

Kongsberg Maritime AS Supplier Quality Manual



KONGSBERG

Kongsberg Maritime AS is a profitable global organization, focused on customer needs, devoted to building lasting partnerships and acting with integrity, honesty and a spirit of co-operation with customers, suppliers and staff.

Vision:

World Class – through people, technology and dedication

Mission:

We maximize performance by providing

The Full Picture



W O R L D C L A S S - *through people, technology and dedication*

Kongsberg Maritime AS is a Norwegian limited liability company. It is fully owned by Kongsberg Gruppen ASA.

The headquarter is located in Kongsberg, Norway, with offices in Horten and Trondheim. The company is organized in divisions and has a number of subsidiary companies around the world.

Staff functions are KM HR, HSE, Quality Management, Finance and Compliance

A more detailed presentation of the company, its divisions and products are found at the company's web site: <http://www.km.kongsberg.com>

Suppliers are expected to monitor news and changes at the following company's web site:

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

In this document the abbreviation KM is used for Kongsberg Maritime AS

This Quality Manual is valid for suppliers to Kongsberg Maritime AS

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1 Purpose

Kongsberg Maritime (KM) wants to protect our good reputation regarding service and products. Our goal is to be World Class in the areas where we operate. To achieve excellence, KM wants to strengthen the quality in the supply chain.

The Supplier Quality Manual has been developed to provide a description of KM's expectations and requirements related to work with its suppliers within the supply chain.

With the exception of "samples" and prototypes, KM requires that products and services delivered by our suppliers do not need to be inspected upon delivery. To make this possible, everyone that is involved in delivering products to KM must contribute to our vision "Business excellence through systematic improvements" (Zero defects). KM expects that our suppliers collaborate to achieve this vision. KM will focus on preventive actions and process control (LEAN) in order to reduce variation and waste within the supply chain, and expect suppliers to join this improvement programme. This Supplier Quality Manual will define requirements and methods to be used by suppliers to meet our expectations.

2 Application

The purpose of this Supplier Quality Manual is to inform KM suppliers of the core expectations we have regarding supplier quality management system, design and manufacturing process controls required for the purpose of doing business with KM.

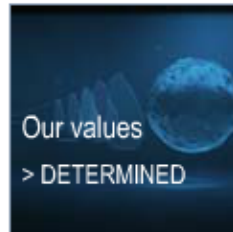
3 KM values

Kongsberg Maritime is guided by Kongsberg Group’s core values.

For further details see: www.km.kongsberg.com/supplier

DETERMINED

We are known for our drive and persistence. We always strive to meet our customers' expectations. We set ambitious goals for ourselves and we are driven towards them with a clear and constant focus. *What we start, we finish. We do not give in.*



INNOVATIVE

Always performing better is a vital part of who we are. We constantly innovate and implement improvements in all parts of our business – from our products, through our processes, to our customers' experiences. *We relentlessly pursue improvements, new ideas and new solutions.*



COLLABORATIVE

Collaboration is fundamental to our business. We exchange ideas among ourselves, with our suppliers and partners, and with our customers. We work as teams, we share knowledge and we value team success – to the benefit of our customers and our own competitiveness. *We collaborate as individuals and as an organization.*



RELIABLE

Our customers and partners can trust KONGSBERG to deliver, always. Dealing with KONGSBERG means dealing with reliable people, a reliable corporation and reliable products. KONGSBERG is a responsible organization characterised by integrity and concern for health, safety and the environment. *We are reliable people. We are responsible citizens.*



4 KM 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.

4.1 Key Performance Indicators (KPI's)

Supplier quality monitoring is part of KM's supplier performance rating system. In the quality monitoring of KM suppliers, the following Key Performance Indicators (KPI) are monitored by KM:

- Accepted qty. vs. Nonconforming qty. $\geq 99\%$
- Supplier's delivery performance/capability $\geq 99\%$ within ± 3 days of confirmed date.
- Item cost price trend

4.2 Cost Reduction Programme (CRP)

KM has an extensive Cost Reduction Programme (CRP). The annual goal for the CRP is governed by the KM strategic sourcing group.

KM has adopted a LEAN management philosophy to support our vision of sustained LEAN growth.

4.3 Supplier audits

The purpose of supplier audits is to evaluate the supplier in order to ensure and maintain confidence in the selected supplier to deliver products or services according to KM requirements.

Ensure and maintain compliance with KM requirements regarding responsibility for the Environment, Supplier Code of Ethics and Supplier Conduct Principles.

The audit can be performed "remote" where relevant checklist is sent to the supplier, or as an "On-site" audit.

A "remote" audit could also be followed up via an "on-site" audit if needed.

Note! 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 partner.

5 KM's expectations

Suppliers must work with continuous improvements and support KM with the necessary technical expertise that lies in the core technologies of its suppliers. KM expects that the supplier continuously works to be technologically innovative in their core areas. This will ensure that our total supply chain remains at the forefront, providing a strong competitive advantage.

5.1 Supplier's Key Performance Indicators

KM expects that suppliers have their own key performance indicators (KPIs) and key parameters to monitor their processes and the progress of continuous improvement.

KM expects suppliers to use KPIs in at least the following areas:

- A measure of quality deviations of goods / services supplied to KM.
- A measure of trend cost prices for KM products.
- A measure of delivery schedule adherence for goods supplied to KM.
- A measure of KM's share of the turnover at the supplier.

5.2 Supplier's Cost Reduction Programme

KM expect that suppliers have the capability to independently carry out cost reduction projects and to make proposals for cost reduction measures that benefit both parties (the supplier and KM), thus enabling us to work together towards a vision of sustained LEAN growth.

6 KM's 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 suppliers. KM requires that all goods and services are delivered in accordance with the specified requirements stated in the contractual agreement.

6.1 Quality Management System

Suppliers must comply with the quality system ISO 9001 or equivalent. Other specific standards and classification requirements shall be specified in separate agreements.

KM requires that all of our suppliers have an active approach to adopting and implementing a Quality Management System.

6.2 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 through the use of its quality management system.

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.

6.2.1 Initial sampling process

The initial sampling process is used to certify that the 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 specifically recorded within issued initial sample documentation.

The supplier is responsible for conducting all verifications and initial sample testing. 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 the 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 production before KM has reviewed and confirmed the results.

KM reviews/audits a portion of the initial sampling process but it is the supplier that is fully responsible for the manufacturing, testing, and quality of the product, including the supplier's "change control activities".

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.
- Product Change Order from KM.

Suppliers may use their own documentation to record initial samples. KM may provide a template for the documentation, if necessary.

An initial sample decision from KM does not free the supplier from the supplier responsibility of fulfilment of all requirements.

6.3 Quality plan/Quality control plan

For a certain type of production, KM may require that the supplier to make a quality plan. The quality plan provides a comprehensive overview for how the supplier will ensure and maintain a capable production system within all aspects.

The supplier should establish a quality plan during prototype production, but it must nevertheless be in place during test series. This documentation must be available to KM.

6.4 Statistical Process Control (SPC)

For certain type of production, 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.

Reference guideline KM SPC Supplier Guideline GUI-0020

The general demand level for process capability for KM products is $C_{pk} \geq 1,33$.

These properties may either be defined by KM or by the supplier, or can be agreed upon together between KM and the supplier. This requires knowledge of what is critical for the proper function(s) and use of the product.

Typical candidates for SPC implementation would be:

- Where the effects of a defect are so severe that the product is unacceptable for the customer or end-user.
- Where the current method for avoiding defects is expensive, intense or requires 100% inspection or testing.
- Where the cost of defects is high because of rework/scrap.
- Where there is variation that is not understood.
- As a "trigger" where unforeseen maintenance of production equipment is needed.

6.5 Corrective Action – Preventive Action (CAPA)

Expectations of continuous process improvement are explicitly described in the ISO9001 standard. CAPA is a central element in continuous process improvement. KM requires that the supplier has

implemented a functional CAPA system.

For reference, KM has adopted the 8D method, which represents a practical method for complying with CAPA. KM therefore named it CAPA 8D. KM can provide a template for use by the supplier if this is requested.

6.6 Process Records and Traceability

KM expects that quality critical product and process data, as defined by KM or the supplier, is stored for review by KM at least 10 yrs. after the last item produced. (What a product contains, test results, etc.).

6.7 Packaging and shipping requirements

All units 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>

6.8 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>

7 Supplier deviations / KM actions

Any discrepancies between the wanted and actual performance within the decided supplier classification shall result in an improvement task or activity. The supplier is expected to initiate the required actions, based upon performance results (Supplier internal results, KM reports, audit reports, CAPA 8D, claims, etc.).

If a product or services does not meet our requirements, KM will initiate and take appropriate actions.

Deviations assignable to the supplier can result in both an administration fee for internal administrative and other costs.

In the cases where there is a shortage due to defective material and it not can be replaced or rectified by the supplier in time, it may be necessary for KM to temporary sort/adjust the material at the supplier expense to maintain KM production or KM delivery.

Example of escalation stages:

1. Standard:

- Specific supplier actions initiated by phone/letter/direct contact.
- CAPA 8D request and evaluation of the results.
- Returning/Blocking the entire suspect shipment including suspect material in warehouse for the supplier to sort/replace.
- Inviting the supplier to an improvement meeting, to agree on an improvement programme.
- Follow up audit results, evaluating supplier action plans.

2. Focused:

- Meeting with the supplier for improvement.
- Establishment of improvements projects.

3. Extensive:

- Customized supplier development programme (forced or by joint agreement).
- Failure to improve unacceptable performance can ultimately result in phase-out of the supplier.

8 Supplier development programme

KM may initiate a supplier development program to cooperate with our suppliers to achieve continuous improvement in quality and productivity. This collaboration shall be defined and formalized to ensure the competitiveness for both parties. The supplier development program consists of a commitment between KM management and senior management at the supplier. KM and the supplier shall mutually agree on areas for further development, which will be described in areas to further enhance competitiveness.

8.1 Supplier classification

KM has the following classification of suppliers

Supplier classification:

- Basic supplier
- Core supplier
- Preferred supplier
- Strategic company supplier

KM Supplier Relationship Management (Classification of our suppliers)



Basic Suppliers must fulfil the following requirements:

- The supplier has a proactive approach to fulfil KM requirements.
- The supplier fulfils ISO 9001 requirements (Suppliers without 3rd party certificate must be audited and approved by KM in order to qualify).

- The supplier quality and delivery results are stable and improving over time, and the results are among the best amongst other suppliers of the product. Records of testing and certificates as appropriate are included with the shipment as agreed / contracted.
- The supplier recognizes and fulfils KM's Supplier Conduct Principles.

Core Suppliers must fulfil all requirements for “Basic Suppliers” and the following requirements:

- The supplier has a working process and procedures for Initial Sampling and Change Control.
- The supplier has a CAPA system and has a track of effective corrective and preventive actions. It is used both internally and externally, and it is used for all types of processes.
- The supplier has Quality Control Plans for KM products.
- In view of the LEAN approach, the supplier has the capability to independently carry out cost reduction projects and make proposals for cost reduction measures that shall benefit KM articles or products.
- The supplier's internal KPI measurements show positive trends.

Preferred Suppliers must fulfil all requirements for “Basic and Core Suppliers” and in addition two or more of the following requirements:

- The supplier's value for making business covers the KM's values (Determined, Innovative, Collaborative, and Reliable).
- The supplier makes a contribution towards increased KM Intellectual Property (IP). The supplier has been identified to have one or more IP that would add value to KM. The cooperation might be formulized with a Letter of Intent (LOI) with the supplier.
- The supplier makes a contribution to excellence, demonstrates best practice, has a unique offering, or contributes towards “world-class”.
- The supplier achieves successful completion of R&D project within scope, time, and cost.

Strategic Company Partner must fulfil all requirements for “Basic, Core and Preferred Suppliers” and the requirements below.

It has been determined that a close partnership with the supplier has the potential and is likely to contribute to KM reaching its strategic objectives. Furthermore, a close partnership with the supplier has the potential and is likely to contribute to the development of KM excellence (Best practice, unique advantage, “world-class”).

- KM strategic product technology or unique, protected manufacturing technology.
- Global perspective and capacity. Focus on end user/customer, international player, regulators and stakeholders.

The following table describes KM qualifying demands to be fulfilled by a supplier within a respective category (Basic, Core, Preferred, Strategic). The five lower rows are part of the general KM supplier performance rating.

Supplier classification



Supplier specifications	Basic Supplier	Core Supplier	Preferred Supplier	Strategic company partner
1. KM strategic product technology or unique or protected manufacturing processes				
2. Global perspective and capacity (Focus on end user/customer, International player, regulators and stakeholders).				
3. Commitment to the KM values (Determined, Reliable, Collaborative, Innovative)				
4. Contribution to increased IP (KM-Intellectual property)				
5. Contribution to excellence (best practise, unique, world class).				
6. Successful completion of R&D projects (Within scope, time and overall cost)				
7. Successful fulfillment of additional KM quality requirements. (Change control, CAPA, SPC, KPI's monitoring, Lean implementation).				
8. Proactive approach to fulfill KM «needs & wants» (R&D, Quality, Purchase, Logistics and overall cost)				
9. Quality & Delivery (ISO 9001. Fulfillment of standard baseline. Continual improvements. Yearly positive trends.				
10. Successful over time (Fulfillment of delivery precision and capacity, flexibility requirements)				
11. CSR, Code of Ethics - Kongsberg directive				

Rev	Date	Reason for Issue	Made by	Checked	Approved
A	19 June 2014	First issue	Robert Wenzin	Stian Johansen	Helge Kjørstad
B	04 Sep. 2014	Added SPC GUI	Robert Wenzin	Stian Johansen	Helge Kjørstad

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