Marine & Offshore

BUREAU VERITAS

Certificate number: 13948/F0 BV
File number: MMS56346/2
Product code: 0001D

This certificate is not valid when presented without the full attached schedule composed of 7 sections

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TYPE APPROVAL CERTIFICATE

This certificate is issued to

SPECTEC Group Holdings Ltd

Limassol Germasogeia - CYPRUS

for the type of product

MAINTENANCE MANAGEMENT SOFTWARE

AMOS Business Suite versions 8.x to 10.x
AMOS Maintenance & Purchase module Version 6.x to 10.x
(see limitations in clause 4)

Requirements:
Bureau Veritas Rules for the Classification of Steel Ships, NR 496 DTM R01E.
Approval of Computerized Maintenance Management System used on board ships.

This certificate is issued to attest that Bureau Veritas Marine & Offshore did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements mentioned above.

This certificate will expire on: 18 May 2025

For Bureau Veritas Marine & Offshore,
At BV VENEZIA, on 18 May 2020,
Sandro BRUSEGAN

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION (software):

AMOS Maintenance & Purchase is the Maintenance, Stock, Purchase and Budget module of AMOS Business Suite. **AMOS Business Suite** is a Windows based Ship Management System, including other modules such as Quality and Safety, Crewing and Voyage management.

Development tools:
Compilator: Sybase PowerBuilder
Database Manager:
      - Sybase Adaptive Server Anywhere 10.0 / 11.0 / 12.0 / 16.0
      - MS-SQL 2005 9.0 / 2008 10.0 / 2012 11.0
      - Oracle 10.2 / 11.1 / 11.2
Production site: SpecTec Group Holdings Ltd - 1, Agias Fylaxeos Street - KPMG Centre - Office 1, 2nd Floor - 3025 Limassol - CYPRUS

2. DOCUMENTS AND DRAWINGS :

- AMOS Maintenance Product Description
- AMOS Maintenance Detailed product description
- AMOS Business Suite Version 8.5 Installation guide (rev.1, December 2006)
- AMOS Business Suite Version 8.5 Reference Manual (rev.1, December 2006)
- AMOS Maintenance&Purchase Version 6.0 User guide (7 June 2005)
- AMOS Business Suite Version 8.5 Release Notes (rev.1, November 2006)
- Bureau Veritas Audit Trail Reports (installation and configuration) (30/07/2007)
- AMOS Business Suite Version 9.1 M&P Version 9.1 User Guide (rev.1, November 2009)
- AMOS Business Suite Version 9.2 Installation guide (rev.1, December 2010)
- AMOS Business Suite Version 9.2.00 Release Notes (rev.2, January 2011)
- AMOS Business Suite Version 9.2 Reference Manual (rev.1, December 2010)
- AMOS Business Suite Vrs. 10.0.00 Installation Guide (rev.2, November 2014)
- AMOS Business Suite Vrs. 10.0.00 Reference Manual (rev.2, January 2015)
- AMOS Business Suite M&P Vrs. 10.0.00 User Guide (rev.2, January 2015)
- AMOS Business Suite Vrs. 10.0.00 Release Notes(rev.1, July 2014)

- Demo version: Maintenance & Purchase module Version 6.9.12 (part of AMOS Business Suite Version 8.5.12), with Sybase Adaptive Server Anywhere 8.0.
- Demo version AMOS Maintenance & Purchase module Version 9.2.00 (part of AMOS Business Suite Version 9.2.00), with MS-SQL database.
- Demo version AMOS Maintenance & Purchase module Version 10.0.20 (part of AMOS Business Suite Version 10.0.20) with Sybase Adaptive Server Anywhere 12.0 database management.

3. TEST REPORTS :

Demo version AMOS Maintenance & Purchase module Version 6.9.12, with Sybase Adaptive Server Anywhere 8.0, tested as per report VSM/07/00038.
Demo version AMOS Maintenance & Purchase module Version 9.2.00, with Sybase Adaptive Server Anywhere 12.0, tested as per report VSM/11/00008.
Demo version AMOS Maintenance & Purchase module Version 10.0.20, with Sybase Adaptive Server Anywhere 12.0, tested as per report RRM/15/00076.

4. APPLICATION / LIMITATION :

The approved Computerized Maintenance Management System is acceptable for use onboard BV classed vessels surveyed under Planned Maintenance System (PMS), or granted with STAR-MACH additional class notation.

This certificate is valid for tested AMOS Maintenance & Purchase module version 6.9.12 and later releases of version 6 up to 10.0.20 and later releases of version 10, provided that alterations of functionality remain in line with the Rules in force.

Onboard installation and maintenance requirements:
The system is to be installed and used according to the manufacturer's recommendations.
The system is to store history of reported jobs, equipment breakdowns and damages for at least 5 years.

Software configuration:
Following parameters should be set as:

Parameter	Software Localisation	Value
Maintenance Log Modification Warning	Tools>Configuration>Parameters>Options>Maintenance	TRUE
Hours	File>Open Register>General>Counter Types and Measure Point Types	25 max. per day
Allow Negative value of Counters	Tools>Configuration>Parameters>Options>Maintenance	FALSE
Require Reason for Job Rescheduling	Tools>Configuration>Parameters>Options>Maintenance	TRUE
Automatically Reschedule Work Orders	Tools>Configuration>Parameters>Options>Maintenance	TRUE
Log Job Rescheduling	Tools>Configuration>Parameters>Options>Maintenance	TRUE
Report work, require reason for overdue work	Tools>Configuration>Parameters>Options>Maintenance	TRUE

The following Bureau Veritas Audit Trail reports should be configured and made available: "Class code changes - Components", "Maintenance Criteria changes - Components", "Due date changes - Components", "Planned Job changes - Components", Class code and Criticality changes - Functions", "Maintenance Criteria changes - Functions", "Due date changes - Functions", "Planned Job changes - Functions".

Access rights are to be set in order to avoid unexpected or spiteful editing or deleting of job planning, maintenance histories and maintenance logs.

5. PRODUCTION SURVEY REQUIREMENTS :

The maintenance management software is to be manufactured, examined and tested by SpecTec Group Holdings Ltd in accordance with the type described in this certificate.

6. MARKING OF PRODUCT :

Identification is:
- Maker's name or trade mark: SpecTec Group Holdings Ltd,
- Software name and version: AMOS Business Suite - Maintenance & Purchase Module Version 6.x or 7.x or 8.x or 9.x or 10.x.
Identification is displayed in menu "Help / About ..." of the software and is to be available in software manual.

7. OTHERS :

7.1 - The approval only concerns the functionality and does not certify that the software is free from anomalies.
SpecTec Group Holdings Ltd, Limassol - CYPRUS should notify BUREAU VERITAS of any modification or changes to the software in order to maintain the validity of the Type Approval Certificate or to renew it, as relevant. This approval is given on the understanding that the Society reserves the right to require check tests to be carried out on the installed softwares at any time and that **SpecTec Group Holdings Ltd, Limassol - CYPRUS** will accept full responsibility for informing shipbuilders, ship owners or their sub-contractors of the proper methods of use and general maintenance of the software and the conditions of this approval.

7.2 - This Certificate supersedes Type Approval Certificate N°13948/E1 BV issued on 11/06/2015 by the Society.

7.3 - SpecTec Group Holdings Ltd web site address is www.spectec.net.

*** END OF CERTIFICATE ***

Marine & Offshore

TYPE APPROVAL CERTIFICATE

This certificate is issued to

SPECTEC Group Holdings Ltd
Limassol Germasogeia - CYPRUS

for the type of product

MAINTENANCE MANAGEMENT SOFTWARE
AMOS Entreprise Management Suite version 7.x
(see limitations in clause 4)

Requirements:
Bureau Veritas Rules for the Classification of Steel Ships
NR 496 DTM R01 E Approval of Computerized Maintenance Management System used on board ships.

This certificate is issued to attest that Bureau Veritas Marine & Offshore did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements mentioned above.

This certificate is a renewal of certificate N° 22981/A0 BV expiring on 11/06/2020

This certificate will expire on: 11 Jun 2025

For Bureau Veritas Marine & Offshore,
At BV VENEZIA, on 18 May 2020,
Sandro BRUSEGAN

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION (software):

AMOS Enterprise Management Suite (EMS) is a Windows based Ship Management System, including modules such as Maintenance, Material, Procurement, Logistics, Financial, QMS, Staff, and Risk management.

Development tools:
Compilator: Sybase PowerBuilder
Database Manager:
      - Sybase SQL Anywhere 11 / 12 / 16
      - Microsoft SQL Server 2008 / 2012
      - Oracle 10.02 / 11
Production site: SpecTec Group Holdings Ltd - 1, Agias Fylaxeos Street - KPMG Centre - Office 1, 2nd Floor - 3025 Limassol - CYPRUS

2. DOCUMENTS AND DRAWINGS :

- AMOS EMS vrs. 7.2.00 Configuration & Administration Guide (Revision 1, July 2014)
- AMOS EMS vrs. 7.2.00 Getting Started Guide (Revision 1, July 2014)
- AMOS EMS vrs. 7.2.00 Installation Guide (Revision 1, July 2014)
- AMOS EMS vrs. 7.2.00 MM&P User Guide (Revision 1, July 2014)
- AMOS EMS vrs. 7.2.00 QMS User Guide (Revision 1, July 2014)
- AMOS EMS vrs. 7.2.00 Staff Management User Guide (Revision 1, July 2014)
- AMOS EMS vrs. 7.2.00 Release Notes (Revision 1, July 2014)
- AMOS EMS vrs. 7.2.07 Release Notes (Revision 1, June 2015)

Demo version AMOS Enterprise Management Suite Version 7.2.07.6908 with Sybase SQL Anywhere Anywhere 12.0 database management.

3. TEST REPORTS :

Demo version AMOS Enterprise Management Suite Version 7.2.07.6908, with Sybase SQL Anywhere Anywhere 12.0, tested as per report RRM/15/00100

4. APPLICATION / LIMITATION :

The approved Computerized Maintenance Management System is acceptable for use onboard BV classed vessels surveyed under Planned Maintenance System (PMS), or granted with STAR-MACH additional class notation.

This certificate is valid for tested AMOS Enterprise Management Suite Version 7.2.07.6908 and later releases of version 7, provided that alterations of functionality remain in line with the Rules in force.

 Onboard installation and maintenance requirements:
The system is to be installed and used according to the manufacturer's recommendations.
The system is to store history of reported jobs, equipment breakdowns and damages for at least 5 years.

Software configuration:
Following parameters should be set as:

Parameter	Software Localisation	Value / Rule
Auto Generate Maintenance Workorders	Configuration > System Parameter > Maintenance Module > User Defined Fields	YES
Hours	Configuration > Common Setting > Maintenance > Measure Point Type	25 max. per day

Parameter	Software Localisation	Value / Rule
Function Measure Point	Configuration > Rule Definition > Function Measure Point	Rule 1: CURRENTVALUE >= 0 Rule 2: n_openapi_function_validatestartvalue Rule 3: n_openapi_function_validatemaxdaily
Asset Measure Point	Configuration > Rule Definition > Asset Measure Point	Rule 1: CURRENTVALUE >= 0 Rule 2: n_openapi_asset_validatestartvalue Rule 3: n_openapi_asset_validatemaxdaily

Access rights are to be set in order to avoid unexpected or spiteful editing or deleting of job planning, maintenance histories and maintenance logs.

Back up database is to be scheduled at regular intervals such that the data can be readily restored, if needed without loss of essential information.

5. PRODUCTION SURVEY REQUIREMENTS :

The maintenance management software is to be manufactured, examined and tested by SpecTec Group Holdings Ltd in accordance with the type described in this certificate.

6. MARKING OF PRODUCT :

Identification is:
- Maker's name or trade mark: SpecTec Group Holdings Ltd,
- Software name and version: AMOS Enterprise Management Suite 7.x.
Identification is displayed in the "Login window" of the software and is to be available in software manual on Administrative Tools > Help File.

7. OTHERS :

7.1 - The approval only concerns the functionality and does not certify that the software is free from anomalies. **SpecTec Group Holdings Ltd, Limassol - CYPRUS** should notify BUREAU VERITAS of any modification or changes to the software in order to maintain the validity of the Type Approval Certificate or to renew it, as relevant. This approval is given on the understanding that the Society reserves the right to require check tests to be carried out on the installed softwares at any time and that **SpecTec Group Holdings Ltd, Limassol - CYPRUS** will accept full responsibility for informing shipbuilders, ship owners or their sub-contractors of the proper methods of use and general maintenance of the software and the conditions of this approval.

7.2 - SpecTec Group Holdings Ltd web site address is www.spectec.net.

*** END OF CERTIFICATE ***