



# AMERICAN BUREAU OF SHIPPING

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Customer Name	<b>KONGSBERG MARITIME AS</b>	Purchase Order No.	<b>4321234</b>
Attending Office	<b>Oslo</b>	Report Number	<b>OS3329510</b>
First Visit Date	<b>03-May-2017</b>	Last Visit Date	<b>01-Jun-2017</b>

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**Certification Of:** Software test of Advanced Generator      Quantity:    One(1)  
Supervision (AGS) and Smart Zone Protection  
Manufacturer: KONGSBERG MARITIME AS

**Survey Location:**                      Kongsberg, Norway

**Equipment Data**

Model Number                                      AGS  
Designer Name                                      KONGSBERG MARITIME AS

**This is to Certify** that the undersigned surveyor(s) to this Bureau did, at the request of the customer, carry out the following survey and report as follows:

Traceability of materials used on this project has been verified.

All testing (pressure/load/operational/etc.) has been carried out as applicable and verified in accordance with the applicable Rules/specifications.

Testing machines are maintained in a satisfactory condition and records of their recheck or calibration dates confirmed.

Inspection and testing of machinery/equipment parts and assembly satisfactorily carried out in accordance with the applicable specification.

Functional testing satisfactorily performed in accordance with the applicable specification.

Testing machines are maintained in satisfactory condition and records of their recheck or calibration dates confirmed.

**Advanced Generator Supervision (AGS) and Smart Zone Protection System.**

At the client request the surveyors was invited to witness software test of the mentioned system.

The system was tested according to test procedure with project no.: 4321234, dated 20 March 2017.

All test satisfactory carried out at this time, FAT procedure signed and stamped.

The tested software were of the following versions:

- AIM 8.6 u 5
- OSK 2.10 u 4
- PCK 2.9 u 5

The Advanced Generator Supervision (AGS) and "smart Zone Protection" are intended to be an expansion to the Power Management System in the K-Chief 700 system.

Performance test of the software according to ABS Rules for Building and Classing Steel Vessels 4-9-3/9.5, Table 2.

NOTE: This report evidences that the survey reported herein was carried out in compliance with one or more of the Rules, guides, standards or other criteria of the American Bureau of Shipping and is issued solely for the use of the Bureau, its committees, its clients or other authorized entities. This Report is a representation only that the vessel, structure, item or material equipment, machinery or any other item covered by this Report has been examined for compliance with, or has met one or more of the Rules, guides, standards or other criteria of American Bureau of Shipping. The validity, applicability and interpretation of this report is governed by the Rules and standards of American Bureau of Shipping who shall remain the sole judge thereof. Nothing contained in this Report or in any notation made in the contemplation of this Report shall be deemed to relieve any designer, builder, owner, manufacturer, seller, supplier, repairer, operator or other entity of any warranty express or implied.

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**Surveyor(s) to The American Bureau of Shipping  
Attending Surveyors**

Fuglei Tor Brodde Electronically Signed on 01-Jun-2017 by Refshauge, Arne S.

Refshauge Arne S. Electronically Signed on 01-Jun-2017

Silvestro Francesco Electronically Signed on 01-Jun-2017 by Refshauge, Arne S.

**Reviewed By**  
Hognesen, Marius Electronically Signed on 02-Jun-2017, Oslo Port



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<b>FAT Procedure</b> <b>Power Management System AGS Part &amp;</b> <b>Smart Zone Protection</b>					
<b>Project:</b>		4321234			
<b>Product:</b>		K-Chief 700			
<b>Location:</b>					
<b>Synopsis:</b>		This document describes the procedure for functionality test of the AGS and zone protection functions in KM PMS			
<b>Document no:</b>		XXXXXX		<b>Revision:</b>	A
<b>Customer doc no:</b>				<b>Version:</b>	1.0
<b>Contract no:</b>				<b>Pages:</b>	25
<b>Rev</b>	<b>Date</b>	<b>Reason for issue</b>	<b>Made by</b>	<b>Checked</b>	<b>Approved</b>
A	20.03.17	First Issue	NF	EM	GG
B					
C					
D					
E					
F					
G					
H					

**Document history**

<i>Revision</i>	<i>Description of Change</i>
A	First issue

**Note!** *Detailed document history to be found in Appendix A.*

**References**

<i>No</i>	<i>Doc No</i>	<i>Description</i>
1	332662	AGS Datasheet
2	304844	K-Chief 700 Product Description
3	333334	Power Management System Datasheet
4	338309	K-Chief 700 Integrated Control System Operator manual

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# 1 Introduction

## 1.1 Purpose

This document describes the procedure for functionality test of the AGS and Smart Zone Protection part of KM Power Management System (PMS) to be performed at Factory Acceptance Test (FAT)

## 1.2 Pre-Requisites

This test is made on a test system set-up to represent a standard KM PMS system with 8 engines and 8 switchboards in four switchboard rooms. The single bus breaker in each switchboard is equipped with dual trip coil with trip signals from both PMS FSes for that switchboard.

## 1.3 Test procedures and acceptance criteria

Each test has a header defining the purpose of the test, prerequisites for the test. Each separate test has a "tick - off" box for Remarks or Checked of the particular test. Tick the checked-box when the test item has been performed, tick the remarks-box if any remarks.

- The IAT test should be performed with fully test, and FAT test could be selective by customer. (Partial test).
- There are five acceptance codes that can be issued for each set of system component tests.

Code 1 – Accepted

Code 2 – Accepted with comments

Code 3 – Rejected

Code 4 – Not Tested


Code 5 – On Hold

These codes are filled out in the acceptance field in the approval table together with the test date and signature of the KM representative. During test, the customer should sign the test. Code 2 – 5 should be followed by a remark or punch. A description of each punch is described, with punch number and description, in the punch-list at the end of the test protocol.

Test	Acceptance	Approved	Date/Sign	Remark/Punch No
IAT	1	Customer	15/05-09 E.H	
FAT				

Acceptance Codes: 1. Accepted 2. Accepted with comments 3. Rejected 4. Not Tested 5. On Hold

## 1.4 Test Representatives

Test	Name	Company	Signature
IAT	MAGNE KLEVEN	KM	MK
FAT-KM	Wils Felang	KM	Wils Felang
FAT-Class	ARNE REFSHAUGE TOR FUGLEI FRANCESCO SILVESTRO	ABS	



Test witnessed 9/5-2017