assertion} - \text{Verifier Emission Reduction Recalculation}] \times 100 \text{ percent}}{\text{Verifier Emission Reduction Recalculation}}$$

Materiality was also assessed on a qualitative level, including conformance with the applicable Program and Protocol requirements. Non-conformance with Program requirements may have been considered a material error unless the Program approved a deviation request.

15. Validation/Verification Procedures

15.1 Conflict of Interest Review

The Project was submitted for listing to ACR on August 23, 2023. The ACR Standard for Projects listed subsequent to July 1, 2023 is Version 8.0. Prior to commencing the validation/verification, GHD conducted an internal conflict of interest (COI) check to determine the potential for a COI in providing validation/verification services to the Project. Based on the COI risk levels of the ACR Validation and Verification Standard, GHD identified a low risk for COI, based on the fact that GHD has previously only conducted validations/verifications for the Project Proponent. GHD recently conducted the verification/validation for Project Tradewater International – Thailand 1.0, Tradewater – Thailand 2.0 and Tradewater – Thailand 3.0 for the Project Proponent in 2022-2023.

GHD submitted the ACR COI form for the Project on August 29, 2023. The ACR provided the authorization to commence the validation/verification of the Project on September 1, 2023 and the Project verification COI is listed as approved on the ACR registry.

15.2 Kick-off Meeting

On September 11, 2023, a kick-off conference call was held between GHD and Tradewater to discuss the validation/verification scope and to provide the Project Proponent with a list of information required by GHD to initiate the desk review of the Project. The requested documents were provided by the Project Proponent via email and electronic media. The following specific items were discussed in the kick-off conference call:

- a. Project operations
- b. Proposed Validation/Verification timeline
- c. Site visit scheduling and arrangements
- d. Data and information requests

GHD did not commence the validation and verification activities until after ACR provided the authorization to commence the validation/verification on September 1, 2023.

15.3 Methodologies Used to Assess/Verify Emissions Data

The validation procedures were used to assess the following:

1. Accuracy and completeness of Project Plan and Monitoring Report
2. Uncertainty of external data sources used
3. Emission assumptions
4. Accuracy of emission calculations
5. Potential magnitude of errors and omissions

To sustain a risk-based assessment, the GHD Project Team identified and determined risks related to the GHG emissions during the desk reviews, site visit and the follow-up interviews as applicable. The GHD Project Team focused on the accuracy and completeness of provided information. The components of the document review and follow-up interviews were:

- Document Review:
 - Review of data and information to confirm the correctness and completeness of presented information.
 - Cross-checks between information provided in the Project Plan and Monitoring Report and information from independent background investigations.
 - Determine sensitivity and magnitude analysis for parameters that may be the largest sources of error.
- Follow-up Interviews:
 - Remote site visit
 - Via telephone
 - Via email
 - Via ICT

The document review established to what degree the presented Project Plan and Monitoring Report documentation met the validation/verification standards and criteria.

The GHD Project Team's document review during the review process comprised of, but was not be limited to, an evaluation of whether or not:

- The documentation is complete and comprehensive and follows the structure and criteria required by the Program.
- The monitoring methodologies are justified and appropriate.
- The assumptions behind the inventory are conservative and appropriate.

- The GHG emission calculations are appropriate and use conservative assumptions for estimating GHG emissions and emissions reductions.
- The GHG information system and its controls are sufficiently robust to minimize the potential for errors, omissions, or misrepresentations.

The GHD Project Team interviewed Project staff to:

- Cross-check information provided
- Test the correctness of critical formulae and calculations
- Review data management and recording procedures

GHD completed checks of data from point of collection (meter, scale, etc.), through the Project data management systems, then it's use in the development of the Project Plan and Monitoring Report. Where available, a sample of raw data was collected for checks and recalculations as applicable. Where errors or anomalies were identified that could lead to a material misstatement, GHD requested further information to assess the pervasiveness of the errors or anomalies, as applicable. Where applicable, GHD identified the source and magnitude of data or methodology errors or anomalies; however, as a validation/verification body, GHD did not provide solutions to issues identified, where applicable.

15.4 Details of Site Visit

The ACR indicated that a remote site visit was acceptable and sufficient for this validation/verification. GHD had previously conducted an in-person site visit for the Thailand 1.0 validation/verification in October 2022. Anothai Setameteekul, Gordon Reusing and Angela Kuttemperoor of the GHD Project Team performed a remote site assessment using Microsoft Teams on September 27, 2023 during the validation/verification of the Project Plan and Monitoring Report.

GHD interviewed the following people:

- Adriana Vargas (Verification and Logistics Associate, Tradewater)
- Panjamas Thaengthonglang (Project Manager, Tradewater)
- Sutthida Fakkum (Senior Environmental And Compliance Manager, Waste Management Siam Ltd. (WMS)/Bangpoo Environmental Complex Co. Ltd. (BPEC))
- Pattanasak Weerapattarachat (Vice Factory Manager, WMS)
- Arpakon Promptet (Senior Environmental Engineer, WMS)
- Ampol Ruttanasang (Senior Chemist, WMS)

During the site visit, GHD personnel interviewed participants about the Project regarding an overview of the process, review of major emission sources, the Project boundary and the data management system in place at the Facility. Through this inspection, GHD was able to verify that personnel responsible for the GHG Project Plan and Monitoring Report preparation were sufficiently trained and qualified. GHD reconfirmed that the location of the Project has not changed from GHD's in-person Site visit to WMS Destruction Facility for Tradewater International – Thailand 1.0.

Additional information was collected regarding the incinerator operation during a subsequent remote site visit that was conducted on October 30, 2023 for the Tradewater Thailand #5 project verification. The same GHD, Tradewater, BPEC and WMS staff attended this site visit.

16. Validation/Verification Findings

The following provides details of GHD's findings as well as GHD's conclusions.

16.1 Effectiveness of ICT

GHD discussed with Client the availability of ICT technologies. Client agreed to the use of ICT by accepting GHD's proposal. GHD reviewed and confirmed the effectiveness of these techniques.

The decision to use ICT permissible if GHD and Client agreed on using ICT. The agreed ICT method was MS Teams. By accepting GHD's proposal dated May 30, 2023, Client agreed to the use of the aforementioned ICT methods and their associated information security, data protection and confidentiality measures.

GHD and Tradewater successfully used MS Teams to hold calls, video conferences and share screens. GHD and Tradewater used an online SharePoint folder (Dropbox) and email to share files.

The remote Site visit of the Project used MS Teams and some client calls between Tradewater and GHD occurred via MS Teams. GHD and Tradewater encountered no issues using ICT as a part of this validation/verification; transfer of data between Tradewater and GHD was smooth, and MS Teams calls did not encounter any technical issues.

Based on GHD's review, the ICT technologies used were acceptable and reasonable for use in the validation/verification, and GHD was able to maintain the acceptable level of assurance. The ICT techniques were effective in supporting the verification activities.

16.2 Project Boundary

GHD reviewed the Project operations to confirm that all emission sources and sinks are included in the Report. Specifically, GHD completed the following:

- Conducted a remote site visit and interviewed personnel
- Reviewed data management systems
- Reviewed process flow diagram

During the remote site visit, GHD confirmed the baseline and Project emission sources and sinks were included in the Report.

16.3 Project Deviations

The Project involved a deviation from the Methodology for the calculation of the weight of ODS destroyed, with the purpose of increasing accuracy of the ODS weight measurement, avoiding the need to account for truck fuel weights for ODS weight determination and using a method that is in alignment with international tipping standards. The deviation consisted of an adaptation of requirement I.B.iii.g in Appendix B of the Methodology, for the scenario relevant to the Project, where different transportation vehicles are used for transport of containers pre- and post-destruction at the destruction facility. The requirement in the Methodology is as follows:

“If different transportation vehicles are used to transport containers to a destruction facility and to pick up the empty containers after destruction, each transport vehicle shall be weighed both upon its arrival and departure from the destruction facility. If the vehicle transporting the full ODS containers to the destruction facility weighs more than the vehicle carrying the empty ODS containers from the facility, the mass discrepancy must be subtracted, as applicable from $Q_{refr,i}$ in Equation 2, and Q_{ODS} in Equation 5.”

Unlike the previous three Tradewater Thailand projects, the ACR approved deviation for Thailand 4 involves the scenario applicable to the current Project Tradewater - Thailand 4, where different trucks are used for the transportation of containers pre- and post-destruction. The calculation methodology as described was followed and uses the procedure of measuring the tare truck weights, to discount any weight discrepancies between the inbound and outbound trucks, mainly due to fuel tank levels. The procedures and equation used by Tradewater, as outlined in the ACR deviation request is as follows:

$$ODS\ destroyed = (inbound\ weight - inbound\ tare\ weight) - (outbound\ weight - outbound\ tare\ weight)$$

Before destruction:

- Weigh truck attached to the full ISO tank when arriving to the destruction facility (inbound weight).
- Weigh truck immediately after detaching ISO tank to obtain truck tare weight (inbound tare weight).

After destruction:

- Weigh truck when it arrives to the destruction facility, immediately before attaching the empty ISO tank to obtain the truck tare weight (outbound tare weight).
- Weigh truck attached to the empty ISO tank (outbound weight).

The deviation was approved by ACR on September 28, 2023. GHD reviewed the approved deviation request and confirmed that the deviation procedures were followed. GHD confirmed that the modified ODS weight calculation was applied appropriately in the GHG Assertion. GHD confirmed that the trucks pre- and post-destruction from the destruction facility had different truck ID numbers and were different trucks.

16.4 Project Applicability

As per Sections 2, 3 and 6 of the ACR Methodology, the applicability requirements for the Project are detailed below.

16.4.1 Location

During GHD's validation/verification of Project Tradewater International – Thailand 1.0, GHD conducted an in-person Site visit to the Facility and verified that the Project location is at the WMS destruction facility, Samutprakarn, Thailand where the ODS is destroyed. Transfers of ODS disposable cylinders from the Government of Thailand's Customs department were first received at the WMS warehouse where the ODS is consolidated into an ISO tank for destruction. At the WMS warehouse, electronic balances are used to weigh each cylinder for which ODS is transferred to an ISO tank, the secondary weighing procedure, which results in generation of the Consolidation Report or offset title for the Project.

The ISO tank is transported by truck to the truck weigh scale bridge nearby, where the truck and ISO tank are weighted before and after destruction, the primary weighing procedure, by which the Certificate of Destruction is generated, containing the official weight of ODS destroyed and used for claiming emissions reductions. The ODS is destroyed at the WMS destruction facility using fluidized bed incineration technology. During the Tradewater – Thailand 3 project validation/verification remote site visit, GHD observed all locations and equipment involved via live video demonstration led by WMS personnel. During the remote site assessment that was conducted for the current Project Tradewater – Thailand 4, GHD confirmed that the location for the various project activities and destruction facility location have not changed.

16.4.2 Eligible Destruction Facilities

The destruction facility is regulated by the Industrial Estate Authority of Thailand (IEAT) and is not subject to RCRA standards as required for facilities located in the United States. The WMS destruction facility was reviewed for compliance with the Montreal Protocol's TEAP standards; the United Nations Environment Programme (UNEP) *Report of the Technology and Economic Assessment Panel, April 2018, Volume 2, Decision Xxix/4 Teap Task Force Report on Destruction Technologies for Controlled Substances*.

The fluidized-bed incineration destruction technology that the WMS destruction facility uses is not currently listed in the TEAP standards. Through review of email correspondence, GHD determined that ACR confirmed that it is not required that the facility use a technology listed in the TEAP Report, as long as the facility meets the TEAP standards. Furthermore, ACR provided information on the fluidized-bed incineration destruction technology to Tradewater in the form of a study commissioned by US EPA that lists the technology as one of the approved methods for ODS destruction. GHD reviewed the study, *ODS Destruction in The United States of America and Abroad, May 2009, ICF International for U.S. EPA's Stratospheric Protection Division* and

identified that fluidized-bed incineration was listed an approved method for ODS destruction. GHD assessed the WMS facility against all TEAP screening criteria for destruction facilities including:

1. Destruction and Removal Efficiency (DRE)
2. Emissions of dioxins and furans (PCDDs/PCDFs)
3. Emissions of other pollutants (acid gases, particulate matter, and carbon monoxide)
4. Technical capability

GHD reviewed the 6th CFC DRE Report for the Facility which demonstrates a destruction efficiency of 99.99% for refrigerants and emission levels for contaminants carbon monoxide, hydrogen fluoride, hydrogen chloride/chlorine gas, particulates and dioxins and furans. GHD reviewed the stack test emission level analysis reports as prepared by United Analyst and Engineering Consultant Co., Ltd for the remaining contaminants including hydrogen bromide.

GHD reviewed the emissions levels for the contaminants and identified that concentrations as demonstrated in the Analysis reports were expressed on differing standard conditions from the standard conditions used for determining emissions limits in the TEAP standards. GHD observed that under the conditions as listed in the original emissions analysis reports of 0°C, stack gas corrected to 11% O₂, all pollutants were under the TEAP limits, except for PCDDs/PCDFs as demonstrated in Table 16.1. Results were converted to the TEAP standard conditions of 25°C, stack gas corrected to 7% O₂ and resulted in all contaminants being below the TEAP emission level thresholds. GHD reviewed Tradewater’s conversions to TEAP standards and identified that the temperature conversion was omitted. Tradewater updated the conversions and Project Plan to include the emissions at TEAP standard conditions. Furthermore, the destruction facility met the technical capability requirements under TEAP for destruction removal efficiency and processing capability as shown in Table 16.1.

Table 16.1 TEAP Performance Criteria

Performance Qualification	Limit (Concentrated Sources)	WMS Facility Results (lab test conditions ²)	WMS Facility Results (TEAP standard conditions ¹)
Destruction Removal Efficiency (DRE)	99.99%	99.99%	99.99%
PCDDs/PCDFs	0.2 ng-ITEQ/Nm ³	0.25 ng-ITEQ/Nm ³	0.19 ng-ITEQ/Nm ³
HCl/Cl ₂	100 mg/m ³	0.68 mg/m ³	0.53 mg/Nm ³
HF	5 mg/m ³	0.192 mg/m ³	0.149 mg/Nm ³
HBr/Br ₂	5 mg/m ³	<0.001 mg/m ³	<0.001 mg/Nm ³
Particulates	50 mg/m ³	1.12 mg/m ³	0.87 mg/Nm ³
CO	100 mg/m ³	0.1 mg/m ³	0.08 mg/Nm ³

Notes:

- ¹ All concentrations of pollutants in stack gases and stack gas flow rates are expressed on the basis of dry gas at normal conditions of 0 °C and 101.3 kPa, and with the stack gas corrected to 11% O₂ (as referred to by normal cubic metre, Nm³).
- ² Concentrations for pollutants as reported in the 6th CFC DRE Report were determined on the basis of dry gas at normal conditions of 25°C and 101.3 kPa, and with stack gas corrected to 7% O₂.

Table 16.2 TEAP Technical Capability for ODS Destruction

Technical Capability	Limit (Concentrated Sources)	WMS Facility Results
<p>It has been demonstrated to have destroyed ODS to the technical performance criteria, on at least a pilot scale or demonstration scale (recommended for approval); OR</p> <p>It has been demonstrated to have destroyed a refractory chlorinated organic compound other than an ODS, to the technical performance criteria, on at least a pilot scale or demonstration scale, which indicates that the technology is considered to have a high potential for application with ODS but has not actually been demonstrated with ODS (recommended as high potential); and</p>	99.99% maximum	Facility demonstrated to destroy ODS to the technical performance criteria, a DRE of 99.99% for refrigerants.
<p>The processing capacity of an acceptable pilot plant or demonstration plant must be no less than 1.0 kg/hr of the substance to be destroyed, whether ODS or a suitable surrogate.</p>	1.0 kg/hr minimum	Facility demonstrated to destroy ODS to 20 kg/hr, above the minimum for the technical performance criteria.

16.4.3 Eligible ODS

GHD confirmed that the refrigerants destroyed include CFC- 12, which is eligible ODS under the Methodology.

GHD confirmed that destruction took place under one Certificate of Destruction and that all required information was included on the destruction certificate. GHD confirmed that Mr. Ampol Rattanasang performed sampling of the ODS and was listed on the ODS Sampling certificate. GHD verified that Mr. Rattanasang was certified to conduct sampling procedures by the Laboratory Registration under Department of Industrial Works (Thai Government) with Certificate Number ๓-320-๙-9257. GHD confirmed that the certificate was valid during the reporting period in 2023 and is valid until February 2024.

GHD confirmed that all other technicians involved in the ODS handling were trained in accordance with the destruction facility’s standard operating procedures (SOPs) developed in September 2022. The training session was led by Mr. Victor Molina (EPA 608 certification number 2019-02-ACCTECH-0019) and included training on the following SOPs:

- WMS Destruction SOP
- Filling procedure SOP
- Sampling procedure for ISOs and B1000 SOP
- Transport and Storage procedure SOP
- Maintenance procedure SOP

16.4.4 Project Start Date, Reporting Period and Crediting Period

ACR defines the Start Date for all projects other than AFOLU as the date on which the project began to reduce GHG emissions against its baseline. For ODS projects, the Project start date is listed on the Certificate of Destruction, when the destruction of ODS occurs. The start of destruction listed on the Certificate of Destruction is June 13, 2023.

GHD originally identified that the start date on the COD of June 13, 2023 at 4 pm did not match the start date on the Continuous Emissions Monitoring Systems (CEMS) data which was a day ahead on June 14, 2023 at 4pm. The pre-destruction ODS weight per truck ticket was measured on June 12, 2023 approximately 10 am which is a few hours over the 48 hour maximum time period that is required between pre-destruction weighting and start of destruction and would result in the Project not meeting this Protocol requirement. Tradewater provided an updated CEMS data file which demonstrated a June 13, 2023 start date and associated ODS feed data, aligning with the COD. GHD notes that if the start date was actually correct in the CEMs data, the gap

would be 6 hours over the 48 hour maximum gap, however GHD determined that this would be an immaterial qualitative issue that would not result in a significant impact to the emissions reduction calculations.

GHD confirmed that the Project's reporting and crediting period begin on the Project start date, and that the reporting period falls within the crediting period. The crediting period for this type of Project (i.e., non AFOLU) per the ACR Standard is 10 years. GHD confirmed that the reporting period ended on July 24, 2023 and therefore is less than 12 consecutive months. GHD confirmed that the Project only has one reporting period. Only one destruction event took place within the reporting period.

16.4.5 Government Stockpile Requirement

GHD reviewed documents relating to Thailand regulations concerning the destruction of ODS including the *Meeting Minutes of Cooperation between the Customs Department and the Department of Industrial Works Waste Management Siam Company Limited and The Creagy Company Limited*, which described that the ODS refrigerant is considered a national item under the Thailand Customs Law. The Customs Law takes precedence over other laws such as the Hazardous Substance Act B.E. 2535 which requires destruction of hazardous substances. Additionally, there is no requirement to destroy a national item under the Customs law. Therefore, GHD confirmed that the ODS, as obtained from a government stockpile was not required to be destroyed or converted, as per ACR Methodology Section 6.1 IV.

16.4.6 Project Eligibility

Project eligibility requirements are outlined in Chapter 3 of the ACR Standard. GHD reviewed the Project against the eligibility requirements in the Standard as detailed below.

16.4.7 Minimum Project Term

The minimum project term is not applicable for the ODS Project type.

16.4.8 Real

Per the ACR Standard, any GHG emission reduction or removal must be real and have already occurred prior to credit issuance on this Project. GHD verified the Project Start date to confirm that the emissions reductions are real and ex ante. In addition, GHD reviewed Facility records including CEMs data to verify the frequency and units by which ODS flow was monitored and the reporting period over which destruction occurred. GHD reviewed the timeline of project documentation, from ODS and ownership chain of custody through to sampling and destruction for the current project, to verify that emissions reductions being claimed are ex-ante and real.

16.4.9 Offset Title

The chain of custody for the Project involves transfer of ODS and Ownership Interests in the ODS as well as carbon credits generated by the associated destruction projects from the Thailand Government customs department to WMS who operates the destruction facility, to Tradewater, LLC. Transfer of ownership documentation indicates that the Government of Thailand transferred ownership to WMS in September 2022 and WMS transferred ownership to Tradewater in September to November 2022 as per the transfer of ownership documentation with effective dates September 26, 2022, October 3, 2022, October 14, 2022, October 21, 2022, October 27, 2022 and November 14, 2022. GHD confirmed with Tradewater that all ODS and ownership transfers occurred during Project Tradewater International – Thailand 1.0 and that the ODS is destroyed in stages between the Tradewater Thailand Projects.

In addition to original ownership transfers, GHD verified that the Consolidation Report is the offset title for the current Project, Tradewater – Thailand 4 and includes all cylinders for which ODS was consolidated and destroyed in the ISO tank during Project Tradewater – Thailand 4. GHD identified a typo on the Consolidation

Report with respect to the ISO tank ID number, which did not match the ID on the Certificate of Destruction. GHD confirmed with Tradewater that the error was a typo and is an immaterial qualitative issue.

16.4.10 Additional

16.4.10.1 Legal Requirement Test

Under the Methodology, the Project Proponent must demonstrate that the emission reductions achieved by a project using this Methodology must exceed those required by any law, regulation or legally binding mandate.

There is no mandate in Thailand that requires the destruction of ODS. Thus, all emission reductions resulting from the Project are considered to be not legally required, and therefore are eligible for crediting.

16.4.10.2 Performance Standard Evaluation

As the Project meets the ODS project definition and all other eligibility requirements in the Methodology, then the performance standard evaluation is satisfied.

16.4.11 Regulatory Compliance

GHD reviewed the following information to confirm that WMS Destruction Facility was in regulatory compliance during the reporting period:

The WMS destruction facility is regulated by the Industrial Estate Authority of Thailand (IEAT). GHD reviewed the following information to confirm that the facility was in regulatory compliance during the reporting period:

- BPEC Permit: Letter of Permission for Land Utilization and Business Operations in Industrial Estate Under the Industrial Authority of Thailand Act B.E. 2522 (1979), Permit Number 2-02-1-109-81584-2565 (2022), Industrial Estate Authority of Thailand, December 29, 2022. Effective January 1, 2023.
- BPEC Permit for waste residue stream: Waste or Unused Material Transferred Onsite to Disposal Permit, January 22, 2023, Valid February 26, 2023 to February 25, 2024, Permit Number 6501-334, Department of Industrial Waste.
- The Report of Changes in the Project in the Report of Environmental Impact Assessment for Projects, Business, or Operations Which Might Possibly Provide Strongly Impact Natural Resources, Environment Quality, Health, Sanitation, Well-Being Of People In The Community. Central Waste Treatment (1st extension) (2nd).

GHD confirmed that the most recent BPEC permit provided by Tradewater, dated December 29, 2022, was applicable to the current ODS destruction Project. The permit is valid until the BPEC ownership of land possessory is terminated. GHD confirmed that it has not been terminated. GHD confirmed that the BPEC permit for waste residue stream had expired in February 25, 2023 and the renewed permit was provided, that is applicable to the reporting period. The permit is relevant to this Project in authorizing the transport of the waste to the WMS/BPEC warehouse in preparation of destruction for the original shipments from the Thailand Government Customs Department. GHD reviewed Section 2: Waste Receiving Capacity for the Fluidized Bed Fixed Combustion Furnace of the above listed Report which indicated that ODS is received at 0.6% of the maximum capacity for the destruction facility at 150 tons/day. Through review of the applicable IEAT permits and reports, GHD confirmed that WMS was in regulatory compliance during the reporting period.

GHD confirmed that Tradewater relied on the 6th CFC DRE Report stack test report conducted in 2020 to determine whether the WMS destruction facility met the 99.99% required DRE during the Project reporting period. The stack test report indicates that the DRE of 99.99% is achieved by the incinerator while operating at a temperature of 850 C. GHD identified two half-hour time periods within the CEMS data for the reporting period where the ODS feed rate was positive and indicated operation of the incinerator however incinerator temperatures were below 850 C. For these two half-hour time periods, it is questionable whether the 99.99% DRE was achieved, however GHD verified that excluding the data associated with the lower temperatures from

quantification and emissions reductions calculations would result in a 0.2% reduction in the original emissions reductions, which is less than the materiality threshold of 5%.

16.4.12 Permanent

Due to the nature of this Project, there is no risk of reversal. Once the ODS is destroyed, the associated GHG reductions are fixed. As such, GHD verified the emission reductions are permanent as defined in Section 5 of the ACR Standard. As there is no risk of reversal, no further action was required regarding risk mitigation to meet the permanence criteria per the ACR Standard.

16.4.13 Net of Leakage

GHD verified that leakage assessment is not applicable under the ACR Methodology.

16.4.14 Environmental and Community Assessments

As per the GHG Project Plan, Tradewater determined that there are no negative environmental impacts resulting from the Project and that the reduction in emissions from the Project is expected to bring net positive impacts to the local environment and community. GHD confirmed that a mitigation plan was not required to be completed as no negative impacts from the Project were foreseen. GHD verified that the Environmental Assessment form was appropriately completed for the Project.

Tradewater evaluated direct positive impacts towards the United Nations Sustainable Development Goals (SDG) including SDG9 (Industry innovation and infrastructure), SDG12 (Responsible Consumption and Production), and SDG13 (Climate Action) as well as indirect positive impact goals SDG3 (Good health), SDG14 (Life Below Water), and SDG15 (Life on land). GHD verified that the SDG's evaluated were based on the predicted applicable SDGs per Project type (ODS) as generated within the SDG contribution form and that the SDGs were in accordance with the ACR SDG Contributions Reporting Tool. GHD verified that the SDGs included were applicable to the current Project and consistent between the SDG form and GHG Project Plan.

Due to Project Tradewater – Thailand 4 using the latest ACR Standard (version 8.0) unlike the previous three Tradewater Thailand projects, the Project was subject to a 30-day public comment period. Tradewater confirmed that no comments were received and GHD did not review any comments.

16.5 Double Issuance, Double Selling and Double Use of Offsets

GHD confirmed that the Project is not claiming emission reductions on another GHG registry or platform by checking other registries as per Section 10.A of the ACR Standard. GHD reviewed the following registries to confirm this:

- Climate Action Reserve
- Verra

In addition, GHD reviewed other offset programs (such as Climate Forward) and confirmed that the project was not claiming other environmental assets elsewhere. Per the ACR Standard, the Project Proponent is required to disclose any other registrations of the Project.

GHD also verified ownership of the Facility as outlined in Sections 8.3.1-8.3.4 to verify that no double-claiming of emission reductions may occur as per Section 10.B of the ACR Standard.

16.6 QA/QC Data Management Systems, and Document Retention

Summary of Data Management Procedures

The WMS destruction facility monitors and records destruction parameters in the CEMS data system which collects data per hour. Parameters including pressure and flow rate are monitored continuously on a separate

stage of the furnace for gaseous substances such as ODS and this is collected every half hour. On-site personnel monitor destruction in order to prevent any occurrences of errors, exceedances, or other impacts to the project.

Scales used for determining weight of ODS are calibrated periodically by third-party, with requirement by Thai government for recalibrations every two years. WMS undergoes annual procedure reviews and required readings. Qualified technicians are constantly monitoring the emission levels during burns. The destruction facility is regulated by the Industrial Estate Authority of Thailand (IEAT). Tradewater reviews all paperwork to ensure that it satisfies protocol requirements.

Sampling is conducted by WMS before destruction by a technician who is unaffiliated with the Project Proponent and is trained in the sampling process. Sample is taken with a clean, fully evacuated sample bottle that meets applicable DOT requirements and is over one pound at liquid state. The sample is individually labeled, tracked, with the required information recorded on the ODS Sampling Certificate per the ACR Methodology.

Samples are sent to Bureau Veritas Belgium, an ISO/IEC 17025-certified lab where project samples are analyzed to confirm the mass percentage and identification of each component of the sample.

WMS has retention policy up to lifetime of facility. All documents are stored physically and digitally backed-up. Tradewater has a retention policy of 15 years. Documents are stored on a third-party cloud system that is backed up on a regular basis, with hard copies saved on-site wherever possible.

Assessment of Procedures

Based on discussions with Project personnel and GHD's review of the supporting documentation, the Project Proponent retains all GHG information and supporting documentation required by the ACR Standard at the Project Site for a minimum of 12-years. GHD reviewed the sampling and weighing procedures conducted by the facility and confirmed that they conformed to the ACR Methodology and that all required documentation requirements were met.

GHD reviewed the weigh scale calibration conducted by Siam Scales & Engineering Co. Ltd. on June 21, 2023. and confirmed that the scale (SN. 050240314, ID No. 006-48) was calibrated to 5% accuracy. GHD confirmed that the weigh scale is inspected and calibrated at quarterly intervals in accordance with the ACR Methodology. The Thai government also has a requirement for recalibrations every two years. Based on GHD's review the data management procedures at the Facility are robust and in accordance with the ACR Standard.

17. Validation/Verification of Quantification Methods

17.1 Activity Data

Tradewater calculated emissions using activity data for the Project Period. The activity data consisted of the following parameters:

- Weight of ODS Destroyed
- Composition of Batch make-up

GHD reviewed the Project Proponent's documentation and procedures to determine conformance with the requirements of ACR Standard and the Methodology. Data checks included all documents as detailed in Appendix B.

GHD identified that the ODS Sampling Certificate contained a mass amount where a volume was required for the 'volume of container sampled' section. GHD identified the error as an immaterial qualitative issue and Tradewater chose not to correct. GHD identified that the Project Proponent was indicated as Tradewater International on destruction certificate and is inconsistent with Sampling Certificate where Tradewater LLC was

identified as the Project Proponent. Tradewater corrected the issue. GHD identified that the feed tank serial number on Certificate of Destruction did not match ODS sampling certificate due to a typo, which was corrected by Tradewater.

17.2 Assessment of the Emission Reduction Calculations

The following summarizes the emissions calculations completed by Tradewater and verified by GHD, and presents any material and immaterial discrepancies that GHD identified during the validation/verification.

GHD reviewed the emission factors and calculation methodologies used by Tradewater to verify if they were in accordance with the ACR Methodology and ACR Standard. In addition, GHD performed independent calculations of the emissions to determine if there were any discrepancies, omissions or misreporting that could result in an offset material misstatement in the total reported emissions.

17.2.1 Weight of ODS Destroyed

GHD performed a re-calculation of the weight of ODS sent for destruction using the ACR-approved deviation methodology and weight calculation and identified no discrepancies. GHD confirmed that the determined ODS weight was used appropriately to determined project and baseline emissions and emissions reductions.

17.2.2 Project Emissions

GHD reviewed the calculation methodology used by Tradewater and found it to be in accordance with the ACR Methodology. The Project Proponent utilized Equations 3, 4 and 5 from the ACR Methodology to calculate Project Emissions. GHD reviewed the refrigerant sample analysis reports as certified by the laboratory to confirm composition. GHD reviewed mass determination procedures and the mass used in Tradewater's calculations.

Per the ACR Methodology, Tradewater has removed mass applicable to the high boiling residue, moisture, and ineligible ODS (as determined by the laboratory analysis). GHD originally identified that the HBR and moisture content used in calculations did not match the values from the sample lab analysis certificate. Tradewater updated the emissions reductions calculations accordingly.

GHD confirmed Tradewater used the correct emission factors for substitute refrigerants. Tradewater used the default emission factor for ODS transportation and destruction per the ACR Methodology.

GHD performed an independent calculation of baseline emissions and found no discrepancy to Tradewater's GHG Assertion, Monitoring Report and GHG Project Plan.

17.2.3 Baseline Emissions

GHD reviewed the calculation methodology used by Tradewater and found it to be in accordance with the ACR Methodology. The Project Proponent utilized Equation 2 from the ACR Methodology to calculate Baseline Emissions. GHD reviewed the refrigerant sample analysis reports as certified by the laboratory to confirm composition.

GHD reviewed mass determination procedures and the mass used in Tradewater calculations. Per the ACR Methodology, Tradewater has removed mass applicable to the high boiling residue, moisture, and ineligible ODS (as determined by the laboratory analysis). GHD originally identified that the HBR and moisture content used in calculations did not match the values from the sample lab analysis certificate. Tradewater updated the emissions reductions calculations accordingly.

During the project verification, Tradewater confirmed with ACR that the 100-year global warming potential (GWP) for the R-12 refrigerant as listed in the April 2021 version 1.0 of the ACR ODS methodology was the AR4 value and that an updated AR5 should be used, in accordance with ACR Standard version 8.0. Tradewater obtained the AR5 100-year of 10, 239 (t CO₂e/t ODS) from ACR and updated the emissions

reductions calculations. GHD confirmed that the 10-year cumulative emission rate for R-12 of 95% did not change and was appropriately applied.

GHD performed an independent calculation of baseline emissions and found no discrepancy to Tradewater's GHG Assertion, Monitoring Report and GHG Project Plan.

18. Monitoring Plan

GHD reviewed the monitoring plan for this Project and determined that the parameters monitored and the approach taken by the Project Proponent to determine the emission reduction conforms to the ACR Methodology.

Per Section V (2) of the Monitoring Report, the following information should be included and documented in the Monitoring Plan:

- Personnel names and roles/responsibilities for each party involved in monitoring the offset project
- Description of the GHG management system employed including:
 - The location and recordkeeping/retention requirements for all stored data
 - Methods used to generate data
 - Transfer points and methods of non-automated transfer of data
- Calibration procedures and the frequency with which calibration and other maintenance requirements are performed
- Internal audit and other quality assurance/quality control procedures
- Sampling methods utilized and performed during the reporting period

Per Section 6.1 of the ACR Methodology the following information should be included and documented as part of project Monitoring (excluding those items not applicable to this specific project):

- Source of ODS including owner, physical address, serial or ID number of containers and additional information as applicable.
- Chain of custody and ownership of the ODS including contact information and mass of ODS.
- For projects destroying ODS sourced from government stockpiles or inventories, the Project Proponent must maintain documentation that the ODS is not required to be destroyed or converted.
- Composition and mass analysis information including sample time and date, name of Project Proponent and technician taking sample, employer of technician taking sample, volume of sample container, ambient air temperature and sampling chain of custody.
- Information from the destruction facility on parameters of destruction including feed rate, operating temperature and pressure, effluent discharge and emissions of carbon monoxide during destruction (if applicable).
- Information showing conformance with the procedures in Appendix B: ODS Mass and Composition – Quantification Methodology of the ACR Methodology.
- Evidence of minimum quarterly inspections for scales per and calibrations per an RCRA permit, or for non-RCRA facilities, calibrated at least quarterly to 5% or better accuracy.
- Retention of documentation including all data inputs for emission reductions calculations including sampled data, project-related regulatory permits, destruction facility monitoring and maintenance information, chain of custody and sourcing documentation and ODS composition and mass determinations.

GHD reviewed the Monitoring Plan and confirmed that the above information was included as required per the ACR Methodology.

18.1 Parameters to be Monitored

The following parameters have been monitored by Tradewater:

Parameter	Regulatory Surplus Test
Unit	N/A
Description	Emissions reductions achieved through this project and methodology must not be required by any existing law or regulation
Methodology Section	Section 3.3.1
Source of Data	Thailand Customs Department and The National Ozone Protection Division from the Department of Industrial Works (DIW)
Data uncertainty	Low
Monitoring Frequency	Once per project
Reporting Procedure	Review of existing laws around ODS refrigerant management
QA/QC	Regular review of current laws and regulations surrounding ODS refrigerants, particularly CFCs

Parameter	Mass of ODS mixture in each container
Unit	Kilograms
Description	The total quantity of ODS refrigerant in a container.
Methodology Section	Section 5.1 of Methodology
Source of Data	Manual weight tickets taken pre and post destruction for each individual container
Data uncertainty	Low
Monitoring Frequency	Once per project
Reporting Procedure	<p>Gross weight of cylinders using calibrated scale, taken before and after destruction</p> <p>Tradewater received a deviation from the procedure for containers weighed with the transportation vehicle included, when the vehicle utilized is the same when weighing before destruction and after destruction, following the procedure detailed below.</p> <p>Before destruction:</p> <ul style="list-style-type: none"> • Weigh the truck attached to the full ISO tank when arriving to the destruction facility (Inbound weight) • Weigh the truck immediately after detaching the full ISO tank to obtain the tare truck weight (inbound tare weight) <p>After destruction:</p> <ul style="list-style-type: none"> • Weigh the truck when it arrives at the destruction facility, immediately before attaching the empty ISO tank to obtain the tare weight (outbound tare weight) • Weigh the truck attached to the empty ISO tank (outbound weight) <p>With this information, the amount of ODS destroyed will be calculated as follows: $ODS\ destroyed = (Inbound\ weight - inbound\ tare\ weight) - (outbound\ weight - outbound\ tare\ weight).$</p>
QA/QC	Scale calibrations, CEMs data confirms destruction parameter throughout process

Parameter	Concentration of ODS mixture in each container
Unit	Percent
Description	The distribution of ODS refrigerant in each container (along with any other contaminants, moisture, or HBR)
Methodology Section	Appendix C of Methodology
Source of Data	Sample data via lab analysis provided by an ISO 17025 certified third-party laboratory
Data uncertainty	Low
Monitoring Frequency	Once per project
Reporting Procedure	Lab analysis report
QA/QC	Composition and concentration are analyzed at an ISO 17025-certified laboratory that is not affiliated with the project proponent using the AHRI Standard 700.

Parameter	$Q_{refr,i}$
Unit	MT
Description	The total weight of ODS refrigerant sent for destruction (excluding any other contaminants, moisture, or HBR)
Methodology Section	Section 5.1 of Methodology
Source of Data	Weight tickets taken both pre- and post-destruction coupled with lab analysis
Data uncertainty	Low
Monitoring Frequency	Once per project
Reporting Procedure	<p>Net weight of cylinders using calibrated scale.</p> <p>Tradewater received a deviation from the procedure for containers weighed with the transportation vehicle included, when the vehicle utilized is different when weighing before destruction and after destruction, following the procedure detailed below.</p> <p>Before destruction:</p> <ul style="list-style-type: none"> • Weigh the truck attached to the full ISO tank when arriving at the destruction facility (Inbound weight) • Weigh the truck attached to the empty ISO tank to obtain the truck tare weight (inbound tare weight) <p>After destruction:</p> <ul style="list-style-type: none"> • Weigh the truck when it arrives at the destruction facility, immediately before attaching the empty ISO tank to obtain the tare weight (outbound tare weight) • Weigh the truck attached to the empty ISO tank (outbound weight) <p>With this information, the amount of ODS destroyed will be calculated as follows: $ODS\ destroyed = (Inbound\ weight - inbound\ tare\ weight) - (outbound\ weight - outbound\ tare\ weight).$</p>
QA/QC	Scale calibrations; CEMs data confirms destruction; lab analysis confirms mass percentage and identification of ODS refrigerant

Parameter	Q _{ODS}
Unit	MT
Description	The total quantity of ODS refrigerant (including the mass of all eligible and ineligible ODS, moisture, HBR, and other accompanying material), transported to the destruction facility.
Methodology Section	Section 5.2 of Methodology
Source of Data	Weight tickets taken both pre- and post-destruction coupled with lab analysis and quantifications
Data uncertainty	Low
Monitoring Frequency	Once per project
Reporting Procedure	Net weight of cylinders using calibrated scale; lab analysis
QA/QC	Scale calibrations performed CEMs data confirms destruction; lab analysis confirms mass percentage and identification of ODS refrigerant

A summary of the Findings/Issues Log is provided in Appendix C of this Validation/Verification Report.

18.2 Summary of Errors, Omissions, Misstatements or Non-Compliances Identified

Quantitative materiality for GHG emissions reductions for the verification was set at plus or minus 5 percent of the total reported emissions reductions. The quantitative aggregated magnitude of offset errors, omissions, and misstatements for the emissions reductions within the Project Plan and Monitoring Report is 0.0%, percent, which is less than the materiality threshold of 5 percent.

Materiality was also assessed on a qualitative level, including conformance with the applicable Program and Protocol requirements. The Project received approval for a deviation from the ACR Methodology for the calculation of the weight of ODS destroyed, as measured using truck weigh scales. GHD reviewed the approved deviation request and identified no qualitative discrepancies.

18.3 Corrections Made to Project Plan and Monitoring Report

GHD requested the Client to make changes to the Project Plan and Monitoring Report based on the issues identified in the Validation/Verification Findings. Changes made included:

- Updating emission reductions calculations to utilize the R-12 AR5 100-year GWP
- Update emissions reductions calculations to utilize parameters consistent with those identified on the sampling lab analysis certificate
- Updating reported emissions reductions to be consistent between the GHG Project Plan, Monitoring Report and ACR portal
- Updating qualitative issues identified within GHD Project Plan, Monitoring Report, Environmental Assessment form and SDG Contributions form
- Updating all documentation to be in accordance with ACR Standard version 8.0 criteria

18.4 Follow up on Issues from Previous Validation/Verification

GHD has reviewed the issues from the previous Project Tradewater – Thailand 3's validation/verification report. There were no issues from the previous validation/verification report that required follow-up.

18.5 GHG Data and Information

The data and information obtained during the validation/verification is listed in Appendix B.

19. Validation/Verification Opinion

GHD has prepared this Validation/Verification Report for Client and Program. Client was responsible for the preparation and fair presentation of the Project Plan dated July 28, 2023 and Monitoring Report dated September 28, 2023 for Tradewater - Thailand 4 in accordance with the Program criteria and engaging with a qualified third-party validator/verifier to validate the Project Plan and verify the Monitoring Report. Project GHG-related activity is detailed in Section 8.

GHD's objective and responsibility was to provide an opinion regarding whether the Project Plan and Monitoring Report for the Project was free of material misstatement and that the information reported is a fair and accurate representation of the operations for the Project, and accurate and consistent with the requirements of the Program.

The criteria used by GHD for the validation/verification of the Project Plan and Monitoring Report is detailed in Section 5. GHD completed the validation/verification of the Project Plan and Monitoring Report in accordance with ISO 14064-3:2019. GHD completed the validation/verification to a reasonable level of assurance.

The Validation/Verification Opinion is provided as Appendix D.

20. Limitation of Liability

Because of the inherent limitations in any internal control structure, it is possible that fraud, error, or non-compliance with laws and regulations may occur and not be detected. Further, the validation/verification was not designed to detect all weakness or errors in internal controls so far as they relate to the requirements set out above as the validation/verification has not been performed continuously throughout the period and the procedures performed on the relevant internal controls were on a test basis. Any projection of the evaluation of control procedures to future periods is subject to the risk that the procedures may become inadequate because of changes in conditions, or that the degree of compliance with them may deteriorate.

This validation/verification was based on a risk-based approach that follows rigorous methodology with the expectation that it will capture the majority of errors with the potential for a material misstatement. However, GHD does not warrant or guarantee that all errors or omissions, including material issues, made by Client in its Project Plan and/or assertion and Monitoring Report were identified by GHD.

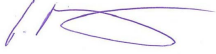
The validation/verification opinion expressed in this report has been formed on the above basis.

GHD's review of the Project Plan and Monitoring Report included only the information discussed above. While the review included observation of the systems used for determination of the Project Plan and Monitoring Report, GHD did not conduct any direct field measurements and has relied on the primary measurement data and records provided by Client as being reliable and accurate. No other information was provided to GHD or incorporated into this review. GHD assumes no responsibility or liability for the information with which it has been provided by others.

The information and opinions rendered in this report are exclusively for use by Client. GHD will not distribute or publish this report without Client's consent except as required by law or court order. The information and opinions expressed in this report are given in response to a limited assignment and should only be evaluated and implemented in connection with that assignment. GHD accepts responsibility for the competent performance of its duties in executing the assignment and preparing this report in accordance with the normal standards of the profession but disclaims any responsibility for consequential damages.

Should you have any questions on the above, please do not hesitate to contact us.

Regards



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Appendices

Appendix A

Validation/Verification Plan

Our ref: 12588069-LTR-4

25 September 2023

Ms. Adriana Vargas Corrales
Verification and Logistics Associate
Tradewater, LLC
San Jose, Costa Rica

**Validation and Verification Plan
Tradewater – Thailand 4 (ACR903), Tradewater, LLC, Samutprakarn, Thailand under the American
Carbon Registry’s (ACR) Methodology**

Dear Ms. Corrales

1. Introduction

Tradewater, LLC (Client) retained GHD Services Inc (GHD) to undertake a validation/verification of the Tradewater - Thailand 4 Offset Project (Project) for the June 13, 2023 – July 24, 2023 reporting period. The Project, involving the destruction of Ozone Depleting Substances (ODS) is located at the Waste Management Siam Company Ltd (WMS) destruction facility in Samutprakarn, Thailand and follows the requirements of the American Carbon Registry (ACR) (Program). The Project has been listed with the American Carbon Registry (ACR) and the ACR ID is ACR903.

The Program requires the validation of the Greenhouse Gas Project Plan (Project Plan) for each Project and verification of the Project Monitoring Report (Monitoring Report) for each reporting period by an independent third-party accredited under *ISO 14065 Greenhouse Gases – Requirements for greenhouse gas validation and verification bodies for use in accreditation or other forms of recognition* (ISO 14065). GHD is an ACR recognized greenhouse gas (GHG) Validation/Verification Body (VVB). GHD is accredited by ANAB under ISO 14065 as a greenhouse gas validation and verification body (VVB).

ACR defines validation as "the systematic, independent, and documented process for the evaluation of a GHG Project Plan against applicable requirements of the ACR Standard, the applicable ACR-approved methodology, and any other applicable audit criteria."

ACR defines verification as "the systematic, independent, and documented process for the evaluation of a GHG assertion against specific criteria. The verification process is intended to assess the degree to which a project has correctly quantified net GHG reductions or removals per the validated GHG Project Plan and correctly utilizes ACR methodologies and tools. A successful verification provides reasonable assurance that the GHG assertion is without material misstatement."

GHD has prepared this Validation and Verification Plan in accordance with ISO Standard *ISO 14064 Greenhouse gases - Part 3: Specification with guidance for the validation and verification of greenhouse gas assertions* (ISO 14064-3:2019) and with the Program requirements.

2. Validation and Verification Objective

The objective of the validation is to provide the Client and Program with an opinion on whether the Project Plan for the Project is free of material misstatement and that the information reported is accurate and consistent with the requirements of the Program and applicable Methodology.

The objective of the verification is to provide the Client and Program with an opinion on whether the Monitoring Report for the reporting period is free of material misstatement and that the information reported is accurate and consistent with the requirements of the Program.

3. Level of Assurance

The ACR does not specify a level of assurance for the validation. If a validation statement can be provided, it will be worded in a manner similar to “Based on the procedures undertaken, it is our opinion that the Project Plan conforms to the requirements outlined in the ACR Standard and applicable Methodology”.

The verification will be conducted to a reasonable level of assurance. If a verification opinion can be provided, it will be worded in a manner similar to “Based on the procedures undertaken, it is our opinion that the assertions in the Monitoring Report are materially correct and the Monitoring Report fairly represents the eligibility, methodology and other requirements of the Program applicable to the Project.”

4. Validation and Verification Standards

For the validation and verification, GHD will apply ISO 14064-3:2019 and the Program validation and verification standards.

5. Validation and Verification Criteria

GHD will apply the following verification criteria:

- ISO 14064 Greenhouse gases - Part 2: Specification with guidance at the project level for quantification, monitoring and reporting of greenhouse gas emission reductions or removal enhancements, ISO, April 2019 (ISO 14064-2)
- ISO 14064 Greenhouse Gases - Part 3: Specification with guidance for the verification and validation of greenhouse gas statements, ISO, April 2019 (ISO 14064-3)
- International Accreditation Forum Mandatory Document for the Use of Information and Communication Technology for Auditing/Assessment Purposes: Issue 2, July 2018 (IAF MD 4: 2018)
- *The American Carbon Registry Standard, Requirements and Specifications for the Quantification, Monitoring, Reporting, Verification, and Registration of Project Based GHG Emissions Reductions and Removals*, Version 8.0, dated July 2023 (ACR Standard) *
- *The American Carbon Registry Validation and Verification Standard*, Version 1.1, dated May 2018 (ACR V/V Standard)

- *Methodology for the Quantification, Monitoring, Reporting and Verification of Greenhouse Gas Emissions Reductions and Removals from the Destruction of Ozone Depleting Substances from International Sources*, Version 1.0, dated April 2021 (ACR Methodology)

Note:

* - Denotes change from Proposal

6. Validation and Verification Team and Independent Reviewer

6.1 Roles and Responsibilities

Lead Validator/Verifier/Technical Expert – Gordon Reusing – Mr. Reusing will lead the validation/ and verification and is responsible for development of the validation and verification plan. Mr. Reusing will review the risk assessment and evidence gathering plan, recalculation of raw data, data management and draft findings. Mr. Reusing will prepare and sign the validation and verification statement and validation and verification report.

Co-Lead Validator/Verifier/Technical Expert – Anothai Setameteekul – Ms. Setameteekul will lead the validation and verification and is responsible for development of the validation and verification plan. Ms. Setameteekul will review the risk assessment and evidence gathering plan, recalculation of raw data, data management and draft findings. Ms. Setameteekul will prepare and sign the validation and verification statement and validation and verification report. Ms. Setameteekul will conduct a remote site visit of the Project site.

Validator/Verifier – Angela Kuttemperoor – Ms. Kuttemperoor will develop and revise the validation and verification plan and evidence gathering plan, develop a risk assessment, recalculate raw data, review management of data, and prepare draft findings and the draft validation and verification report.

Independent Reviewer/Technical Expert — Deacon Liddy – Mr. Liddy will conduct an independent review of the risk assessment, evidence gathering plan, working papers, verification plan, verification report, and findings. Mr. Liddy will approve the issuance of the opinion.

6.2 Qualifications

Gordon Reusing, M.Sc., P. Eng. – Mr. Reusing is a greenhouse gas (GHG) Lead Verifier, Lead Validator, and Peer Reviewer with extensive experience including GHG programmes in Alberta, British Columbia, Saskatchewan, Ontario, Quebec, Nova Scotia, California, and programmes operated by the United Nations Framework Convention on Climate Change (UNFCCC) Clean Development Mechanism (CDM), The Gold Standard, The Climate Registry (TCR), the Carbon Disclosure Project (CDP), and Verra: Verified Carbon Standard (VCS). He has completed numerous GHG quantification studies for the oil and gas sector, including upstream, midstream and downstream facilities. Mr. Reusing has conducted GHG verifications as a Lead Verifier, Technical Expert and Peer Reviewer in many jurisdictions, including, but not limited to, British Columbia, Alberta, Ontario, Quebec, and Nova Scotia.

Anothai Setameteekul, P. Eng. – Ms. Setameteekul is a GHG and Air Emissions Engineer based in GHD's Calgary office and is a licensed Professional Engineer in the provinces of Alberta and Saskatchewan. She has extensive knowledge and experience in GHG quantification and verification in particular industrial facilities – Oil Sands (In Situ, Mining, Upgrader operations), Hydrogen Production, Petrochemical, Cement, Refinery, Natural Gas Processing, Natural Gas Power Generation with Cogeneration, and Steel Manufacturing. She is familiar with the GHG Regulation in Canadian jurisdictions including British Columbia, Alberta and Ontario. Ms. Setameteekul is also accredited by the California Air Resource Board as a lead verifier of greenhouse gas

emissions for Oil and Gas system, process emissions sectors, fuel pathways, alternative fuel transactions and petroleum based fuel report. Ms. Setameteekul is also accredited by the Washington State as a verifier. Ms. Setameteekul also has experience working in the accreditation audit process for GHD by ANAB, and has training and knowledge of the ISO 14064 and ISO 14065 standards.

Ms. Setameteekul graduated with a Masters degree in Industrial System Engineering from the University of Regina. Ms. Setameteekul worked as a research assistant in International Testing Center for CO₂ Capture (ITC). Her work was related to CO₂ capture using chemical absorption process. Ms. Setameteekul also worked as a process engineer to evaluate process performance such as process efficiency, air emissions, liquid effluent, waste, and utility consumption at a carbon capture test facility.

Angela Kuttemperoor, E.I.T. – Ms. Kuttemperoor is an Air Engineer-In-Training with GHD’s Greenhouse Gas Assurances Services Team and has 2 years of experience in greenhouse gas verification work. Ms. Kuttemperoor has a Bachelor’s of Environmental Engineering (co-op) from the University of Guelph. Ms. Kuttemperoor has experience as a verifier under the Ontario Emissions Performance Standards program and federal Output-based Performance Standards program. Ms. Kuttemperoor has expertise in voluntary offset project validations and verifications conducted under the Climate Action Reserve, American Carbon Registry and Verified Carbon Standard for landfill gas destruction and ozone-depleting substances destruction projects. Ms. Kuttemperoor has experience with compliance offset verifications for ozone-depleting substances conducted under the California Air Resources Board. Ms. Kuttemperoor has experience in verifications conducted under the Carbon Offsetting and Reduction Scheme for International Aviation.

Deacon Liddy, P. Eng. – Mr. Liddy is a Principal with GHD and an experienced GHG validator and verifier, having completed over 100 GHG validation/verifications with 17 years of experience. Mr. Liddy works with large industrial facilities, Provincial governments, and offset project developers to complete risk-based verifications. Mr. Liddy has been the lead verifier for completion of greenhouse gas verifications conducted on behalf of Alberta Environment for emission offset projects for landfill gas, biomass, tillage, composting and fuel switching for lumber kilns. Mr. Liddy has completed verifications of greenhouse gas emission intensity baseline applications and annual compliance reports under the Alberta Specified Gas Emitters Regulation and British Columbia Mandatory Reporting Regulation. Mr. Liddy is a professional engineer in BC, Alberta, and Saskatchewan.

7. Project Description

The Project involves the destruction of eligible ODS refrigerant obtained from the Government of Thailand’s Customs Department where ODS had been stockpiled since 2007. The ODS material is aggregated at the WMS Warehouse, prior to transport to the WMS destruction facility in Samutprakarn, Thailand. The ODS is transferred from small cylinders to a few larger ISO tanks, where the ODS is destroyed using fluidized bed incineration technology. Truck scales are used to determine the weight of ODS destroyed by weighing the trucks arriving and departing from the destruction facility. Tradewater utilizes a methodology deviation for the ODS weighing procedure. WMS personnel conduct sampling of the ODS and composition analysis occurs at a third-party lab in Belgium, Bureau Veritas Commodities Antwerp N.V. The weight and ODS composition of the ODS is used to determine the carbon credits generated by the Project. A secondary procedure is used for measuring the weights of the small cylinders of ODS using electronic balances, that are aggregated and destroyed in the larger ISO tanks. From this procedure, a Consolidation report is generated which is used as the offset title for the Project. WMS transfers ownership of the ODS cylinders and ownership of all carbon credits generated from the Project to Tradewater.

7.1 Client Contact

Ms. Adriana Vargas Corrales, Mr. Tip Stama and Ms. Gina Sabatini are GHD's contacts at Tradewater for this validation and verification.

8. Validation and Verification Scope

The following sections describe the scope of the validation and verification.

8.1 Project Boundary

The Project is broken down into the following greenhouse gas Sources, Sinks and Reservoirs (SSRs) to be included or excluded, as defined in the Program's ACR Methodology:

Baseline:

- SSR 6 – Emissions from ODS from use, leaks and servicing through continued operation of equipment – (ODS)

Project:

- SSR 5 – Transport to Destruction Facility – Carbon Dioxide (CO₂)
- SSR 6 – Emissions of substitute from use, leaks and servicing through continued operation of equipment – CO₂e
- SSR 7:
 - Emissions from ODS from incomplete destruction at destruction facility (ODS)
 - Emissions from the oxidation of carbon contained in destroyed ODS (CO₂)
 - Fossil fuel emissions from the destruction of ODS at destruction facility (CO₂)
 - Indirect emissions from the use of grid-delivered electricity (CO₂)

8.2 Geographical and Operational Boundaries

The validation and verification will include the SSRs from the Project located at the following address:

Waste Management Siam Company LTD Destruction Facility
965 Moo 2 Soi 3B Bangpoo Industrial Estate
Sukhumvut Rd Bangpoo Mai
Muang Samutprakarn
Samutprakarn 10280
Thailand

8.3 Reporting and Crediting Period

The start date for the Project is June 13, 2023. The crediting period is from June 13, 2023 – June 12, 2033.

The reporting period for this validation and verification for the Project is from June 13, 2023 – July 24, 2023.

8.4 Project Deviations

The Project is expected to seek an ACR Methodology deviation for the Project for the ODS weighing procedure, using truck weigh scales.

8.5 Use of this Report

The validation and verification report will be prepared for the use of Client and the Program.

References from GHD's Validation and Verification Report must use the language in which the opinion was issued, and reference the date of issuance of GHD's Validation and Verification Report, the applicable validation and verification period and the associated program for which the validation and verification was conducted. The GHG assertion provided by GHD can be freely used by Client for marketing or other purposes other than in a manner misleading to the reader. The GHD mark shall not be used by Client in any way that might mislead the reader about the validation and verification status of the organization. The GHD mark can only be used with the expressed consent of GHD and then, only in relation to the specific time period validated and verified by GHD.

8.6 Use of Information and Communication Technology

As part of the validation and verification process, GHD may utilize information and communication technology (ICT) in accordance with IAF Mandatory Document for the use of Information and Communication Technology for Auditing/Assessment Purposes (IAF MD 4:2018) for various aspects of the validation and verification, including conducting video/tele-conferencing with various personnel up to full virtual site visits.

The decision to use ICT is permissible if GHD and Client agree on using ICT. The agreed ICT method will be MS Teams, Skype, Zoom, Google Meet, or Webex. By accepting GHD's proposal, Client agreed to the use of the afore mentioned ICT methods and their associated information security, data protection and confidentiality measures. Any other ICT method(s) will be agreed to in writing (email) between GHD and Client prior to use. The parties will not agree to the use of an ICT method which either party does not have the necessary infrastructure to support. Throughout the entire validation and verification process, including use of ICT, GHD will abide by the confidentiality procedures.

9. Site Visits

9.1 Site Visit Requirements

Project validations require a site visit as per the Program and the ODS Methodology requires a site visit every calendar year. Clarification was requested from ACR on the timing requirement for the next site visits for Tradewater ODS projects in Thailand. Mr. Megesh Tiwari from ACR confirmed in an email dated August 18 2023, that GHD is not required to conduct an in-person site visit for the remainder of 2023 due to the following:

- The project for which GHD attended the site visit in-person, Thailand 1, spanned 2022 and 2023 and therefore “counts” as the VVB’s in person attendance for 2023
- GHD is the same verifier for all 5 projects and have attended virtual site visits for Thailand 2 and 3 (and expect to attend virtually for Thailand 4 and 5)
- The new VVB that we will cycle in for Thailand 6, to occur in December 2023, will attend in-person as required

During the validation and verification of Tradewater International – Thailand 1.0, GHD conducted an in-person site visit to the destruction facility in November 2022. For Tradewater – Thailand 4 GHD will conduct a remote site assessment.

9.1.1 Remote Site Assessment

Per guidance from ACR during the verification of Thailand #2, a remote site visit is required when an in-person site visit is not completed for the Tradewater Thailand ODS offset projects.

Virtual site visits must be conducted in accordance with the Regulation, International Accreditation Forum Mandatory Document for the Use of Information and Communication Technology for Auditing/Assessment Purposes: Issue 2 (IAF MD 4:2018), and any related guidance.

9.2 Site Visit Agenda

The site visit, if applicable, will generally adhere to the following agenda. Deviations from the proposed agenda may be necessary to respond to data gaps and or issues identified during the validation and verification process:

- Opening Meeting - Introduction and sign in, safety review, and overview of validation and verification process and expectations (key personnel need to be present).
- Overview of emissions processes at the Project site, including description of key emission sources and a facility walkthrough.
- Assessment of eligibility and additionality criteria against the Project and Project boundary.
- Review of monitoring practices, quality control and quality assurance procedures, GHG data and emission calculations, and any activities that have a potential to impact materiality.
- Review of meter calibration certificates and accuracy specifications for key meters.
- Interviews with key personnel and review of data acquisition process from meter through distributed control system or transcription and data entry, as applicable.
- Walkthrough to view Project boundaries, physical infrastructure, and equipment and measuring devices.
- Closing Meeting – Review issues identified and next steps.

A detailed remote site visit agenda will be prepared by GHD and circulated before the site visit.

10. Validation and Verification Schedule

The following presents a draft validation and verification schedule: The overall validation and verification process is expected to take approximately 4 weeks.

- Submit Validation and Verification Plan to Client – September 25, 2023
- Baseline and Project emissions calculations of Project Plan – October 2023
- Data checks and recalculations of Emission Report – October 2023
- Remote Site Visit - September 27, 2023
- Review of data management, document retention and record keeping program – October 2023
- Submit issues log to Client and opportunity for Client to address issues and, if required, resubmit Project Plan/Monitoring Report – October 2023
- Independent review by Independent Reviewer – Within 2 weeks following resolution of all issues in the Issues Log
- Issue Draft Validation and Verification Report and Statement – Within 1 week following completion of the independent review
- Issue Final Validation and Verification Report and Statement – October 2023

11. Strategic Analysis

To understand the activities and complexity of the Project, and to determine the nature and extent of the validation and verification activities, GHD has completed a strategic analysis. The strategic analysis involves consideration of the details of the Project Site and its operations, the Project Plan and Monitoring Report and its preparation, and the validation and verification requirements per the Program. The information considered in the strategic analysis is documented in GHD's working papers and was used to inform the assessment of risks and the development of an evidence gathering plan.

12. Assessment of Risk and Magnitude of Potential Errors, Omissions or Misrepresentations

GHD conducted an assessment of the risk and magnitude of potential errors, omissions or misrepresentations associated with the Project Plan assertion and Monitoring Report statement. GHD then identified areas where qualitative or quantitative errors could occur and assigned risks to the areas. The inherent and control risks were evaluated, and detection risks were established. The risks were identified as high, medium and low. The risk assessment was a key input to developing an effective evidence gathering plan.

13. Evidence-Gathering Plan

GHD has developed an Evidence Gathering Plan (EGP) for internal use based on review of the objectives, criteria, scope, and level of assurance detailed above, along with consideration of the strategic analysis and assessment of risks. The EGP is designed to lower the validation and verification risk to an acceptable level and specifies the evidence (data and information) that will be reviewed as part of the validation and verification in the evidence gathering activities. The EGP was reviewed and approved by the Lead Validator and Verifier prior to issuing this verification plan. The EGP is dynamic and will be revised, as required, throughout the course of the verification. Any modifications to the EGP will be reviewed and approved by the Lead Validator and Verifier, with the final EGP to be completed prior to issuing the final validation and verification report and opinion.

14. Quantitative Testing

Where possible, GHD will use the data to check conformance of the Project with the Program's Protocol requirements. Where data is not available, GHD will conduct a qualitative assessment and assess that the methodologies used in the development of the Project Plan conform to the Program's applicable Protocol.

Quantitative data or raw data will be made available to GHD. GHD will use the data to recalculate and check the GHG emissions reductions calculations and assess the methodologies that were used in the development of the Monitoring Report.

15. Materiality Level

The quantitative materiality for this verification is set at 5 percent of the reported emissions reductions, as per the requirements of the Program. In addition, a series of discrete errors, omissions, or misrepresentations of individual or a series of qualitative factors, when aggregated, may be considered material.

Materiality will also be assessed on a qualitative level, including conformance with the applicable Program and Protocol requirements. Non-conformance with Program requirements may be considered a material error unless the Program provides a variance.

16. Validation and Verification Procedures

The validation and verification procedures will be used to assess the following:

1. Accuracy and completeness of Project Plan and Monitoring Report
2. Uncertainty of external data sources used
3. Emission assumptions
4. Accuracy of emission calculations
5. Potential magnitude of errors and omissions

To sustain a risk-based assessment, the GHD Project Team will identify and determine risks related to the GHG emissions during the desk reviews, site visit and the follow-up interviews as applicable. The GHD Project Team will focus on the accuracy and completeness of provided information. The components of the document review and follow-up interviews are:

- Document Review:
 - Review of data and information to confirm the correctness and completeness of presented information
 - Cross-checks between information provided in the Project Plan and Monitoring Report and information from independent background investigations
 - Determine sensitivity and magnitude analysis for parameters that may be the largest sources of error
 - Comparison of reported emissions and emissions reductions with the previous reporting period(s)
- Follow-up Interviews:
 - On-site
 - Head office visit
 - Via telephone
 - Via email
 - Via ICT

The document review shall establish to what degree the presented Project Plan and Monitoring Report documentation meets the validation and verification standards and criteria.

The GHD Project Team's document review during the review process shall comprise, but not be limited to, an evaluation of whether or not:

- The documentation is complete and comprehensive and follows the structure and criteria required by the Program.
- The monitoring methodologies are justified and appropriate.
- The assumptions behind the inventory are conservative and appropriate.

- The GHG emission calculations are appropriate and use conservative assumptions for estimating GHG emissions and emissions reductions.
- The GHG information system and its controls are sufficiently robust to minimize the potential for errors, omissions, or misrepresentations.

The GHD Project Team will interview Project staff to:

- Cross-check information provided
- Test the correctness of critical formulae and calculations
- Review data management and recording procedures

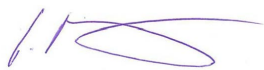
GHD will complete checks of data from point of collection (meter, scale, etc.), through the Project data management systems, then it's use in the development of the Project Plan and Monitoring Report. A sample of raw data will be collected for checks and recalculations as applicable. Should errors or anomalies be identified that could lead to a material misstatement, GHD will request further raw data samples to assess the pervasiveness of the errors or anomalies. GHD will identify the source and magnitude of data or methodology errors or anomalies; however, as a validation and verification body, GHD may not provide solutions to issues identified.

17. Closure

The Validation and Verification Plan is considered to be a dynamic document that may require modification and adaptation to project conditions as encountered during the completion of the validation and verification process.

All of Which is Respectfully Submitted,

GHD



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Copy to: Deacon Liddy, Independent Reviewer, GHD

Appendix B

Document Review Reference List

APPENDIX B - DOCUMENT REVIEW REFERENCE LIST
Tradewater, LLC
Tradewater - Thailand 4 Project Validation and Verification

No.	Document Title	Description
1	ACR903_GHGPlan_v4.0	Project Plan
2	ACR903_MonitoringReport_v2.0	Monitoring Report
3	ACR903_EnviromentalAssesment_v2.0	Environmental Assessment form
4	ACR903_SDGContribution_v2.0	SDG Contribution form
5	ACR903_AnnualProjectAttestation_v1.0	Annual Project Attestation
6	ACR903_QuantificationAssertions_v1.0	GHG Assertion
7	ACR903_CertificateOfDestruction_2023-07-31	Evidence of Destruction
8	ACR903_SamplingCertificate_2023-11-06 ACR903-SamplingResults-2023-05-15 Solubility Chart	Evidence of Sampling
9	Original Weight Tickets Jul 24.jpeg Weight Ticket Filled Form Weight-Ticket_Full1 Weight-Ticket_Truckonly 2566-06-12 11-03	Weight Tickets and signed weight forms
10	ACR903_ContinousData_2023-06-13-to-2023-07-24	CEMS Data
11	ACR903_ConsolidationReport_2023-04-19 ACR903_ConsolidationReport_2023-04-19(excel)	ISO Filling Tank /Offset title
12	22.09.26 Transfer of ownership I 22.10.03 Transfer of ownership II 22.10.14 Transfer of ownership III 22.10.21 Transfer of ownership IV 22.10.27 Transfer of ownership V 22.11.14 Transfer of ownership VI	Transfer of Ownership Documentation WMS - Tradewater
13	Chain of custody Diagram Customs to WMS letter - English Customs to WMS letter - Thai Handling over the refrigerants seized under the Customs Department - English Handling over the refrigerants seized under the Customs Department - Thai Guidelines for the destruction of refrigerants under the supervision of Customs Department - Eng Guidelines for the destruction of refrigerants under the supervision of Customs Department - Thai	Transfer of Ownership Documentation Customs to WMS
14	ACR903_AirwayBillandShippersDeclaration_2023-05-05 ACR903_ProofOfDelivery	Sampling Chain of Custody
15	ACR903_ODSLicense Certified Services ISO IEC 17025	Bureau Veritas Compliance Documentation
16	BPEC latest permit BPEC Waste acceptance List Waste Receiving Capacity BPEC WSP for latest for year 2023-2024 BPEC Monitoring Report ACR903_ScaleCalibration_2023-06-12 CEMS Calibrations Results 6-01-2022 CFC DRE 6th report R-12 result (Feb) ACR903_OxigenAdjustment_v1.0 air emission testing Hbr Freon 12_BPEC_8 Aug 65 (2) 2022.08.11 Destruction SOP's WMS- ACR 2022.09.08 Sampling procedure fo ISOs and B1000 2022.09.08 Transport and Storage procedure 2022.09.09 Maintenance Procedure 2022.09.14 Filling Procedure WMS Sampling Procedures Meeting attendee list Victor Molina EPA Cert BPEC LAB License (2021) BPEC LAB License (2022)	WMS Compliance Documentation
17	1a_ScaleBridge_11-07-2023 1b_ScaleSerialNumber_11-07-2023 2_ISOTankFeedingLine_2-05-2023 3_SamplingPort_2-05-2023 4_Flowmeter_2-05-2023	BPEC Equipment images and SOP
18	ACR903_DeviationRequest_ODS Weigh Procedure_APPROVED	Deviation documenation

Appendix C

Findings List

Issues Log

Revision 5 -closed
Date November 24, 2023

Project Number 12588069
Program-Specific Project ID ACR903
Client TRADEWATER, LLC
Facility Name TRADEWATER - THAILAND 4
Regulation / Program AMERICAN CARBON REGISTRY (ACR)
Reporting Year 2023-06-13 to 2023-07-24

Issue No.	Issues / Questions	Explanation/Response	Status
1	Please define TEAP in the GHG Project Plan A3. NON-TECHNICAL EXECUTIVE SUMMARY OF PROJECT	Corrected in document "ACR903_GHGPlan_v3.0"	Closed
2	GHG Project Plan A3. NON-TECHNICAL EXECUTIVE SUMMARY OF PROJECT, background information section, and throughout the Project Plan, 'in and before 2007' is not equivalent to since 2007. GHD understands that the ODS has been stockpiled by the government since 2007. Response: Incorrect wording is still found in sections A3, (2) places and section C2 of the GHG Project Plan.	Corrected in document "ACR903_GHGPlan_v3.0" TW response: Corrected in document "ACR903_GHGPlan_v4.0"	Closed
3	Still referencing ACR Standard v7 in many places. The current version of the ACR standard is V8.	Corrected in document "ACR903_GHGPlan_v3.0"	Closed
4	Section A5 TEAP table includes results that were not converted to TEAP Standard temperature conditions. Note that this same issue was identified during TW3 VV and corrected. Response: Please note that paragraph under updated TEAP table is not updated, eg. does not indicate that PCDDs/PCDFs are 0.19 ng-ITEQ/Nm3 at TEAP standard conditions. Please also clarify what the TEAP standard conditions are within the TEAP section eg. per the TEAP Protocol "All concentrations of pollutants in stack gases and stack gas flow rates are expressed on the basis of dry gas at normal conditions of 0 degrees C and 101.3 kPa, and with the stack gas corrected to 11% O2 (as referred to by normal cubic metre, Nm3)."	Corrected in document "ACR903_GHGPlan_v3.0" TW response: Corrected in document "ACR903_GHGPlan_v4.0"	Closed
5	C1 Baseline section of the GHG Project Plan is blank.	Corrected in document "ACR903_GHGPlan_v3.0"	Closed
6	On ODS Sampling Certificate, volume of container sampled (ISO tank) should be in units of volume not mass. Response: Since the Protocol requires the certificate to be in units of volume, this must be corrected immediately for Tradewater 4.	Noted. It will be corrected in upcoming projects TW response: Corrected in document "ACR903_SamplingCertificate_2023-11-06"	Closed
7	ISO tank number is not on the sampling certificate Response: Please confirm that the feed tank serial number and the ISO tank number refer to the same tank.	ISO tank number is in the 4th line "Container ID sample was taken from" TW response: Feed tank serial number and	Closed
8	On the sampling certificate the laboratory address is in French and appears to be different from the English address stated elsewhere in the analysis certificate. Please clarify.	Corrected	Closed
9	Project Proponent is indicated as Tradewater International on destruction certificate and is inconsistent with Sampling Certificate where Tradewater LLC is identified as the Project Proponent.	COD corrected	Closed
10	Feed tank serial number on Certificate of Destruction (BNFU662107) does not match ODS sampling certificate (BNFU622107) Response: Certificate of Destruction (BNFU662107) does not match ODS sampling certificate (BNFU62107)	Corrected in document "ACR903_SamplingCertificate_2023-06-05" TW response: Corrected in document "ACR903_SamplingCertificate_2023-11-06"	Closed
11	Please provide evidence that the ODS was fed into the incinerator at less than 37.5 kg/hour and at less than 0.6% of the total waste feed as required by the operating limits document referenced in the permit, page 3, paragraph 5. (Also per ACR Protocol Section 6.1 VI requiring continuous monitoring of the ODS feed rate.) Response: Please see response to issue 15 on this related topic.	'ACR903_ContinuousData_2023-06-13-to-2023-07-24.xlsx'. ODS FLOW RATE shows the incinerator was never fed above the permitted threshold. Moreover, the facility retains their permit and no issuance of violation or permit revocation demonstrates the destruction facility conforms to their permitted thresholds.	Closed

Revision 5 -closed
Date November 24, 2023

Project Number 12588069
Program-Specific Project ID ACR903
Client TRADEWATER, LLC
Facility Name TRADEWATER - THAILAND 4
Regulation / Program AMERICAN CARBON REGISTRY (ACR)
Reporting Year 2023-06-13 to 2023-07-24

Issue No.	Issues / Questions	Explanation/Response	Status
12	Please provide the effluent discharge continuous monitoring data in terms of water and pH levels as per the ACR Protocol Section 6.1 VI. If not applicable, please provide the explanation.	The destruction technology utilized for this project does not produce any liquid effluent waste stream.	Closed
13	Please provide the full version of the environmental impact report as quoted in this screenshot from the BPEC permit: รายงานการเปลี่ยนแปลงรายละเอียดโครงการในรายงานประเมินผลกระทบสิ่งแวดล้อมสำหรับโครงการ กิจการ หรือการดำเนินการ ที่อาจมีผลกระทบต่อทรัพยากรธรรมชาติ คุณภาพสิ่งแวดล้อม สุขภาพ อนามัย คุณภาพชีวิต ของประชาชนในชุมชนอย่างรุนแรง โครงการโรงงานปรับคุณภาพของเสียรวม (ส่วนขยาย ครั้งที่ 1) (ครั้งที่ 2)	Document provided in path Verification\Compliance\WMS	Closed
14	Please provide the calibration records for the meters measuring the continuous monitoring of waste feed, temperature, pressure, carbon monoxide (CO) and effluent water and pH (if applicable) Response: The calibration record provided does not indicate what is for. Please provide calibration records for waste feed, temperature, pressure and CO. Also, for effluent water and pH (if applicable per the Protocol).	Document provided in path Verification\Compliance\WMS Compliance Documentation\CEMS calibration. TW response: Included in the folder is the full report from the calibration performed prior to the destruction of this project (Verification\Compliance\WMS Compliance Documentation\CEMS calibration). WMS has ensured with this calibration that they fulfill all requirements to continue utilizing their CEMS system, according to their permit and Thai legislation	Closed
15	The CEMS file data provided does not appear to be continuous feed rate data as the numbers are all exactly the same and the units are not specified. Please provide the continuous feed rate monitoring data (Protocol Section 6.1 VI). Response: The number written down in the CEMs data excel file is exactly the same for every half hour period (20.0). It is expected that the feed meter should not be showing exactly the same number every half hour period, there should be some minor variations in the feed rate. Please explain how the feed rate can be exactly 20.0 kg/hr for every half hour feed rate and how that compares to the accuracy of the feed rate meter. Please also provide a copy of the video recorded of the meters saved for the destruction period. Response: Based on GHD's observations during the TW 5 site visit, the waste feed meter and video monitoring system was observed and understood that the waste feed is maintained at approximately 20 kg/hour at all times.	The methodology specifies that the feed rate (among other items) must be monitored continuously and corroborating operations data provided to the project proponent. As demonstrated during the site audit and procedural discussions, the feed rate is set manually at the operational feed valve. The associated flow gauge is not a part of the CEMS data system, and control room operators monitor a live feed video camera of the flow gauge to ensure operations remain within control parameters. Twice an hour, operators record the flow gauge value for project reporting purposes. Flow rate is measured in kg/hour, and will be noted in future data packets. TW response: The number written down appears exactly the same in data reporting as the ISO pressure release valve is manually opened by the operators to conform to the desired feed rate for continuous incineration, and changed (typically +/-5kg/hour) as needed based on operational parameters. The feed meter, as evaluated by GHD in person and virtually, is a liquid flow indication gauge. The operator monitors this on a live internal circuit surveillance feed and	Closed

Revision 5 -closed
Date November 24, 2023

Project Number 12588069
Program-Specific Project ID ACR903
Client TRADEWATER, LLC
Facility Name TRADEWATER - THAILAND 4
Regulation / Program AMERICAN CARBON REGISTRY (ACR)
Reporting Year 2023-06-13 to 2023-07-24

Issue No.	Issues / Questions	Explanation/Response	Status
16	<p>According to stack test report, incinerator operated at a minimum temperature of 850 C, to achieve 99.99% DRE. In the provided CEMS data, there are two half hour periods that are well below 850 C (482 C on July 1, 2023 600 and 515 C on July 2, 2023, 1400). Please confirm how the 99.99% DRE was achieved during these two half hour periods.</p> <p>Response: The methodology requires 99.99% DRE and the DRE is based on the stack testing which shows 99.99% being achieved at 850 C. Feeding waste at a temperature less than 850 C at any time raises a question as to whether the ODS is being incinerated at the required efficiency. Although DRE is not a parameter that can be monitored directly, it is dependent on the temperature, which is a required monitored data point by the methodology.</p> <p>Response: From an engineering perspective the low temperatures noted above that occurred for 2 hours during the monitoring period raise a concern that the DRE was not achieved. The potential reduction of these 2 hours at 20 kg/hour of ODS feed is not a material issue.</p>	<p>Note that the reported temperature is the rolling 1-hour average, as required by operating parameters, and not the instantaneous destruction temperature as monitored and managed by the control room operators. Furthermore, low temperatures are recorded around the time of operations shutdown, which indicates partial reporting of monitoring systems during null destruction periods. Per the Methodology, DRE is not a monitored data point and can be demonstrated through the existence of permits, regulatory documentation, and facility operations. It is not a monitoring obligation the project proponent tracks and reports on continuously.</p> <p>TW response: Shutdown SOP has been provided as temperature varies around shutdown points. As DRE is a requirement for the permitting of the facility, their valid permit is proof of compliance.</p>	Closed
17	<p>It is not clear what date the stack test report was issued. Please provide the information showing the issue date.</p> <p>Response: Please provide a copy of the evidence (cover letter/cover page) showing the 2022 issue date.</p>	<p>Stack test was issued in 2022</p> <p>TW response: as a correction, the stack test was performed in 2020 as it can be seen in the first part of the document. The DRE results corresponding to 2022 can be found in the path Verification\Destruction\WMS Compliance Documentation\Stack Testing</p>	Closed
18	<p>Please note that license plate number on truck weight tickets pre-destruction (805) is not matching number post-destruction (51-3329).</p>	<p>The deviation approved for this project describes a weighing procedure that works for different trucks</p>	Closed
19	<p>Please note that the HBR and moisture content used in calculations does not match the values from the sample lab analysis certificate</p>	<p>Corrected</p>	Closed
20	<p>Please confirm that the truck scales are inspected and calibrated quarterly to 5% or better accuracy. The calibration that we have currently is for Q1 2023 (dated March 25, 2023) and is not applicable to the current Project (reporting period June 13 - July 24, 2023) which falls within Q2 2023.</p>	<p>Latest calibration has been provided</p>	Closed
21	<p>Please revise GHG Project Plan Monitoring Parameters section for Qrefr,i, to clarify that it is the Total quantity of refrigerant ODS i sent for destruction (per the Protocol), excluding HBR, moisture, etc.).</p>	<p>Corrected in document "ACR903_GHGPlan_v3.0"</p>	Closed
22	<p>Please note that in the GHG assertion, QODS parameter is represented as Qt, inconsistent with the Protocol.</p> <p>Response: In the Protocol, QODS parameter is represented as QODS. This was consistent with the previous version of the GHG Project Plan. Please revert to the text within the previous Project Plan which includes it as QODS. The QODS parameter is not labelled correctly in the GHG Assertion calculations file. Please update GHG Assertion calculations file to have the Qt parameter represented as QODS.</p>	<p>Corrected in document "ACR903_GHGPlan_v3.0"</p> <p>TW response: Corrected in document "ACR903_QuantificationAssertion_v2.0"</p>	Closed
23	<p>Per Protocol, Monitoring frequency of parameters including Mass of ODS and Concentration of ODS is Per Container, inconsistent with Monitoring Parameters section of GHG Project Plan.</p>	<p>Corrected</p>	Closed

Revision 5 -closed
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Reporting Year 2023-06-13 to 2023-07-24

Issue No.	Issues / Questions	Explanation/Response	Status
24	Please provide ACR approval for the ODS weighing procedure deviation request that was submitted.	Provided in path Validation\Deviation	Closed
25	Per the Project's COD, destruction commenced on 6/13/2023 4:00:00 PM, however per Project's CEMs data, destruction commenced on 6/14/2023 4:00:00 PM. Per CEMs data, pre-destruction ODS weight per truck ticket was measured on 6/12/2023 around 10 am, and does not meet the Protocol requirement for pre-destruction weighing of ODS occurring no more than 48 hours prior to destruction. Response: The hidden cells do not contain date 6/13/2023 or flow rate on this date. Please clarify.	Cells for CEMs data for 6/13/2023 were hidden. Destruction commenced as indicated in the COD. TW response: complete information can be found in document ACR903_ContinuousData_2023-06-13-to-2023-07-24	Closed
26	Please note that ACR has recently updated the ODS Methodology. Tradewater Thailand #1, and 3 used the April 2021 methodology. The updated ODS methodology is dated September 2021. In the September 2021 version, the 100-year GWP for R-12 was updated to an IPCC AR5 value of 10,239 MT CO2E/MT ODS applicable to projects with vintage year 2021 and beyond. The GWP for R-12 in the April 2021 methodology is 10900 MT CO2E/MT ODS. The difference between these GWP's results in a 6.5% overreporting discrepancy in emissions reductions. Please contact ACR and clarify which Protocol should be used for Tradewater Thailand 4 and provide GHD with the guidance from ACR.	TW response: We have confirmed with ACR that we are to use the GWP values from AR5 for Thailand 4 and all upcoming projects.	Closed
27	Please provide the signed Monitoring Report for the Project.	Provided	Closed
28	Please provide the training certificate for all technicians involved in the ODS sampling and destruction processes including Ampol Ruttanasang. Response: Please provide 2023 Technician Certification for Ampol Ruttanasang and all other technicians involved in the handling of the ODS.	Lab certifications can be found in the path Verification\Compliance TW response: The document named "BPEC LAB License (2021)" indicates that the certification is valid for 3 years from the time it was issued.	Closed
29	Consolidation report has a random number '4033.64' at the bottom of the last page. Response: Please note that the pdf version still contains the above number near the bottom of the document. Response: This does not seem to be corrected. Please provide updated document. Please also note that ISO tank ID number on consolidation report does not match COD (BNFU662107). Response: ISO tank ID number on consolidation report does not match COD (BNFU662107).	Corrected TW response: corrected in ACR903_ConsolidationReport_2023_04-19	Closed
30	Please sign the attestation at the bottom of the GHG Project Plan and provide final copy Response: GHD understands that the Project Proponent and Project Developer are both Tradewater, LLC. If so, please remove associated text, table and signature in the Attestations section of the GHG Project Plan for the option described as 'If Project Proponent and Project Developer Account Holder is not the same entity.' Response: Please revised GHG Plan to remove all instructional text in the Attestation section and the 'Account Holder' signature table.	Corrected TW response: corrected in ACR903_GHGPlan_v4.0	Closed
31	Please provide a document from the Thailand Government that provides the cylinder numbers from all 10, 080 cylinders, provided from the Government to WMS.	Inventory of the cylinders was performed after	Closed

Revision 5 -closed
Date November 24, 2023

Project Number 12588069
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Regulation / Program AMERICAN CARBON REGISTRY (ACR)
Reporting Year 2023-06-13 to 2023-07-24

Issue No.	Issues / Questions	Explanation/Response	Status
32	<p>Please note that GHG Project Plan Section G2 Chain of Custody should include details of the transfer of ownership and any carbon credits generated from the Project from Thailand Customs to WMS. Please note that Section G1 Proof of Title should only include details of the main Proof of Title for Tradewater's ownership of emissions reductions. GHD understands that this is the Consolidation Report. Refer to GHG Project Plan template for list of acceptable documents.</p> <p>Response: This was not addressed in GHG Project Plan version 4. Please revise the text in Sections G1 and G2 based on the above.</p>	<p>Noted. TW response: corrected in ACR903_GHGPlan_v4.0</p>	Closed
33	<p>Per the Appendices instructions within the GHG Project Plan template, please include Appendix C Proof of Title including signed Consolidation Report and Appendix F Chain of Custody, including related transfer of ownership documents.</p> <p>Response: Please update Appendix F to additionally reference all relevant transfer of ownership documents between Thailand Government, WMS and Tradewater. Please list the updated versions of the environmental assessment Appendix A and SDG contributions report Appendix B which are now both version 2.0.</p>	<p>Both the consolidation report and the Chain of Custody documentation have been included under separate cover. This has been indicated in the updated version of the GHG plan. TW response: As WMS is the Point of Origin of the project, Tradewater considers that the transfer of ownership documents from Customs to WMS are not necessary for the scope of the project.</p>	Closed
34	<p>Per the Appendices instructions within the GHG Project Plan template, please omit rows with Appendices that are irrelevant to the Project including Appendix D, E and G. Please complete the 'Provided under separate cover' column for all appendices that were included. Please delete the Template's appendices instructions in italics.</p> <p>Response: Please delete in the Appendices table rows for Appendices D,E, G and H which are not applicable to the Project.</p>	<p>Corrected in document ACR903_GHGPlan_v4.0 TW response: corrected in ACR903_GHGPlan_v4.0</p>	Closed
35	<p>Please note that on the ACR Environmental and Social Impact Assessment Report:</p> <ul style="list-style-type: none"> - the ACR Project ID has a typo. - Section 3 'on or before 2007' is incorrect. - In Section 4, please only include details of the destruction facility's address. Transfer of ownership details are more suitable for Section 3, Project Description. - Spell check required on document. - Section IIV: Preparer Information on last page to be completed. <p>Response: Version 2 of the form does not reflect any of the corrections above.</p>	<p>Corrected in document ACR903_EnvironmentalAssessment_v2.0 TW Response: Corrected in document ACR903_EnvironmentalAssessment_v2.0</p>	Closed
36	<p>Please note that on the SDG Contributions Form:</p> <ul style="list-style-type: none"> - SDG 1 is included in the Form, however not included in the GHG Project Plan. During Tradewater Thailand 3, ACR noted that SDG 1 was not applicable to the Project and should be removed. Please confirm and remove from SDG Contributions Form if not applicable. - Please complete section in Form described as 'Information on how the project activity is consistent with the SDG objectives of the host country, where the SDG objectives are relevant, and such is feasible' if applicable. - Spell check required on document. <p>Response: Version 2 of the form does not reflect any of the corrections above.</p>	<p>Corrected in document ACR903_SDGContributions_v2.0.pdf TW response: Corrected in document ACR903_SDGContributions_v2.0.pdf</p>	Closed
37	<p>Please confirm whether a public comment period took place for the current Project. If relevant, describe relevant details in the stakeholder comments and consultation sections of the GHG Plan and all other documents that request details of stakeholder consultation.</p>	<p>the Standard V8.0 of 30 days public comment. No comments were received in this time.</p>	Closed
38	<p>Please submit emissions reductions on ACR Portal.</p>	<p>Noted</p>	Closed
39	<p>COD must include the full name of the destruction facility.</p>	<p>Corrected</p>	Closed

Revision 5 -closed
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 Reporting Year 2023-06-13 to 2023-07-24

Issue No.	Issues / Questions	Explanation/Response	Status
40	<p>Please note the following issues within the Monitoring Report:</p> <ul style="list-style-type: none"> - Please confirm whether Timothy's email has a typo. - Grammar check required on document. - Project Description: Please clarify that ownership was transferred from Thailand Government to WMS, to Tradewater. Please clarify that ODS was stockpiled Since 2007. - Please note that details of the ACR deviation are from TW Thailand 3, including that the deviation is applicable when same trucks are used. GHD understands that different trucks are used for TW Thailand 4. - Please update the Monitoring Parameters table details in the Monitoring Report to be in alignment with GHG Project Plan Monitoring Parameters tables. <p>Please provide the signed Monitoring Report for the Project.</p> <p>Response:</p> <ul style="list-style-type: none"> - Emissions and ER values are not up to date in Section III, 1 Project Description and Section VI: GHG Emission Reductions and Removals. - Section I, email for Timothy 'tbrown@tradewter.us' has a typo. - Typo in Project Deviations section 'With this information, the amount of ODS destroyed will be calculated as follows: <i>Page 2 of 2 January 7, 2020 ODS destroyed</i>' - GHG Plan Monitoring Parameters tables contain more information than tables in the Monitoring Report. Please update Monitoring Report monitoring parameters tables with the information in the GHG Plan. - Please update Section II (9) Methodology version to include detail that AR5 GWP were used. Please also update Section B1 of the GHG Project Plan to include this detail. <p>Response:</p> <ul style="list-style-type: none"> - Emissions and Emissions reductions are not updated in Project Plan Section E1, E3 and E7. - Emissions and Emissions reductions are not updated in Monitoring Report Section VI: GHG Emission Reductions and Removals. <p>Response:</p> <ul style="list-style-type: none"> - Emissions and Emissions reductions are not updated in Project Plan Section E3. 	<p>Corrected in document ACR903_MonitoringReport_V2.0 TW response: Corrected in document ACR903_MonitoringReport_v2.0</p> <p>Regarding the extra information in the tables of the GHG plan, this information is not required in the template for the Monitoring Report. TW has confirmed that the information that does appear in both documents is the same.</p>	Closed
41	Please provide final signed copies of GHG Project Plan and Monitoring Report.	Provided.	Closed

Appendix D

Validation/Verification Statement



ACR Validation and Verification Opinion

VERSION 1.1

2023-10-20

SECTION I: VALIDATION/VERIFICATION BODY (VVB) DETAILS

1	VVB	GHD Limited
2	VVB Physical Address Street Name and Number, City, State, Zip	100A – 455 Phillip Street Waterloo, Ontario N2L 3X2, Canada
3	VVB Mailing Address (if different)	Same as above
4	VVB Email Address	Gord.Reusing@ghd.com
5	VVB Phone Number	15193404231

SECTION II: PROJECT DETAILS

1	Project Title	Tradewater – Thailand 4
2	ACR Project ID	ACR903
3	Project Proponent	Tradewater, LLC

SECTION III: CRITERIA USED TO FORM THE OPINION

1	ISO 14064–2 (Version Publication Date)	April 2019
2	ISO 14064–3 (Version Publication Date)	April 2019
3	ACR Standard (Version Number and Publication Date)	Version 8.0, July 2023

4	ACR Validation and Verification Standard (Version Number and Publication Date)	Version 1.1, May 2018
5	ACR-Approved Methodology (Name and Version Number)	Methodology for the Quantification, Monitoring, Reporting and Verification of Greenhouse Gas Emissions Reductions and Removals from the Destruction of Ozone Depleting Substances from International Sources, Version 1.0
6	Other Criteria (e.g., Errata & Clarifications)	Destruction of Ozone Depleting Substances from International Sources V1.0., Errata & Clarification, May 5, 2022

SECTION IV: VALIDATION OPINION DETAILS (IF APPLICABLE)

1	Is a validation opinion being provided?¹ <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <i>If Yes, complete remaining question in this section.</i>
2	Crediting Period Dates Start Date: 6/13/2023 End Date: 6/12/2033
3	Validated GHG Project Plan (provide exact filename, including any appendices) ACR903_GHGPlan_v4.0.pdf, ACR903_SDGContribution_v2.0.pdf, ACR903_EnviromentalAssesment_v2.0.pdf

¹ If both validation and verification services were conducted at the same time by the same VVB, complete Section IV as well as Section V.

4	Validated GHG Project Plan Date 7/28/2023
5	Responsibility (provide the Project Proponent name) The GHG Project Plan and its contents are the responsibility of: Tradewater, LLC
6	Does the VVB attest that the GHG Project Plan has been validated in accordance with the criteria identified in Section III? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
7	As a result of validation, what type of opinion is the VVB providing? <input checked="" type="checkbox"/> Positive <input type="checkbox"/> Negative
8	If Negative, describe the reasons the VVB is providing this validation opinion.
9	The actual GHG emission reductions and removals achieved may differ from the validated forecast of future GHG emission reductions and removals, as the forecast is based on assumptions that may change in the future.
SECTION V: VERIFICATION OPINION DETAILS (IF APPLICABLE)	
1	Is a verification opinion being provided? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <i>If Yes, complete remaining question in this section.</i>
2	Reporting Period Dates Start Date: 6/13/2023 End Date: 7/24/2023
3	Level of Assurance Reasonable
4	Verified Monitoring Report (provide exact filename, including any appendices) ACR903_MonitoringReport_v2.0.pdf, ACR903_SuplDoc.pdf

5	Verified Monitoring Report Date 9/28/2023
6	Responsibility (provide the Project Proponent name) The Monitoring Report and its contents are the responsibility of: Tradewater, LLC
7	Does the VVB attest that the Monitoring Report has been verified to the specified Level of Assurance in accordance with the criteria identified in Section III? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
8	Does the VVB attest that the GHG statement, as detailed by the Monitoring Report and provided in Section VI below, is without material misstatement (as defined by the ACR Standard)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
9	As a result of verification, what type of opinion is the VVB providing? <input checked="" type="checkbox"/> Positive <input type="checkbox"/> Negative
10	If Negative, describe the reasons the VVB is providing this verification opinion.

SECTION VI: GHG STATEMENT (APPLICABLE FOR VERIFICATION OPINIONS)²

Omit or provide additional rows for Vintages as needed

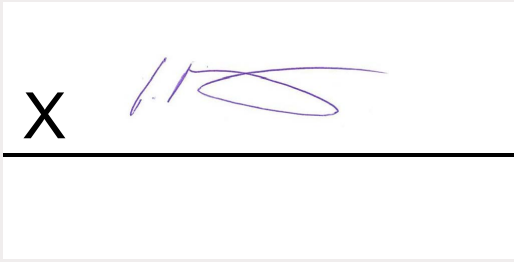
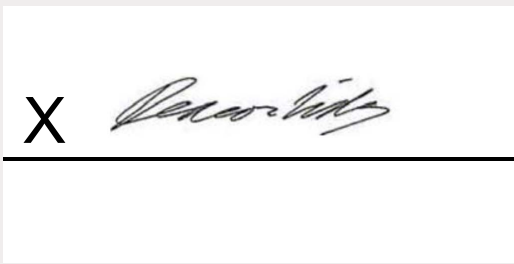
ALL GHG PROJECTS		AFOLU & GEOLOGIC SEQUESTRATION PROJECTS ONLY ³			
VINTAGE	TOTAL EMISSION REDUCTIONS / REMOVALS	BUFFER POOL / RESERVE ACCOUNT CONTRIBUTION	NET EMISSION REDUCTIONS / REMOVALS	REMOVALS SUBSET (IF APPLICABLE)	EMISSION REDUCTIONS SUBSET (IF APPLICABLE)
2023	177,241				
TOTALS*	177,241				

*Totals may not sum due to rounding

² Omit or provide additional rows for Vintages as needed. The reported units must be metric tons CO₂e.

³ If calculating Removals according to an approved Methodology, report the Removals and Emissions Reductions subsets of the Net Emission Reductions and Removals for the Reporting Period, allocated by Vintage.

SECTION VII: ATTESTATION

LEAD VALIDATOR/VERIFIER SIGNATURE	
LEAD VALIDATOR/VERIFIER NAME	Gordon Reusing
LEAD VALIDATOR/VERIFIER TITLE	Lead Validator/Verifier, GGAS Principal
LEAD VALIDATOR/VERIFIER ORGANIZATION	GHD Limited
LEAD VALIDATOR/VERIFIER DATE	12/1/2023
INDEPENDENT REVIEWER SIGNATURE	
INDEPENDENT REVIEWER NAME	Deacon Liddy
INDEPENDENT REVIEWER TITLE	Independent Reviewer, Business Group Leader
INDEPENDENT REVIEWER ORGANIZATION	GHD Limited
INDEPENDENT REVIEWER DATE	12/1/2023