



KONGSBERG

SUPPLIER QUALITY MANUAL

KONGSBERG MARITIME AS



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FOREWORD

Dear Supplier,

This manual sets out Kongsberg Maritime's expectations for a successful working relationship with our suppliers.

We ask that you study this manual carefully as it provides guidelines for achieving the level of cooperation needed in order to succeed in meeting our customer's needs.

We also recommend that you visit our web site, where more information can be obtained.

www.km.kongsberg.com/supplier

At Kongsberg we are guided by our corporate values, both internally and externally, and this also applies to how we engage with our suppliers. We have a strong, value-based culture that drives our business performance.

Our value-based culture can also be identified as a strong customer focused culture, where the objective is to secure and increase both customer's performance as well as the stakeholders' values through profitable and growth-oriented industrial development in a long-term and international perspective.

To succeed in this objective, we need to have committed and dedicated suppliers with Kongsberg as a preferred customer. We believe that sharing common goals and expectations is the best way of building professional business relationships with our suppliers.



Frode Kaland
EVP Supply Chain
Kongsberg Maritime

ABBREVIATIONS



CAPA	Corrective Actions - Preventative Actions
CSR	Corporate Social Responsibility
HR	Human Resources
HSE	Health, Security, Environment
IP	Intellectual Property
KM	Kongsberg Maritime
KONGSBERG	Kongsberg Gruppen - valid for all Kongsberg Subsidiaries
KPI	Key Performance Indicators
R&D	Research and Development
SPC	Statistical Process Control
SQM	Supplier Quality Manual

1. INTRODUCTION

1.1 About Kongsberg Maritime

Kongsberg Maritime, a company in the Kongsberg Group (KONGSBERG), is an international technology company delivering advanced and reliable solutions to improve safety, security and performance in complex operations and under extreme conditions.

Kongsberg Maritime (KM) has a leading position in the maritime market and aims to provide this market with products and services with excellent reputation and deliverables. To achieve this excellence, KM encourage suppliers throughout the value chain, to take this responsibility further.

KM procures globally a significant volume of products, materials and services. Clear supplier guidelines are necessary in order to support KM throughout the entire life-cycle of its products.

Information in this publication is subject to changes without notice, and we therefore recommend you always check the latest version found on our web site. www.km.kongsberg.com/supplier

1.2 Scope

This manual aims to communicate the operating principles, general expectations and requirements of KM both for existing suppliers as well as for companies with the desire to become a supplier to Kongsberg.

Adherence to the guidelines described in this manual is required when supplying goods and services to KM.

This manual is provided as a supplement to, but does not replace or alter, any purchase agreement or general purchase terms and conditions or requirements included in applicable engineering drawings, specifications or other contractual documents. This manual describes the minimum requirements and expectations for which the supplier has responsibility, further requirements may be applicable depending on our specific product requirements or KM end customer requirements.

1.3 Purpose

The purpose of this Supplier Quality Manual (SQM) is to provide an overview of KM's expectations and requirements related to cooperation with its suppliers within the supply chain.

We expect that all KM suppliers support and proactively commits to our Code of Conduct and business excellence through systematic improvements.

All suppliers are responsible for providing quality products, on time and to agreed costs level.

1.4 License to Operate

Sustainability and corporate social responsibility are important topics for Kongsberg and will be key to our strategy and management.

Kongsberg's suppliers are important for value creation and competitiveness for our customers. A focus on sustainability and corporate social responsibility in the supply chain through requirements for supplier conduct is important in order to reduce the level of risk for our customers, partners and owners.

This gives Kongsberg the necessary "license to operate" in order to execute our business.

1.5 Application

The expectations set forth in this manual apply to KM suppliers, and requirements specified herein should be followed unless otherwise agreed.

The following table shows the application of requirements in this document:

CHAPTER	CONTENT	VALID FOR
1, 2, 3	Introduction and general expectations	All suppliers
4	Packaging and shipment	Suppliers (when applicable)
5	Product & project specific requirements	For a specific / selected group of suppliers
6	Supplier Development	For a specific / selected group of suppliers

2. OUR EXPECTATIONS

2.1 General requirements

KM's suppliers are fully responsible for the quality of products and services they deliver to KM, as well as the quality of all parts and services from their respective sub-suppliers.

KM requires that all goods and services are delivered in accordance with the specified requirements stated in the contractual agreement, this also include compliance to all laws, regulations and standards applicable for the products.

2.2 Supplier conduct principles

Kongsberg Supplier Conduct Principles (KOG-DIR-0038) was established to ensure safe working conditions throughout Kongsberg's supply chain, ensuring that workers are treated with respect and dignity, that business operations are environmentally sound, and that business is conducted in accordance with internationally recognized principles for business ethics.

Kongsberg expects all its suppliers to comply with, or actively pursue compliance with these requirements.

For detailed information about Supplier Conduct Principles, visit our web page:

www.km.kongsberg.com/supplier

2.3 Quality Management system

KM requires that all suppliers have an active approach to adopting and implementing a Quality Management System. In general suppliers shall be ISO 9001 certified, alternatively comply with the quality requirements in ISO 9001 or equivalent. Compliance to other specific standards such as ISO 14001, OHSAS 18001 (ISO45001) and classification requirements, shall be agreed upon.

2.4 Zero defects – continuous improvements

KM expects that everyone delivering products and services to KM must contribute and collaborate to achieve the vision "Zero defects - business excellence through systematic improvements".

2.5 Consistent Quality

Zero-defect products are required from suppliers to KM. Any deviation from this will result in rejection and return of the product to the supplier with subsequent charges attached. Even after acceptance of a shipment, KM reserves the right to return any material that proves to be defective for full credit.

2.6 Intellectual Property rights (IP)

KM expects that all suppliers respect the importance of not sharing IP information related to KM, unless otherwise agreed with KM representatives.

2.7 Information Security

KM requires that all suppliers have an active approach to information security, and recommend compliance to normal industrial standards such as ISO 27001.

Information assets accessible by suppliers shall be protected with controls to prevent unauthorized access and information security breaches. Agreements with suppliers are established and maintained to ensure that relevant information security requirements are implemented on both sides.

2.8 Engineering / Technical Support / Support

KM is dedicated to the delivery of the highest quality of products and services. In order to succeed, all relevant suppliers should offer engineering/technical support/support to Kongsberg Maritime when requested.

2.9 Supplier capability / capacity

Suppliers are expected to have the resources necessary (people, property, facilities, equipment, and material) to supply the products required to accommodate KM's project and production schedule.

Digitalization of the value chain is of top priority for Kongsberg. It will be perceived as beneficiary if suppliers have the ability as well as capacity to support Kongsberg towards this goal

2.10 Cooperative behaviour

KM expects our supplier's management and employees to share our commitment to meet or exceed our customer's quality expectations through continuous improvements. We also expected that the entire supplier organization give their full support to the relationship that exists between our companies and demonstrate flexibility in assisting Kongsberg Maritime in meeting our customer's requirements.

Kongsberg Maritime has a strong value based culture. In facing both challenging times and great opportunities, we expect our suppliers to be opportunity driven and offensive. Kongsberg Maritimes culture and values; determined, collaborative, innovative and reliable will be crucial, and in facing changing times we need to stay focused, agile and offensive, and expect our suppliers to contribute to live our values.

2.11 Rights of verification of products/ processes

KM reserves the right to verify the products and manufacturing processes at the supplier's premises by KM representatives or by our customers. This can be done by different kinds of audits and the supplier will be notified in advance.

2.12 Supplier's cost reduction initiatives

KM expect that suppliers have the capability to pro-actively carry out cost reduction projects and to make proposals for cost reduction measures that benefit both parties. Initiatives for cost reductions might also include proposed changes to design and processes owned by KM.

3. SUPPLIER SELECTION AND MONITORING

3.1 Supplier selection

Certain fundamental principles apply to all Kongsberg purchases regardless of the nature of the acquisition and its value. This covers Kongsberg's requirements for ethics, compliance, competition, equal treatment, transparency, proportionality and business practice. Kongsberg strive to achieve the best possible total cost and value for Kongsberg through competition and professional negotiations. Kongsberg would like to be perceived through its actions as being a responsible, demanding and fair company.

KM supply base shall consist of companies supporting our business needs. KM utilizes common control methods and processes to evaluate, select, develop and monitor suppliers.

With the right suppliers, we aspire to build sustainable and value creating relationships, offering business opportunities with Kongsberg and ensuring the lowest total cost of ownership for the products and services we buy.

The sourcing process consist of several steps, planning, qualification, tender, workshops, negotiations, implementation and supplier relationship management.

3.2 Supplier monitoring

In order to ensure that the goods and services being procured meets required quality standards, KM has focus on the supply chain through a number of methods. This is to ensure that suppliers are delivering the correct quantities of goods or services with the right quality at the right global location at the right time.

KM will follow up the suppliers, especially those that cannot meet our requirements. If needed, KM will call these suppliers for meetings and will expect that the management is involved and can show us their action plans to solve the problem. New Business Hold status and escalation can be raised if there is a shortcoming in the supplier's performance, audit result and/or their ability to solve the problems.

3.3 Supplier audit

KM uses a risk-based approach when the yearly audit program is established.

The purpose of supplier audits is as follows:

- Evaluate the supplier in order to ensure and maintain confidence in the selected supplier to deliver products or services according to KM requirements.
- Focus on improvements that benefits both KM and the supplier.
- Ensure and maintain compliance with KM requirements regarding Supplier Conduct Principles covering important aspects like compliance to laws and regulations, human rights, labour rights, HSE, the environment, anti-corruption and other ethical business practices.

Non-conformances and suggested Improvements found during audits have to be closed within due date. In cases where KM orders products or services via a distributor, agent or similar, generally the direct contractual partner should be audited. When considered necessary or beneficial the sub-supplier may be audited under the regime of the contractual supplier.

3.4 Supplier performance rating

Supplier quality monitoring is part of KM's Supplier Performance Rating system.

KM expects that suppliers have their own KPI's and key parameters to monitor their processes and the process of continuous improvement (recommendations in the Supplier column in the table below). On request, Supplier KPI's should be disclosed to KM. KM will monitor the KPI's found in the KPI's column in the table below.

3.5 Supplier deviations

The supplier is required to initiate the necessary actions, based upon performance results. If a product or service do not meet our requirements, KM will take appropriate actions.

Deviations assignable to the supplier can result in both an administration fee for internal administrative and direct cost for rectifying the deviation. The administration fee (2.5 working hours) may be invoiced when KM register a deviation in quality of items delivered. Additional incurred cost may be invoiced after the deviation has been rectified.

In cases where shortage due to defective material, and replacement or rectification by the supplier is not possible within the timeline allocated, it might be necessary for KM to temporary rework or sort the material at the supplier expense to maintain KM production or KM delivery.

If escalation related to deviations are necessary, KM can request the following methodology:

- CAPA 8D, and evaluation of the results.
- Meeting with the supplier for improvements or improvement projects.
- Customized supplier development programme (forced or by joint agreement).
- Investigation of suspect material in the warehouse, for the supplier to sort/replace.

KPI'S*	SUPPLIER	KM
Accepted qty. vs. Nonconforming qty. Target: >99%	X	X
Supplier's delivery performance Target: >97-99% (Delivery date compared to first order confirmation date)	X	X
Cost price trend	X	X
Number of improvement proposals	X	X
Production Yield	X	

**KPI's and target may vary according to product families and requirements set by the business unit.*

4. PACKAGING AND SHIPPING REQUIREMENTS

All products shall be packed, marked and shipped in accordance with applicable standards or contractual agreements with KM, for further details see: <http://www.km.kongsberg.com/supplier>

4.1 Marking of equipment

All instruments and equipment owned, leased or used for test and production of KM products shall be marked, maintained and calibrated by the provision of the supplier, for further details see: <http://www.km.kongsberg.com/supplier>

5. PRODUCT AND PROJECT SPECIFIC REQUIREMENTS

Certain expectations and requirements apply to suppliers of prototype and serial production products. Suppliers must meet all applicable requirements specified herein.

5.1 Process Records and Traceability

KM expect that process data and records shall be maintained and available for KM upon request. All records shall be retained for a period of minimum 10 years after production end or for an agreed period of time – dependent on product line. As a minimum, during the production, the supplier shall maintain:

- Process change record
- Quality control and production records

5.2 Sampling

For some product families, sampling may be necessary.

The initial sampling process is intended to certify that products have been produced, tested and inspected according to the supplier's quality assurance procedures and satisfy the KM requirements as defined.

The initial samples shall be representative for the production in all aspects. Any exceptions or limitations from this shall be recorded and documented.

The supplier is responsible for conducting all verifications and initial sample testing both in house and at sub-suppliers. The supplier's control and documentation of the change shall be such that in normal conditions there shall be no need to wait for KM to confirm the results.

Depending on risk evaluation, KM will review the verification carried out by the supplier. On a case-by-case basis, it might be decided that the change must not go into standard production before KM has reviewed and confirmed the results.

KM shall always be informed of the following type of changes and might decide to verify these, according to the initial sampling process:

- Change of the product's technical specification.
- Change of sub-component.
- Change of sub-supplier.
- Change of material or surface treatment.
- Change of method for manufacturing or testing.
- Change of geographical location for production.
- Engineering Change Order for product (changes from KM).

5.3 Change Control/Controlling risks

The purpose of change control is to minimize the risk of affecting the product quality, caused directly or indirectly by the change itself. This includes changes intended to improve the product as well as changes that were not intended to change the product properties or appearance (e.g. new manufacturing equipment, new configuration, etc.).

To facilitate the requirements, the supplier must be in control of all intended changes, and be able to detect /monitor unintended changes by use of its quality management system and risk analyses. The supplier also need to secure flow down of changes to sub-suppliers.

Whenever production is resumed with known identical conditions, there should be no need to initiate an "initial sampling process" (first-off), but in the cases where conditions are changed, or when it is uncertain if the conditions are identical, there shall be an initial sampling process.

5.4 Quality plan/Quality control plan

KM may request that the supplier make a quality plan. The quality plan shall focus on how the supplier will ensure and maintain a capable production system.

5.5 Statistical Process Control (SPC)

KM may require that the supplier use the SPC technique. The supplier shall use SPC in order to control properties such as critical dimensions/ processes.

The general demand level for process capability for products is $Cpk \geq 1,33$.

For detailed information about SPC (GUI-0020)

<http://www.km.kongsberg.com/supplier>

5.6 Corrective Action – Preventive Action (CAPA)

KM requires that the supplier has implemented a functional CAPA system, and recommend use of an 8D-systematic approach. CAPA is a central element in continuous process improvement.

6. SUPPLIER DEVELOPMENT

The supplier relationship strategy allows KM to efficiently optimise supplier relationships, refining the management strategies for each supplier segment. Many of our existing suppliers have been working with us for a number of years and are automatically managed through our internal supplier relationship tool, allowing us to appraise these on-going relationships.

KM may initiate a supplier development and improvement program to promote enhanced performance. This collaboration shall be defined and formalized to ensure the competitiveness for both parties. The supplier development program consists of a commitment between KM and the supplier. KM and the supplier shall mutually agree on areas for further development to enhance competitiveness.

6.1 Supplier Relationship Management

KM have chosen to classify the suppliers in four levels. This in order to strategically plan, manage, interact and execute the most effective mutual relationship between the parties.



The table below describes KM qualifying demands to be fulfilled by a supplier within the respective categories: Basic, Core, Preferred and Strategic.

SUPPLIER SPECIFICATIONS	BASIC	CORE	PREFERRED	STRATEGIC
KM Strategic product technology or unique or protected manufacturing process				✓
Global perspective and capacity (focus on end user / customer, international player, regulators and stakeholders)				✓
Commitment to KM values (Determined, Reliable, Collaborative, Innovative)			○	✓
Contribution to increased IP (KM intellectual property)			○	✓
Contribution to Excellence (best practice, unique, world class)			○	✓
Successful completion of R&D projects (within scope, time and overall cost)			○	✓
Successful fulfillment of additional KM quality requirements (Change control, CAPA, SPC, KPI monitoring)		✓	✓	✓
Proactive approach to fulfill KM 'needs and wants' (R&D, Quality, Purchase, Logistics and overall cost)	✓	✓	✓	✓
Quality and delivery (ISO 9001. Fulfillment of standard baseline, continual improvements, yearly positive trends)	✓	✓	✓	✓
Successful over time (Fulfillment of delivery precision and capacity, flexibility requirements)	✓	✓	✓	✓
CSR, Code of Ethics - Kongsberg directive	✓	✓	✓	✓

○ Requires a minimum of 2 out of 4

