Flow Chart of Verification

Shipping Company (CS)	Clean Shipping Project (CSP)	ClassNK
Perform and upload self-assessment for environmental performance of the ship	The result of the self-assessment into the CSI Database	
Notify CSP of CS agreement for verification by ClassNK	Create login for ClassNK so data of the ship in the CSI will be accessible	Get Certificate of Verification from CSI Database
		Perform verification of CS's self-assessment on the basis of objective evidence such as records, etc.
	Upload verification result into CSI Database where 3rd parties will be accessible	Upload result of the verification if full compliance is shown between the self-assessment and ClassNK's verification
		Issue Certificate of Verification to CS

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Verification under Clean Shipping Index

ClassNK

-TOTAL GREEN MANAGEMENT-

Verification under Clean Shipping Index

- As a verifier of the Clean Shipping Index approved by the Board of the Clean Shipping Network Association, the Society undertakes the verification of environmental performance of a ship self-assessed by the shipping company, and uploaded into the Clean Shipping Index Database.
- If the full compliance is shown between the shipping company self-assessment and the verifier assessment as a result of the verification, ClassNK issues a Certificate of Verification by uploading the result of the verification into the Clean Shipping Index Database.

What is Clean Shipping Index ?

The Clean Shipping Index(CSI) is a tool to evaluate the environmental performance of a ship focusing on environmental impact materials discharged to air and sea / processed onboard ships with the result of scoring.
It was developed by the Clean Shipping Project, a non-profit making organization in Sweden, to enhance air and marine pollution from ships, and has now been operated by the Clean Shipping Network Association consisting of cargo owners.
The CSI has now been increasingly utilized by cargo owners in Europe including those in Sweden, The Netherlands and Germany.
As cargo owners concerning over environmental issues tend to select shipping companies referring to the scoring of the CSI uploaded into the CSI Database, shipping companies are increasingly paying their attention to improving the scoring of their ships.

Environmental Impact Materials

1. **SOx and Particulate Matter (PM)**
2. **NOx**
3. **CO_2**
4. **Chemicals**
5. **Water and wastes**

How To Verify Environmental Performance and Documents/Records Required for Verification

Environmental Impact Materials		How To Verify	Documents Required for Verification
SOx and Particulate Matter (PM)		Based on the average sulphur content in fuels for main and auxiliary engines used during a calendar year.	Bunkering documents; Type and mass of fuel consumed within ECA-SOx – preferably over one calendar year; Oil record book; IAPP certificate.
NOx		Based on how the NOx emissions from main / auxiliary engines related to the standards set in the Revised MARPOL Annex VI.	EIAPP certificates for all engines, if applicable; Other approved NOx measurements, if applicable.
CO_2		Based on reporting annual CO_2 emission data for a calendar year.	Overview of each voyage, split on ballast and laden legs if applicable, with sailed distance, port calls, cargo transported, type and mass of fuel consumed for main engine, auxiliary engines, boilers and other consumption; Data preferably available over one calendar year; Documentation explaining methodology and calculation used for establishing CO_2 footprint.
Chemicals	Antifouling	Based on what type of binder that is included in the antifouling coating.	TDS (Technical Data Sheet); AFS certificate; MSDS (Material Safety Data Sheet).
	Stern tube oils	Based on the type of lubrication applied in the stern tube.	TDS (Technical Data Sheet); MSDS (Materials Safety Data Sheet).
	External hydraulic fluids	Based on the type of external hydraulic system applied on board.	TDS (Technical Data Sheet); MSDS (Materials Safety Data Sheet).
	Gear oils for thrusters and/or controllable pitch (CP) propellers	Based on what type of gear oil that is used in thrusters and/or CP propellers.	TDS (Technical Data Sheet); MSDS (Materials Safety Data Sheet).
	Boiler / cooling water treatment	Based on whether to avoid the use of chemical products, or components in the products, classified as carcinogenic, mutagenic or toxic to reproduction (CMR), according to the EU Dangerous Substance Directive.	TDS (Technical Data Sheet); MSDS (Materials Safety Data Sheet).
	Cleaning agents	Based on whether to avoid the use of chemical products or components in the products, classified as carcinogenic, mutagenic or toxic to reproduction (CMR), according to the EU Dangerous Substance Directive.	TDS (Technical Data Sheet); MSDS (Materials Safety Data Sheet).
	Refrigerants	Based on what type of refrigerants that are used in cargo refrigerant plants, centralized air-conditioning and refrigeration systems installed on board.	TDS (Technical Data Sheet); MSDS (Materials Safety Data Sheet); Refrigerant Record Book.
Water and wastes	Ballast water	Based on how the ship is treating its ballast water for to hinder transport of invasive species.	Ballast Water Record Book; Ballast water operating manual; Certificate of Type Approval of Ballast Water Treatment Systems, if applicable.
	Sewage/black water	Based on how sewage water is treated in PSSAs (Particularly Sensitive Sea Areas).	Certificate of Type Approval for Sewage Treatment Plant, if applicable; ISPP Certificate, if in place; PMS documentation of tests, if in place; Sewage handling manuals.
	Garbage	Based on the garbage handling onboard.	Garbage Record Book; Garbage Management Plan.
	Sludge oils	Based on the handling of sludge oils on board.	IOPP Certificate; Oil record book documentation.
	Bilge water	Based on how the bilge water is treated on board.	IOPP Certificate; PMS documentation of tests, if in place.