A001-000

ClassNK

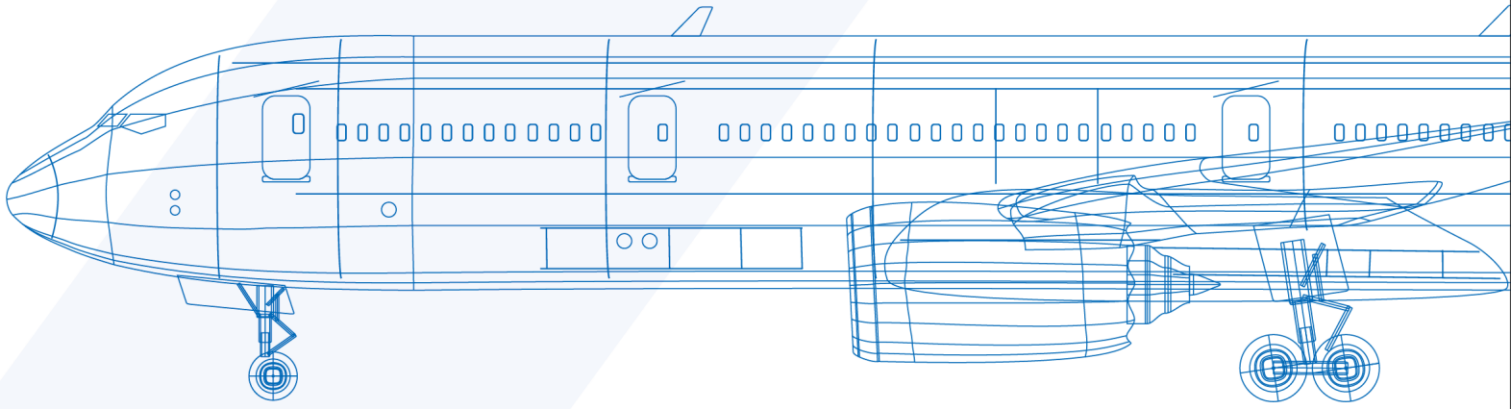
一般財団法人 日本海事協会
NIPPON KAIJI KYOKAI

ClassNK SCS

APPENDIX 1

Certification for CORSIA Eligible Fuels

April 2024



Revision History

No.	Issue date	Details of revision
0	2024.04.01	Newly issued

In case the requirements in ICAO-CORSIA documents are updated, and the ClassNK SCS manual has not been revised to reflect such updates yet, the updated requirements shall be applied during verification irrespective of the state of revision of the ClassNK SCS manual.

APPENDIX 1. Group auditing requirements

Contents

1. Introduction

Group certification is an advanced approach to organizing individual economic operators into cohesive units, shifting some responsibility from certification audits to internal checks within the SCS CORSIA framework. Essentially, group certification relies on the idea that a significant portion of necessary inspections can be efficiently carried out by internal auditors within the group. These internal processes are then scrutinized by independent Certification Bodies who assess the internal audit system's integrity and effectiveness. Through a process known as sampling, these certification auditors from Certification Body review a subset of group members and, if satisfied, extend certification to the group as a whole. This approach acknowledges that individual audits for each raw material producer could lead to unsustainable financial and logistical demands. By embracing group certification, biomass producers, particularly small-scale operators, can significantly reduce the effort and cost of certification. This is especially crucial for smallholder farmers, producer organizations, and cooperatives, offering a sustainable and accessible route to certification. Group certification is suitable for uniform groups of raw material and feedstock producers, including farms, plantations, and origins of waste and processing residues. It also applies to storage or logistic facilities under collective management known as Central Office. Adopting group certification not only makes the certification process more sustainable but also cultivates a cooperative environment where members share best practices and resources, collectively enhancing the industry's sustainability and integrity. Certification audit refers a process of auditing conducted by the external independent third-party auditors from auditing body known as Certification Body.

2. Scope

This document outlines the criteria for group certification, including the principles for sampling. The stipulations presented in this document are applicable worldwide.

3. Normative References

All references should be made to ICAO CORSIA requirements.

4. Prerequisites for Group Homogeneity and Certification

For a group to be eligible for certification, it must be homogenous, meaning members should share the same:

a) Geographical region sharing the geographic proximity and not necessary within the same national boundaries
b) Production pathway and systems applied are similar to ensure greenhouse gas emission calculations
c) Climate conditions conducive to agricultural production are alike
d) Similar risk exposure or risk rating upon risk assessment by Certification Body
e) Similar sustainability criteria and alike productions of product
f) Must be certified by the same Certification Body
g) GHG actual value for option should be permitted with the conditions that the metholdogies been complied as per section 4.1.

Certification Body should be determining the number of group members, i.e., the economic operators that intended to be grouped as a part of group certification. This should be carried out based on the certification audit results, risk assessment and performance of the group. Those ineligible group members should be treated as individual economic operator and should be excluded from the sampling.

First Collector is defined as the supply chain actor that procuring biomass directly from the farms or plantations and wastes, residues or by-products directly from the point of origin.

Additionally, for group certification related to farms and plantations, the Certification Body should ensure that all the participating economic operators sharing the similar sustainability criteria as laid out in SCS documents. Farms and plantations should only be allowed to be certified as group under the First Collector. However, the farms and plantations can choose to be certified independently as an independent group under a central office (by applying internal control system).

For group certification for wastes, residues or by-products procedures (known as point of origin) can opt to be certified under a central office and belong a homogenous group and have a clearly defined common management system. This management system should be integrated and harmonized to accommodate and demonstrate that all the point of origins have similar processes and generating same type of wastes, residues or by-products. Point of origin also can be certified under the First Collector.

Logistic centres that belongs to a same legal entity are allowed to be certified as group certification. The central office which should ensure a harmonized and integrated management system been established. This central office management must be clearly defined to demonstrate that all the logistic centres under the group certification having similar processes. Logistic centres

does not have legal ownership of the sustainable materials and only provides logistic services such as storage, decanting or blending behalf of their client. The relationship and non-legal ownership of the sustainable products should be demonstrated in order the economic operators to be certified as logistic centres and subsequently for group certification for a network of logistic centres.

4.1 Guidelines : GHG actual value for option

Economic operators can compute group greenhouse gas (GHG) values for feedstock cultivation either using reference data (regional averages) or actual measured data (real average values). It's crucial to stick to one method consistently; mixing actual data with reference data for group GHG value calculation is not permitted.

Group average values can be determined if certain conditions are met:

a) The farms or plantations must be geographically close, sharing similar climate and soil conditions.
b) They should operate under comparable land use conditions as per ICAO CORSIA categories.
c) The same type of biomass crop must be cultivated across these farms or plantations.
d) Similar management practices should be followed, including tillage methods and fertilizer use levels.

If these criteria are not met, calculating a group average actual value is still possible through a conservative method, selecting the most conservative (highest) input value for the whole group rather than averaging. The average actual value calculation can be done in two ways:

a) By calculating the average for each input parameter (like fertilizer and pesticides) first and then using these averages for the overall calculation; or
b) By calculating the feedstock cultivation GHG values for each operator individually and then computing a weighted average based on biomass production.

5. Management System Requirements

A group certification can be represented by the one of the following:

a) Central Office for Point of Origins (POO) as independent group certification
b) Central Office for farms and plantations as independent group certification
c) First Collector as Central Office for Point of Origins (POO)
d) First Collector as Central Office for farms and plantations

The above economic operator which should be collectively identified as Central Office should be responsible:

5.1 Administration

a) The duties of the Central Office should be defined and documented as a binding document such as contract or agreement between the Central Office and the participating group economic operators.
b) Central Office should be responsible for ensuring that all applicable certification requirements are met by all participating group economic operators under the scope of the certificate.
c) It should be controlling the needs of management system's capacity, technical and human resources, to manage continuously and effectively the number of participating group economic operators under the scope of the certificate.
d) The participating group economic operators should be listed in the centralized system procedures of the Central Office pertaining managing the SCS certification requirements.

5.2 Quality Management

a) Responsibilities
The Central Office should assign a Certification Manager with legal or management authority and technical support necessary to implement the responsibilities specified in this SCS standard and manage the number of participating economic operators. The Certificate Manager should be cascading the responsibilities through management representatives that been appointed in each participating group economic operators. The Certification Manager should be holding the position as management representative in Certification Manager's own organization.

b) Documented Procedures
The Central Office should develop, implement, and maintain documented system procedures covering the applicable requirements of this SCS standard, including procedures for inclusion and removal of participating group economic operators, and procedures describing the measures against leakage of products from non-certified

associated economic operators into certified product lines of participating group economic operators. The participating group economic operators should ensure that the relevant system procedures developed by the Central Offices should be complied and documented.

c) Training
The Central Office should ensure that a training program for participating group economic operators is established, implemented, and maintained that enables them to meet the requirements of the relevant SCS standards. Central Office should ensure the management team been trained.

d) Records
The Central Office should keep and maintain up-to-date records of all Participating Sites under the scope of the certificate, including:

1) A list of all participating group economic operators
2) Contact information (name, phone number, email address, physical address)
3) Appointed participating group economic operators' management representative
4) Date of entry into the group certification
5) Date of withdrawal from the scope of the certificate
6) The participating group economic operators' activities
7) Outsourcing details
8) Records demonstrating the scope of SCS for each participating group economic operators
9) Records of all Central Office's audits, nonconformities identified in such audits, actions taken to correct them, and the Central Office's annual review of its audit program and procedures
10) Training records
11) A list of the Central Office and participating group economic operators' auditors and their qualifications
12) Geocoordinates and maps for detailed overview of participating group economic operators

The records should be archived for at least five (5) years and should be made available to the Certification Body on request.

5.3 Specific Responsibilities of Central Office and Participating Group Economic Operators

a) Responsibilities of Central Office

1) To establish a system for registering and welcoming new members into the group
2) To maintain a current member registry
3) To ensure every participating group economic operators comprehends the SCS requirements and their individual responsibilities

4) To keep members informed about pertinent updates or modifications to the requirements
5) To organize and conduct internal audits at least annually
6) To prepare and manage all necessary documentation
7) To implement and enforce preventive and corrective actions within member operations
8) To regulate the compliance of standards by the participating group economic operators and remove members when they fail to comply with standards which may lead to violations with the mutual consent of all other participating group economic operators and the act of removal shall should be communicated to the Certification Body within fourteen (14) calendar days
9) To communicate essential information to all group members, ensuring they are well-informed and engaged

b) Responsibilities of Participating Group Economic Operators
   1) Pledging to adhere to the Central Office's policies by meeting standard requirements and reporting any deliberate or accidental nonconformities
   2) Facilitating access to the premises of group members for the purpose of conducting both internal and certification audits
   3) Engaging in an internal audit
   4) Committing to the execution of corrective actions as needed
   5) Providing essential information to both internal and certification auditors, particularly about significant production activities and sales or distributions of sustainable material relevant to SCS

5.4 Qualification of Certificate Manager and Central Office & Participating Group Economic Operators' Auditors

a) The Central Office should assign a Certificate Manager with professional experience, knowledge and competence to manage the certificate and implement the requirements of the applicable SCS standards.

b) Auditors should be appointed at Central Office and participating group economic operators level with the following qualifications:

   1) Should have the professional experience and demonstrated ability to evaluate all aspects of the applicable SCS standards according to the scale and complexity of the participating group economic operators being assessed
   2) Should be fluent in English and/or local languages (mainly)
   3) Should be objective and impartial
   4) Should not audit own works and avoid conflict of interest at all time

NOTE: Training activities provided by the Central Office do not constitute conflict of interest.

c) Central Office should ensure that the auditors are trained to audit participating group economic operators against the latest version of all SCS requirements and system procedures.

6. Internal Audit and System Review

a) The Central Office should carry out an internal audit of each participating group economic operators to ensure that they conform to all applicable requirements of the SCS standard(s).
b) Internal audit and system review should be conducted at least once annually on each participating group economic operators including Central Office.
c) The Central Office should have the formal authority to issue nonconformities and requestion of correction actions to the participating group economic operators and to enforce implementation.
d) The Central Office should document each participating group economic operators' audit in a report covering at minimum the following information:
    1) Participating group economic operators details
    2) Checklist covering the certification requirements applicable to the participating group economic operators, providing a systematic presentation of findings and demonstrating conformity or nonconformity to each requirement
    3) Status of nonconformities issued by the Certification Body and/or by the Central Office, including nonconformities issued during the previous audit and current audit
    4) Verification of SCS material balance for each participating group economic operators
    5) Summary of audit conclusions, including the decision on whether or not the site is eligible to be included or remain in the scope of the certificate
e) The Central Office should conduct an annual review of its audit program and procedures. The results of all audits should be included in the review in order to address any necessary changes or identified issues and should be documented.

7. Certification Audit

The group is required to undergo certification audits annually (meaning within every 12-month period). Merely having self-declarations through Feedstock Statement from group members is inadequate and cannot substitute the compulsory yearly certification audits of the group. The main office of the group will always be subject to audit. The number of group members to be audited is to be determined by the certification auditor based on a risk factor established during their risk assessment. It is the duty of the certification auditor to choose and audit individual group members as per the defined sample scope.

7.1 Sample Size Calculations

The key principles include:

a) Random selection: Each member of the population has an equal chance of being included in the sample, preventing selection bias.
b) Representativeness: The sample should accurately reflect the characteristics of the larger population to make valid inferences.
c) Independence: The selection of one member should not influence the selection of another to maintain the integrity of the randomization process.

Determining the correct sample size (S) for auditing compliance is fundamental for a consistent and reliable group certification process. To calculate this sample size, the total number of participating group economic operators (P) relevant for sampling and the risk factor (R) identified during the risk assessment are both crucial factors.

The formula to ascertain the sample size is $S = R \times \sqrt{P}$, where 'S' represents the sample size, 'R' the risk factor, and 'P' the total number of group members.

The minimum sample size starts at the square root of the total number of participating group economic operators ($\sqrt{P}$). This minimum must be adjusted by multiplying it by the risk factor (R) determined by the certification auditor in the risk assessment. For regular risk, the minimum sample is multiplied by 1.0, for medium risk by 1.5, and for high risk by 2.0. Certification auditors have the discretion to increase the sample size based on the individual situation and their risk assessment to ensure a sufficient level of confidence in making a reliable statement about the group's conformity. The smallest possible sample size is one.

When the calculated sample size (S) results in a decimal, it should be rounded up to the nearest whole number. Economic operators that are individually certified should be excluded from the total number of participating group economic operators ($\sqrt{P}$). All other participating group economic operators should be included for sampling.

7.2 Selection of Samples

For group certification, certification auditors must take into account several pertinent factors:

a) The magnitude of each participating group economic operators
b) The nature of the operational activities and production pathway
c) The potential risks of mixing or contaminating different materials
d) Insights from past experiences:
e) The duration for which the group has been operational
f) The annual rate of new participating group economic operators' registration
g) The types of issues identified in previous internal & certification audits
h) The outcomes of past internal and certification audits' correction action plans implementation
i) Potential conflicts of interest among participating group economic operators
j) Management team members' turnover

The certification auditor responsible for the group certification is responsible with choosing participating group economic operators to include in the sample after sample size been concluded. The certification auditor should consider the following factors to determine the sample:

a) Ensure the sample appropriately represents the types of supplied feedstocks
b) Volume of sustainable materials generations
c) Classify the relevant area into different risk zones based on location
d) Prioritize participating group economic operators with indications of nonconformities or fraudulent activities

7.3 Group Certification Audit Process

The principles of ISO 19011 - Guidelines for auditing management systems should be complied. Participating group economic operators chosen by the certification auditor need to successfully pass the audit to show they meet SCS requirements. While these audits are typically carried-out at site, they can be conducted remotely if:

a) The audit risk is considered low
b) There's enough traceability, mass balance records, greenhouse gas data, and other relevant evidence
c) The systems for collecting and processing data are reliable meaning the participating group economic operators have implemented robust data collection system.

If the certification auditor finds that one or more participating group economic operators do not comply with SCS requirements, i.e., more than five (5) nonconformities or refuse to participate in

the certification audit, the number of members to be audited (the sample size) must be doubled. In special cases, where high assurance levels are maintained through risk mitigation tools, this rule might be adjusted with SCS' approval. "Non-compliant" means the participating group economic operators failed to comply met mandatory requirements and unable to rectify the issues within thirty (30) days after the audit. If more non-compliant participating group economic operators are found in the doubled sample, the sample size doubles again, and this process continues until possibly 100% of the group is audited. Any non-compliant participating group economic operators must be removed from the group and lose their SCS certification. They can only rejoin the group certification after passing an individual audit.

7.4 Certificate Issuance

If the group's Central Office and the selected samples pass the audit, demonstrating compliance with SCS requirements, the Certification Body is authorized to grant a SCS certificate. The certificate should include an annex listing all the individual participating group economic operators. The annex of participating group economic operators should include at least the following information of the participating group economic operators:

a) Complete legal names
b) Complete addresses
c) Details on feedstock and products
d) Categorization whether the product complied with requirements of wastes, residues, by-products, or virgin materials

GHG value options, either default or actual shall be indicated based on feedstock (input) and product (output)
However, for First Collector as Central Office, an annex might not be issued to protect commercially sensitive information.

Supplement – Risk Identification and Assessment

Scope

The risk identification and assessment should be used by the Certification Body in evaluating the risk factor, R in determining the sampling size for group auditing via desk-study prior external certification audit. Economic operators may use a similar approach for internal self-assessment for assessing their risks internally.

Risk Identification

The initial step in risk assessment involves pinpointing potential risks through an assessment of the risk indicators mentioned below. Additionally, an analysis of geographic conditions and/or relevant processes is essential. This might necessitate the creation of new risk indicators specific to the individual situation, which are not explicitly outlined in the SCS system. Risk assessments can often start with a remote (desk) assessment, such as using satellite data to check for land use changes, exploring biodiversity data in databases, or researching protected areas databases. However, remote assessments must be supplemented with on-site verification, i.e., site visit. On-site verification should be carried-out if at all the economic operator qualified on-site verification. The risk indicators defined by SCS form the foundation for risk assessments under SCS and should be taken into account in all SCS audits to pinpoint potential risks of non-compliance with SCS standards or threats to the integrity of SCS.

For the certification audits to cover waste and residues, it's crucial to perform a risk assessment to identify the risk of fraudulent claims and the deliberate production of waste and residues. Correct declarations at the point of origin, central office and First Collector are mandatory. When SCS audits encompass farms or plantations verification, a risk assessment is necessary to gauge the risk of non-compliance with SCS and ICAO CORSIA Document 05. This includes assessing the risk of breaching the approved CORSIA sustainability criteria. This involves determining whether a farm or plantation is situated near areas where biomass cultivation is forbidden under SCS and ICAO CORSIA Document 05 . The risk of farm or plantation non-compliance should be evaluated using suitable and reliable databases or remote sensing tools for a balanced and accurate result for the specific region.

A comprehensive non-exhaustive summary of significant risk indicators for SCS as listed below:

1. Sustainability criteria compliance: Risk of sourcing materials that do not comply with the approved CORSIA sustainability criteria, including environmental, social, and economic aspects.
2. Supply chain integrity: Risk that the materials in the supply chain are not consistently sustainable, or that non-sustainable materials are misrepresented as sustainable.
3. Verification and traceability: Challenges in verifying the sustainability claims and maintaining traceability throughout the supply chain, from the point of origin and farms or plantations to the airline operator.
4. Land use and biodiversity impact: Risk of negative impacts on land use, including deforestation, and biodiversity loss due to the cultivation or harvesting of raw materials.
5. Carbon emissions and lifecycle analysis: Risk of incorrect calculation or reporting of the lifecycle emissions of the materials, which is critical in assessing their overall environmental impact.
6. Social and community impacts: Potential negative impacts on local communities, including land rights issues, labor rights violations, and displacement.

7. Regulatory compliance: Risks associated with changes in local or international regulations that may affect the sustainability status of the materials.
8. Market and price volatility: Risks due to fluctuations in market demand and price for sustainable materials, which can impact procurement strategies and costs.
9. Quality assurance: Risk of procuring materials that do not meet the required quality standards, which can affect the performance and credibility of CORSIA.
10. Fraud and misrepresentation: Risk of fraudulent activities, including false claims about the sustainability of materials or deliberate production of waste and residues presented as sustainable materials.
11. Geopolitical risks: Political instability or policy changes in regions supplying sustainable materials can pose risks to uninterrupted and compliant supply.
12. Supply chain disruptions: Risks due to logistical challenges, natural disasters, or other disruptions in the supply chain that can affect the availability and timely delivery of sustainable materials.
13. Technology and innovation risks: The risk that emerging technologies or innovations might render current sustainable materials obsolete or less efficient, impacting their long-term viability.
14. Resource competition: Risks associated with competition for resources needed to produce sustainable materials, which can lead to higher costs or conflicts with other industries or local needs.
15. Certification and standardization risks: Challenges in ensuring that all materials meet the necessary certification standards and that these standards are uniformly applied and recognized across different regions and suppliers.
16. Environmental regulation changes: The risk of changes in environmental regulations that can impact the classification or acceptability of certain materials as sustainable.
17. Dependency on specific regions or suppliers: Risks related to over-reliance on certain regions or suppliers for sustainable materials, which can create vulnerabilities in the supply chain.
18. Intellectual property risks: Challenges related to the intellectual property rights of certain sustainable materials or production processes, which can limit access or increase costs.
19. Cultural and ethical considerations: Risks associated with cultural, ethical, or public perception issues related to the sourcing and use of certain sustainable materials.
20. Lifecycle sustainability risks: The risk that the full lifecycle impact of sustainable materials (including production, transportation, and disposal) may not be as environmentally friendly as initially perceived.
21. Capacity and scalability challenges: Risks related to the scalability of sustainable material production to meet the growing demand, without compromising sustainability standards.
22. Data accuracy and monitoring challenges: Risks associated with the accuracy of data and the effectiveness of monitoring systems to track the sustainability of materials throughout the supply chain.

23. Financial risks: Including risks related to the investment in sustainable materials, such as the uncertainty of return on investment or the potential for increased costs over traditional materials.
24. Compliance with multiple standards: The challenge of complying with a variety of standards and regulations, both domestic and international, which can be complex and resource-intensive. This might lead to risk of multiple-accounting (i.e., claiming more than once in terms of sustainability criteria for a single unit of physical material).
25. Transparency risks:
    - Information disclosure: There can be a lack of transparency in the supply chain, making it difficult to verify the sustainability claims of materials. This includes limited or inaccurate information about the origin, production processes, or environmental impact of the materials.
    - Reporting and documentation: Risks related to inadequate or non-transparent reporting and documentation practices by suppliers, which can obscure the true sustainability profile of the materials.
    - Stakeholder engagement: Challenges in ensuring transparent communication and engagement with all stakeholders, including local communities, governments, and environmental groups. Lack of transparency in these interactions can lead to mistrust and reputational risks.
26. Conflict resolution risks:
    - Disputes over land use and resources: Conflicts may arise over land use rights, resource allocation, or environmental impacts related to the production of sustainable materials. These conflicts can be between local communities, governments, and companies.
    - Labor disputes: Risks of labor disputes due to issues such as working conditions, wages, or labor rights in the production of sustainable materials.
    - Legal and regulatory conflicts: Challenges in resolving legal and regulatory conflicts, which can arise due to differing interpretations of sustainability criteria or compliance requirements.
    - Stakeholder disagreements: Risks associated with managing and resolving disagreements among various stakeholders, including suppliers, regulators, and environmental groups, regarding sustainability standards and practices.

Risk Assessment

Risk evaluation aspects includes the following:

a) Sources and causes: Identify the origins and causes of the risk.
b) Potential consequences: Determine what could happen if the risk materializes, including the impact (e.g., negligible, moderate, critical).
c) Probability of occurrence: Assess how likely the risk is to occur (e.g., unlikely, occasional, likely).
d) Influencing factors: Identify factors that affect the consequences and likelihood of the risk.
e) Stakeholder perspectives: Recognize the varying importance or emphasis placed on the risk by different stakeholders.

Risk factors are as follows:

a) Regular Risk : Assigned a risk factor (R) of 1.0, for RS between 1 to 4.
b) Medium Risk : Assigned a risk factor (R) of 1.5, for RS between 5 to 10
c) High Risk : Assigned a risk factor (R) of 2.0 for RS between 15 to 25

The risk scores shall be calculated based on Risk score (RS) = Likelihood (L) × Severity (S). The typical classification of "likelihood" and "severity" as tabulated below:

LIKELIHOOD SCALE	DESCRIPTION
Rare (1)	The risk event is very unlikely to occur. The likelihood of a catastrophic event, such as complete system failure due to widespread fraud in-sustainability certification, is extremely low.
Low (2)	The risk event might occur at some point, but it is not expected regularly. Unlikely events might include occasional non-compliance with minor CORSIA requirements, such as infrequent lapses in supply chain traceability.t
Possible (3)	There is a moderate chance that the risk event will occur. There's a moderate chance of issues like partial non-compliance with sustainability criteria due to complex supply chains or emerging market conditions.
Likely (4)	The risk event is more likely to occur than not. Issues like fluctuations in sustainable aviation fuel (SAF) quality or minor variances in lifecycle emission calculations are more likely to occur regularly.
Almost Certain (5)	The risk event is highly likely or expected to occur. High likelihood of facing challenges like administrative errors in reporting or minor deviations in sustainability criteria compliance due to the large scale and complexity of the CORSIA system.

Table 1.0: Likelihood (L) Scale Classification

SEVERITY SCALE	DESCRIPTION
Minor (1)	Minimal impact, no significant consequences to the system or operations. small procedural non-compliance with CORSIA documentation requirements, unlikely to affect overall sustainability. Example: A minor error in a sustainability report that can be easily corrected without impacting the overall integrity of the data.
Low (2)	Slight impact, but manageable and not causing substantial disruption. A low-impact issue such as a minor deviation in sustainability criteria for a small batch of biofuel. Example: A slight variance in the carbon footprint calculation for a small quantity of biofuel, which is below the threshold for significant environmental impact.
Moderate (3)	Noticeable impact with potential to cause moderate disruption or damage. Moderate issues like a partial non-compliance with CORSIA sustainability criteria that could affect a larger batch of biofuel but is still manageable. Example: A moderate deviation in land use criteria for a significant batch of biofuel, potentially affecting its sustainability rating but not leading to major environmental or social harm.
High (4)	Major impact, causing significant disruption, damage, or negative consequences. Significant non-compliance with major CORSIA sustainability criteria, such as sourcing biofuel from an area where it leads to substantial deforestation. Example: A large-scale biofuel production project that causes significant deforestation, violating CORSIA's environmental sustainability criteria and impacting biodiversity.
Critical (5)	Extremely severe impact, leading to catastrophic consequences, system failure, or extensive damage. Grave violations of CORSIA requirements leading to severe environmental, social, or economic consequences. Example: Systematic and widespread use of biofuels sourced from areas of high conservation value or involving major human rights violations, leading to international backlash and undermining the integrity of the CORSIA program.

Table 2.0: Severity (S) Scale Classification

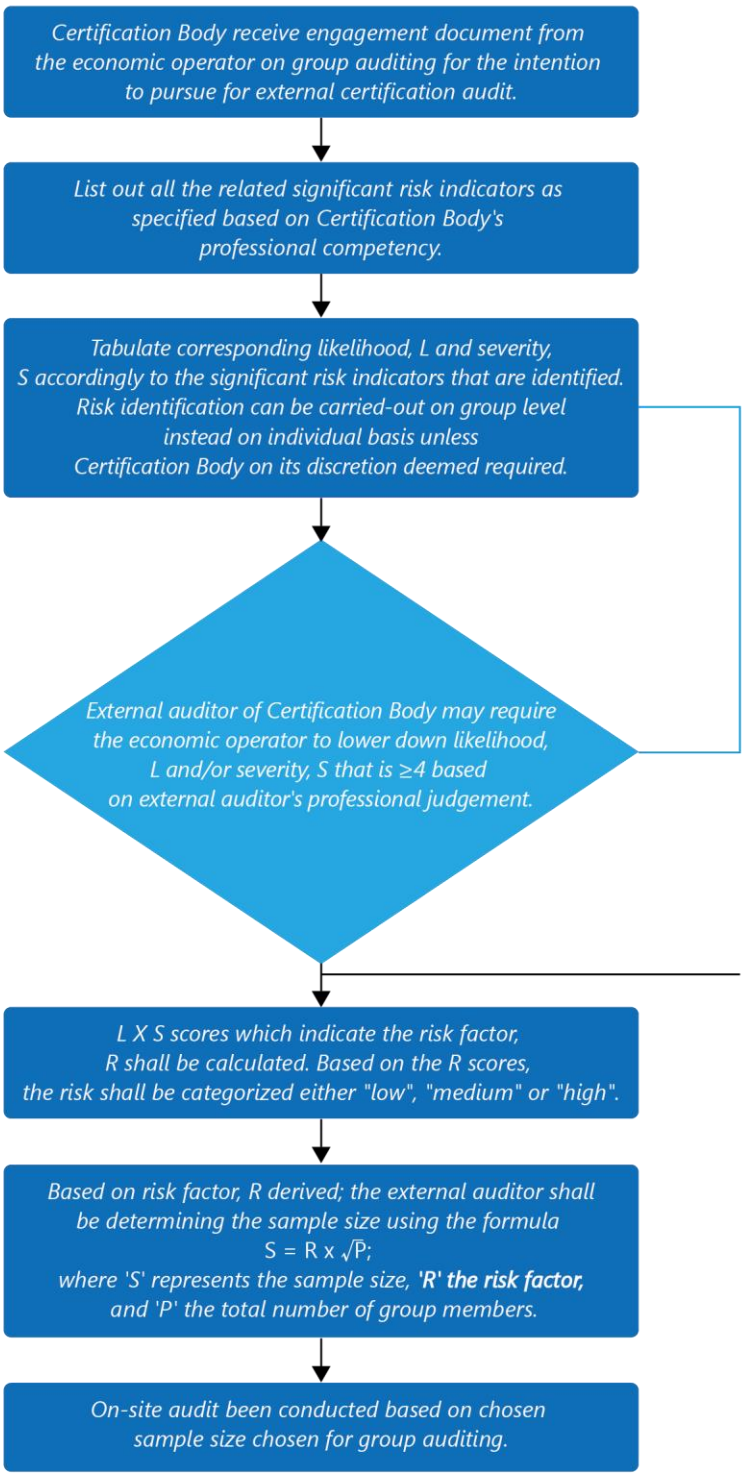


Figure 1.0: Risk Identification and Assessment Flow

LIKELIHOOD / SEVERITY	Rare (1)	Low (2)	Possible (3)	Likely (4)	Almost Certain (5)
Critical (5)	5	10	15	20	25
High (4)	4	8	12	16	20
Moderate (3)	3	6	9	12	15
Low (2)	2	4	6	8	10
Minor (1)	1	2	3	4	5

Table 3.0: Risk Score Classification

Risk factor, R calculations steps:

1. Identify the no. of significant risk indicators associated with the economic operator' activities.
2. Categorizing the "likelihood, L" and "severity, S" for each significant risk indicators.
3. Risk score, RS shall be calculated according to the formula given.
4. The total risk scores, RS shall be averaged against the no. of significant risk indicators identified which will generate an average risk scores, RS for the economic operator' activities.
5. The risk scores, RS later shall be classified into the applicable risk factor, R.

Practical approach towards risk factor, R calculation:

Economic Operator	:	EO A
Certification Body	:	CB B
Supply Chain Scope	:	First Collector for plantations
Total No. of Plantations	:	10 units

CB B has listed 5 significant risk indicators based on desk assessment as follows:

1. Geopolitical risk
2. Land use and biodiversity impact
3. Quality assurance
4. Carbon emissions and lifecycle analysis
5. Supply chain integrity

At the pre-liminary stage of risk identification and assessment, the auditor of CB B sighted that "supply chain integrity" and "land use and biodiversity impact" both possessing likelihood, L=5 and severity, S=5 respectively. The auditor based on his/her professional experience and competency requires EO A to provide enough action plan/ objective evidence as both L and S can be lowered to 3 and below.

EO A reverts back to CB B with relevant verifiable objective evidence and auditor of CB B has accepted. Below are the revised risk scores:

Significant risk indicator	*Likelihood (L)*	*Severity (S)*	*Risk score (RS)*
Geopolitical risk	2	4	8
Land use and biodiversity impact	3	3	9
Quality assurance	1	5	5
Carbon emissions and lifecycle analysis	1	3	3
Supply chain integrity	3	3	9
Total risk scores, RS			34
Average risk scores, RS			6.8
Classification of risk factor, R			***Medium, 1.5***

Based on the above risk factor, R calculated as medium (1.5); the sample size shall be calculated. The formula to ascertain the sample size is S = R × √P, where 'S' represents the sample size, 'R' the risk factor, and 'P' the total number of group members.

Thus,

S = R × √P
= 1.5 × √11 (First Collector + 10 plantations)
= 1.5 × 3.32
= 4.98
= 5 (rounding to nearest round integer)

The CB B shall be randomly select 4 plantations from a total of 10 plantations and 1 First Collector (mandatory to be included) to be audited.

ClassNK SCS Certification for CORSIA Eligible Fuels

APPENDIX 1 Group auditing requirements April 2024

NIPPON KAIJI KYOKAI
4-7, Kioi-cho, Chiyoda-ku, Tokyo 102-8567, JAPAN Tel +81-3-5225-3025 E-mail ghg@classnk.or.jp