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HKCAS Supplementary Criteria No. 9

Accreditation of Greenhouse Gas Validation and Verification Bodies – Verification of Greenhouse Gas Assertions at Organisation Level, and Validation and/or Verification of Greenhouse Gas Assertions at Project Level

1 Introduction

1.1 HKAS accreditation for Greenhouse Gas (GHG) Validation and Verification Bodies is provided under Hong Kong Certification Body Accreditation Scheme (HKCAS) and is open for voluntary application from any GHG V/VB* that undertake a third-party verification of greenhouse gas assertions at organisation level, or validation and/or verification of greenhouse gas assertions at project level for areas described in Appendix A.

Note: *V/VB means “Validation Body”, “Verification Body” or “Validation or Verification Body”

1.2 The accreditation criteria for GHG V/VB include HKAS 002, HKCAS 020-1: 2013, HKCAS 020-2, HKCAS 020-3, the relevant HKAS and HKCAS Supplementary Criteria, relevant IAF requirements as specified in IAF documents including Mandatory Documents and Resolutions, relevant PAC requirements as specified in PAC documents including Technical Documents and Resolutions, and the current edition of this document which serves to amplify the accreditation requirements.

1.3 The normative documents listed in Appendix B form part of the accreditation requirements of this document. For dated references, only the edition cited applies. For undated references, the latest editions (including any amendments) apply.

1.4 A HKAS assessment team may, at its discretion, carry out an observation on an applicant or accredited GHG V/VB while it is performing GHG validation or verification activities for which it is accredited or accreditation is sought. The GHG V/VB shall seek consent from and shall explain to its clients and responsible parties concerning the presence of the assessment team in such GHG validation or verification activities. The GHG V/VB shall further assure its clients and

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responsible parties that the presence of the assessment team during the GHG validation or verification activities will not affect the outcome of the validation or verification.

- 1.5 The accreditation procedure is described in accordance with Annex AA of HKCAS 020-1: 2013. Applicant or accredited GHG V/VB should take note of the procedure applicable to them.
- 1.6 Details of the HKCAS accreditation for an accredited GHG V/VB are given in its current scope of accreditation.
- 1.7 Some GHG programmes may require certification by GHG V/VB of the greenhouse gas performance achieved by responsible parties over a specified period of time. Such certification activities are not covered under this HKAS accreditation.
- 1.8 Fees for application, assessment and other accreditation services are charged in accordance with HKCAS 006. All HKCAS accredited GHG V/VB shall pay annual subscription fee. However, for the fee charged per certification with HKCAS accreditation, this is not applicable to accredited GHG V/VB as GHG validation and verification are not ongoing certification.
- 1.9 An applicant GHG V/VB shall maintain complete integrity at any point in the application and assessment process. If there is evidence of fraudulent behaviour, if the applicant GHG V/VB intentionally provides false information or if the applicant GHG V/VB conceals information, HKAS Executive shall reject the application or terminate the assessment process. Under this circumstance, the resulting application and assessment fees paid are not refundable.

2 Terms and definitions

- 2.1 For the purposes of this document, the terms and definitions given in ISO 14064-1: 2006, ISO 14064-2: 2006, HKCAS 020-1: 2013, HKCAS 020-2 and HKCAS 020-3 apply.
- 2.2 The term “shall” is used throughout this document to indicate those provisions which

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are mandatory. The term “should” is used to indicate guidance which, although not mandatory, is provided by HKAS as a recognised means of meeting the requirements.

3 Competencies

Personnel involved in Pre-engagement and Approach Phases

3.1 An applicant or accredited GHG V/VB shall have competent personnel responsible for the following tasks in pre-engagement and approach phases of the validation or verification process.

- (a) To determine if the GHG V/VB has the competence, personnel and resources to complete the validation or verification, and potential risks to impartiality based on received information from prospective clients;
- (b) To prepare contract agreement taking into account the requirements of level of assurance, objectives, criteria and scope of the validation or verification;
- (c) To select validation or verification team members including validation/verification team leader and validation/verification statement reviewer; and verify their competence;
- (d) To communicate with clients and responsible parties effectively for all necessary issues related to validation or verification;
- (e) To develop validation or verification and sampling plans based on received information from responsible parties.

Validation/Verification Team Leader and Validator/Verifier

3.2 An applicant or accredited GHG V/VB shall have at least one competent validator/verifier or validation/verification team in every area (classified in accordance with Appendix A) for which it has applied or is holding current accreditation.

3.3 Validation/verification team leaders and validators/verifiers shall have:

- (a) obtained a degree or above in an engineering or science discipline from a recognised education institute in Hong Kong, or equivalent qualification;
- (b) successfully completed relevant education programmes or training courses on quantification and reporting of GHG emissions and removals at the organisation level or project level, for example, ISO 14064-1, ISO 14064-2;

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and

- (c) successfully completed appropriate training on validation or verification of GHG assertions which includes ISO 14064-3.
- 3.4 To be a qualified validator/verifier, he/she shall be trained on-site in at least 4 different projects as a validator-in-training/verifier-in-training under direction and guidance of a qualified validator/verifier. The validation or verification process shall be conducted in accordance with ISO 14064-3 or equivalent.
- 3.5 To be a qualified validation/verification team leader, he/she, after qualified as validator/verifier, shall be trained on-site in at least 3 different projects in the role of a validation/verification team leader-in-training under the direction and guidance of a qualified validation/verification team leader. The validation or verification process shall be conducted in accordance with ISO 14064-3 or equivalent.
- 3.6 An applicant or accredited GHG V/VB shall have a documented procedure with defined criteria to evaluate the competence of validation/verification team leaders and validators/verifiers including on-site evaluation. In addition, the GHG V/VB shall have an effective system to ensure the continued competence of its validation/verification team leaders and validators/verifiers. The GHG V/VB shall evaluate the performance of every validation/verification team leader and validator/verifier on-site at least once every 3 years.

Technical Expert

- 3.7 A technical expert may be included in a validation or verification team. He/she may provide technical support to the team. A technical expert needs not be trained on validation or verification techniques but shall have sufficient knowledge in his/her technical area. During validation or verification, he/she shall work with a qualified validation/verification team leader or validator/verifier.

Validation or Verification Statement Reviewer

- 3.8 An applicant or accredited GHG V/VB shall ensure that personnel carrying out the independent review of the validation/verification statement have all necessary competence including knowledge relevant to the specific areas described in Appendix A of this document. If a GHG V/VB uses a committee to review validation or

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verification statement, it shall have documented procedures for the committee to make sound conclusions and to ensure that the committee members are conversant with the reviewing criteria. It may be necessary to provide appropriate training to committee members. Performance of the committee shall be monitored.

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4 Validation or verification process

- 4.1 A responsible party may comprise one or more facilities. During validation or verification process, an applicant or accredited GHG V/VB shall include on-site visits at the responsible party's facilities which are included in the scope of validation or verification. When the GHG V/VB desire not to visit all those facilities, a site sampling plan shall be developed. The GHG V/VB should take into account potential risks to the validation or verification for the site sampling development. Potential risks include but not limited to the following:
- (a) GHG sources, sinks and/or reservoirs cannot be checked on site;
 - (b) Organisation's boundaries, physical infrastructure, activities and technologies cannot be verified on site;
 - (c) Any change occurred cannot be notified;
 - (d) GHG information system and its control cannot be checked on site.
- 4.2 An applicant or accredited GHG V/VB shall determine the validation or verification time needed for each on-site validation or verification activity. The GHG V/VB shall ensure that a validation or verification team has sufficient time to carry out a complete and effective validation or verification and cover all essential elements. In determining the validation or verification time, the GHG V/VB should at least consider the following factors:
- (a) proposed level of assurance, materiality, criteria, objectives and scope;
 - (b) type and number of GHG sources, sinks and/or reservoirs;
 - (c) complexity of responsible parties' structure and activities;
 - (d) number, size and location of facilities;
 - (e) complexity of GHG information system and its control;
 - (f) size of GHG data;
 - (g) complexity of the GHG assertion;
 - (h) results of internal validation or verification of responsible parties;
 - (i) type and amount of field work necessary for validation or verification

The validation or verification time determined by an accredited or applicant GHG V/VB, and the justification for the determination, shall be recorded.

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5 Use of HKAS accreditation symbols and claims of accreditation status

- 5.1 Every GHG V/VB accredited under HKCAS shall be awarded with a distinctive HKCAS accreditation symbol.
- 5.2 The form, size, colour and usage of the HKCAS accreditation symbol shall be in accordance with the HKAS SC-01.
- 5.3 An accredited GHG V/VB may issue HKCAS accredited validation or verification statements which bear its HKCAS accreditation symbol in accordance with the applicable requirements specified in HKAS 002 and HKAS SC-01 to responsible parties that their GHG assertions have been validated or verified.
- 5.4 An accredited GHG V/VB shall keep an exact copy of every HKCAS endorsed validation or verification statement it has issued for at least 3 years.
- 5.5 An accredited GHG V/VB shall provide to HKAS Executive an up-to-date list of countries in which the GHG V/VB has issued validation or verification statements under HKCAS accreditation.
- 5.6 An applicant or accredited GHG V/VB shall provide the format of its proposed HKCAS accredited validation or verification statement format to HKAS Executive for approval before use.
- 5.7 An accredited GHG V/VB shall not use the HKCAS accreditation symbol on any document unless such document relates in whole or in part to an accredited activity of the GHG V/VB. However, the GHG V/VB is allowed to print the accreditation symbol on its pre-printed letterhead paper.
- 5.8 An accredited GHG V/VB shall not use the HKCAS accreditation symbol on any stationery, documents, publications and advertisements unless those stationery, documents, publications and advertisements are related in whole or in part to the V/VB's scope of accreditation.
- 5.9 An accredited V/VB shall ensure that the HKCAS accreditation symbol would not be used by any organisations including those responsible parties whose GHG assertions were validated or verified under HKCAS accreditation.

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- 5.10 An accredited GHG V/VB shall not use its accreditation status in a way that may be interpreted by any person that any GHG assertions validated or verified by it has been approved by HKAS or HKAS Executive.
- 5.11 If the accreditation in relation to any activity under the scope of accreditation of an accredited GHG V/VB is suspended or terminated (voluntarily or by HKAS Executive), the GHG V/VB shall immediately cease to use and to distribute any stationery, document, publication or advertisement which bears its accreditation symbol, save for those which relate in whole or in part to activities having valid accreditation.

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Appendix A

(normative)

SCOPE OF ACCREDITATION

Area No.: 1

Description: Verification of Greenhouse Gas Assertions at Organisation Level

Standard: ISO 14064-1

Sub-area under this area:

No.	Description	Examples of included activities
1.1	Power Generation and Electric Power Transactions	<ul style="list-style-type: none"> • Transmission of electricity • Generation of bulk electric power • Transmissions from generating facilities to distribution centers and/or distribution to end users • Renewable energy systems • Purchased electricity, steam
1.2	General Manufacturing (physical or chemical transformation of materials or substances into new products)	<ul style="list-style-type: none"> • Manufacturing – Electric and electronics equipment, industrial machinery • Manufacturing – Food processing <p>Note: Civil engineering e.g. construction will be covered under this sector</p>
1.3	Oil and Gas Exploration, Extraction, Production and Refining, and pipeline distribution, including Petrochemicals	<ul style="list-style-type: none"> • Conventional exploration and production • Oil sands and heavy oil upgrading • Coal bed methane production • Gas processing plants • Gas well completions • Transportation and distribution • Natural gas storage and LNG operations • Crude oil transportation • Refining • Petrochemical manufacturing • Emissions from process vents in oil and gas treatment • Process emissions (e.g. glycol dehydration, acid gas removal/sulphur recovery, hydrogen production, fluid catalytic cracker (FCC) catalyst regeneration) • Venting emissions (e.g. vessel loading, tank storage and flashing, and venting of associated gas) • Fugitive emissions (e.g. leaks from equipment)

No.	Description	Examples of included activities
		<ul style="list-style-type: none"> and piping components) • Non-routine events (e.g. gas releases during planned pipeline and equipment maintenance, releases from unplanned events)
1.4	Metals Production	<ul style="list-style-type: none"> • Production of processing of ferrous metals • Production of secondary aluminium • Processing of non-ferrous metals, including production of alloys • Production of coke • Metal ore roasting or sintering, including pelletisation • Production of pig iron or steel including continuous casting
1.5	Aluminium Production	<ul style="list-style-type: none"> • Primary aluminium
1.6	Mining and Mineral Production	<ul style="list-style-type: none"> • Production of cement clinker and production of lime or calcinations of dolomite or magnetite • Glass and ceramic, mineral wool
1.7	Pulp, Paper and Print	
1.8	Chemical Production	<ul style="list-style-type: none"> • Production of carbon black • Production of ammonia • Production of bulk organic chemicals by cracking, reforming, partial or full oxidation or by similar processes • Production of hydrogen and synthesised gas by reforming or partial oxidation • Production of soda ash and sodium bicarbonate • Production of nitric acid • Production of adipic acid • Production of glyoxal and glyoxylic acid
1.9	Carbon Capture Storage	<ul style="list-style-type: none"> • Capture and transport of GHG by pipelines for geological storage • Geological storage of GHG in a storage site
1.10	Transport	<ul style="list-style-type: none"> • Aviation • Other transportation
1.11	Waste handling and disposal	<ul style="list-style-type: none"> • Water and waste water treatment • Landfill and Composting Facilities
1.12	Agriculture, Forestry and Other Land Use (AFOLU)	
1.13	General	<ul style="list-style-type: none"> • Building Services / facilities management

No.	Description	Examples of included activities
		<ul style="list-style-type: none"> • Education • Hospital • Others

Area No.: 2

Description: Validation of Greenhouse Gas Assertions at Project Level

Standard: ISO 14064-2

Sub-area under this area:

No.	Description	Technical area covered by this sub-areas
2.1	Energy Industries (renewable/non-renewable sources)	Thermal energy generation from fossil fuels and biomass including thermal electricity from solar
		Energy generation from renewable energy sources
2.2	Energy Distribution	Electricity distribution
		Heat distribution
2.3	Energy Demand	Energy demand
2.4	Manufacturing Industries	Cement sector
		Aluminium
		Iron and steel
		Refinery
2.5	Chemical Industry	Chemical process industries
2.6	Construction	Construction
2.7	Transport	Transport
2.8	Mining/Mineral Production	Mining and mineral processes, excluding oil and gas industry, coal mine methane recovery and use
		Oil and gas industry, coal mine methane recovery and use
2.9	Metal Production	Metal production
2.10	Fugitive Emissions from Fuels (solid, oil and gas)	Mining and mineral processes, excluding oil and gas industry, coal mine methane recovery and use
		Oil and gas industry, coal mine methane recovery and use
2.11	Fugitive Emissions from	Chemical process industries

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No.	Description	Technical area covered by this sub-areas
	Production and Consumption of Halocarbons and Sulphur Hexafluoride	GHG capture and destruction
2.12	Solvents Use	Chemical process industries
2.13	Waste Handling and Disposal	Waste handling and disposal
		Animal waste management
2.14	Afforestation and Reforestation	
2.15	Agriculture	Agriculture
2.16	<u>Carbon Capture and Storage of CO₂ in Geological Formations</u>	Carbon capture and storage of CO ₂ in geological formations

Area No.: 3

Description: Verification of Greenhouse Gas Assertions at Project Level

Standard: ISO 14064-2

Sub-area under this area:

No.	Description	Technical area covered by this sub-areas
3.1	Energy Industries (renewable/non-renewable sources)	Thermal energy generation from fossil fuels and biomass including thermal electricity from solar
		Energy generation from renewable energy sources
3.2	Energy Distribution	Electricity distribution
		Heat distribution
3.3	Energy Demand	Energy demand
3.4	Manufacturing Industries	Cement sector
		Aluminium
		Iron and steel
		Refinery
3.5	Chemical Industry	Chemical process industries
3.6	Construction	Construction
3.7	Transport	Transport

No.	Description	Technical area covered by this sub-areas
3.8	Mining/Mineral Production	Mining and mineral processes, excluding oil and gas industry, coal mine methane recovery and use
		Oil and gas industry, coal mine methane recovery and use
3.9	Metal Production	Metal production
3.10	Fugitive Emissions from Fuels (solid, oil and gas)	Mining and mineral processes, excluding oil and gas industry, coal mine methane recovery and use
		Oil and gas industry, coal mine methane recovery and use
3.11	Fugitive Emissions from Production and Consumption of Halocarbons and Sulphur Hexafluoride	Chemical process industries
		GHG capture and destruction
3.12	Solvents Use	Chemical process industries
3.13	Waste Handling and Disposal	Waste handling and disposal
		Animal waste management
3.14	Afforestation and Reforestation	
3.15	Agriculture	Agriculture
3.16	<u>Carbon Capture and Storage of CO₂ in Geological Formations</u>	Carbon capture and storage of CO ₂ in geological formations

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Appendix B

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NORMATIVE DOCUMENTS

- B.1. HKAS 002, Regulations for HKAS accreditation
- B.2. HKAS SC-01, Use of HKAS accreditation symbols and claims of accreditation status
- B.3. HKAS SC-02, Non-conformities and their grading
- B.4. HKAS SC-04, Intervals between reassessments and surveillance visits
- B.5. HKAS SC-06, Code of Conduct
- B.6. HKCAS 020-1: 2013, Technical criteria for accreditation of greenhouse gas validation and verification bodies – Part 1
- B.7. HKCAS 020-2, Technical criteria for accreditation of greenhouse gas validation and verification bodies – Part 2
- B.8. HKCAS 020-3, Technical criteria for accreditation of greenhouse gas validation and verification bodies – Part 3
- B.9. IAF MD 6, Application of ISO 14065: 2013
- B.10. IAF MD 14, Application of ISO/IEC 17011 in greenhouse gas validation and verification (ISO 14065: 2013)
- B.11. ISO 14064-1: 2006, Greenhouse gases – Part 1: Specification with guidance at organisation level for quantification and reporting of greenhouse gas emissions and removals
- B.12. ISO 14064-2: 2006, Greenhouse gases – Part 2: Specification with guidance at the project level for quantification, monitoring and reporting of greenhouse gas emission reductions or removal enhancements