



## Appendix 1

# Product Description and/or Approval Condition

Certificate No : CPH03795-AC008

Date of Issue : 16 May, 2018

## A. Product Description

### 1. Product Specification

#### A. Product Description ;

K-Chief700 is an integrated control system(ICS) used for distributed monitoring and control in marine applications.

K-Safe is a range of safety solutions ; Emergency Shutdown, Fire&Gas Detection and Protection System and Process Shutdown System

#### 1) K-Chief 700

Equipment and basic Alarm, Monitoring and Control functionality as described in the production description 304844/B, including

- Operator Station
- History Station
- Field Station
- Network

Vessel related functionality as described in production description 304844/B.

These functions can typically include ;

- Watch call (alarm extension systems)
- Power Management
- Machinery Control
- Cargo Control
- Ballast Control
- Vessel Performance Monitoring System
- Vessel Mode Control
- Heating, Venting and Air Conditioning Controls

#### 2) K-Safe

Alarm Management System

- Alarm Monitoring
- Alarm System

Emergency Shutdown System

- K-Safe 3(1oo2 redundancy), Dual I/O
- K-Safe 2(1oo2 computer redundancy), Shared I/O

Process Shutdown System

- K-Safe 3(1oo2 redundancy), Dual I/O
- K-Safe 2(1oo2 computer redundancy), Shared I/O
- K-Safe 1(single system)

Fire&Gas Detection and Protection System

- K-Safe 3(1oo2 redundancy), Dual I/O
- K-Safe 2(1oo2 computer redundancy), Shared I/O
- K-Safe 1(single system)

System functionality as described in K-Safe Product Description 163875/G

#### 3) Common for K-Chief 700 and K-Safe

Hardware as described in "Approved HW - K-Chief 700 and K-Safe" KM doc. No. 356372 Rev.E  
AIM Basis Software Release 8.3, 8.5, 8.6 and 8.7 for the above functions used in  
K-Chief 700 and K-Safe.

## Appendix 2

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- 4) Comprising of modules
- KM05 : Operator Station
  - ALC(NAV) Panel : Alarm and Command Panel
  - CRP(Mk2) : Control Room Panel
  - BU AUT : Configuration input panel for automation systems
  - Input Panel(Mk2) : Button keypad with trackball
  - BUS-Term : Termination board for Kongsberg RBUS and SPBUS
  - EAP(200) : Extended Alarm Panel
  - EFI(16) : Earth Fault Indicator
  - RMC-ST : Remote Media Converter
  - PTB : Push Button Telegraph
  - WBU : Watch Bridge Unit(with display or alarm groups)
  - WCU : Watch Cabin Unit(with/without display)
  - WCC600 : Watch Calling C600 Panel
  - RCU : Remote Controller Unit o 501 / 502 / 502(i) / 602
  - RDIO : Remote Digital I/O module o 401S / 420S
  - RDIOR 420 : Remote Digital I/O module and Relay channels
  - RMP : Remote MultiPurpose I/O module o 420 / 422(i) / 422S(i)
  - RTB420 : Remote Termination Board
  - RHUB200-5 : Communication HUB and Repeater
  - RSER200-4 : Serial Line Communication Interface
  - HP3600-24(-SFP) : Network Switch

## 2. Approved Drawings and documents

### 1) Documents

- Product Description, KONGSBERG - K-Chief 700, doc. No. 304844/C
- Operator Manual, , KONGSBERG - K-Chief 700, doc. No. 338309/A
- Product Description, KONGSBERG - K-Safe, doc. No. 163875/H
- Operator Manual, , KONGSBERG - K-Safe, doc. No. 411129/A

## 3. Test Reports, etc.

### 1) Test Reports No.

- DANAK-193886 K250600-3, 197537 E502029-3, 198195 A503298-1 Rev.1, 198508 A503547-1, 198575 DELTA-A504273-3, 198577 DELTA-A504327-2, 198637 DELTA-A504352-1, 198696 A504446-1, 1910121 A505138, 1910264 A505037, 1910280 A505687, 1910281 A505749 Rev.1, 1910541 A506114, 1910830 A506580, 1910979 A506924-1, 1911523 A507567, 19/12618 T202566, 1912904, 1911658 Rev.1
- Nemko E14200.00, 69187, 39760, E13012.00, E14127.00, E13144.02
- TI-3010-13-014234

## B. Approval Condition

### 1. Application & Limitation

- 1) This approval is granted on the basis of the test reports and the approved documentation.
- 2) The manufacturer should inform this Society of all kinds of revisions of the equipment including software. If the changes are recognized to affect functionality of the approved equipment, type test to confirm the reliability of the revised equipment may be performed in the presence of our surveyor.

### 2. Individual Product Cert. and Drawing Approval Requirement

- 1) Individual Product Certification is required.
- 2) In case where this system is installed on board, the system drawings for individual vessel are to be approved by this Society.

### 3. Marking

- 1) The product or packing is to be marked with the manufacturer's name and type designation on a suitable position.

### 4. Others

N/A

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