

International Service Network



The Global Reach of JRCS's Service Network

JRCS is dedicated to providing the highest level of customer service in the most efficient and timely manner in Japan and around the world. Licensed service agencies based in major ports the world over are always ready to respond to any issues, and highly-skilled and experienced service engineers are on hand to deal with a variety of special circumstances aboard a vessel.







The JRCS Worldwide Service Network

Australia	NOVAMARINE INSTRUMENTS PTY LTD	Singapore	JRCS Engineering Singapore Pte. Ltd.						
Belgium	IMTECH MARINE BELGIUM N. V.	Singapore	CYCLECT ELECTRICAL ENGINEERING PTE LTD.						
Brazil	METALOCK DO BRASIL LTDA.		E-TRUST AUTOMATION PTE LTD						
China Shanghai	JRCS (Shanghai) Co.,Ltd.	South Africa	GLOBE ENGINEERING WORKS (PTY) LTD						
Hong Kong	HOSTMOST ENGINEERING LTD		L. H. MARTHINUSEN ENGINEERING SERVICES						
France	WÄRTSILÄ AUTOMATION SERVICES FRANCE	Spain	AAGE HEMPEL						
Greece	SPACE ELECTRONICS LTD	Taiwan	LEEDER ELECTRONICS CO., LTD.						
	NOVA ELECTRONICS S.A.	Turkey	STT DENIZ TICARET VE SERVIS LTD						
India	PENTA ELECTROMEC PVT. LTD.	UAE	MARITRONICS						
The Netherlands	JRCS Euro Marine Service B.V.	UK	ERIKS INDUSTRIAL SERVICES LTD						
		USA	SEABOARD CONTROLS, INC						





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System Retrofitting & Regular Maintenance



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Why Is System Retrofitting Necessary?

In order to ensure safe and efficient navigation at sea, JRCS recommends that systems be replaced over time as the vessel ages. If you encounter one or more of the following issues, we can provide a retrofitting solution which meets all of your needs:

- Systems fail frequently
- Supply of maintenance parts has been discontinued
- Parts manufacturer has withdrawn from the marine market
- Dissatisfaction with the functionality of present equipment
- Continued use of a system is necessary even after vessel has aged

What Are the Benefits of JRCS System Retrofitting?

The following are just a few of the benefits of system retrofitting performed by JRCS:

- The latest systems can be introduced
- JRCS systems can be introduced even if the original systems were not made by JRCS
- Maintenance becomes more convenient and user-friendly
- Maintenance costs are reduced
- Maintenance services can be performed at major ports around the world
- Updating old systems contributes to safe and efficient navigation

Why Choose JRCS to Perform Your System Retrofitting?

JRCS has a proven track record in the retrofitting field, having taken part in a wide range of different and special projects. Our engineers rely on a knowledge base cultivated over many years of experience and have achieved substantial retrofitting results with a wide variety of vessels, including foreign and domestic vessels, as well as vessels which are at sea or docked. Our expert engineers install and test the system based on the customer's instructions, location, and timeframe, always striving to provide the highest degree of customer satisfaction.

Our Retrofitting Track Record (Excerpt)

Vessel type	System									
Fisheries research vessel	AMS (SMS-22-K), PM	IS (JACOM-22)								
Container vessel	AMS (SMS-22-K)									
LNG vessel	AMS (SMS-22), PMS (JACOM-22)									
FPSO	AMS (SMS-22), PMS	(JACOM-21)								
Patrol boat	AMS (SMS-32)									
Training vessel	AMS (SMS-32)									
Whaling research vessel	AMS (SMS-32)									
Platform	PMS (JACOM-21)									
Bulk carrier	PMS (JACOM-21)									
Car carrier	AMS (SMS-22-K)	(and many more								

*AMS: Alarm & Monitoring System *PMS: (Generator) Power Management System



Alarm & Monitoring System Retrofitting Work (Engine Control Room)

Retrofitting Aboard an LNG Vessel

New Alarm & Monitoring System with Full Maintenance Capability

After 20 years of use, maintenance could no longer be performed on a different manufacturer's Alarm & Monitoring System. JRCS replaced the old system with its own AMS, all while using the original system's sensors, cables, and related engine extension alarm systems. The retrofitting work was performed by some of the many overseas service engineers in JRCS's global service network, and was completed in three weeks during regular docking.



Retrofitting Aboard a Container Vessel

New Alarm & Monitoring System with Superior Functionality

This vessel went into service featuring a state-of-the-art automation system provided by another manufacturer. After a period of time, the Alarm & Monitoring System became outdated, and JRCS was asked to install its own AMS featuring touch-panel LCDs. The use of LCDs enabled centralized monitoring on two operation stations. Retrofitting work was performed at an overseas repair yard over a period of two weeks.





Retrofitting Aboard an FPSO

Additional Generator Panels to Satisfy Increased Load Demand

In response to an increased load demand aboard an FPSO (Floating Production Storage and Offloading Unit), JRCS improved the original two-generator design by adding two generator panels and a synchronizing panel.







Regular Maintenance









What are the Benefits of Regular Maintenance?

- 1. Reduce costs incurred by unexpected problems
- 2. Ensure a superior level of navigational safety
- 3. Prevent problems caused by malfunctioning or worn-out parts before they happen

After a consultation, JRCS will recommend a regular inspection and maintenance schedule that is best suited to your vessel's unique layout and needs.

JRCS Maru

Alarm & Monitoring Systems

- Inspection of cooling fans and printers
- Inspection of CRT and LCD display units
- Replacement of worn-out power supply units (all types)
- Replacement of memory backup battery and UPS battery
- Calibration of display data using machine-side test signal input

Main and Emergency Switchboards

- Disassembly, inspection, and maintenance of moving parts for each Air Circuit Breaker (ACB) (Regular inspection is especially necessary for vessels such as ferries whose crew often open and close the ACBs)
- Inspection of Generator Power Management System
- Replacement of worn-out power supply units (all types)
- Replacement of memory backup battery and governor relay

Starter Panels

- Prevention of open-phase operation and starter burnout due to electromagnetic contactor wear-out
- Replacement and cleaning of high-voltage electromagnetic contactors for equipment such as side thrusters

Regular Inspection and Maintenance Plan (Example)

JRCS takes into account the individual situation and needs of each vessel when designing a regular inspection and maintenance plan, ensuring that all parts are kept in working order and contributing to safe and efficient navigation.

Procedure Inspection Cleaning Retightening Replacement Adjustment Overhaul Retrofitting

began service in November of 2010		ADDreviation INS			NS	CLN RIN				REP		ADJ		UVH		KIF						
	Interval	Voor	2011	2012	2013	2014	2015	2016	2017	2018	2010	2020	2021	2022	2023	2024	2025	2026	2027	2028	2020	2030
Details		Aco	1	2012	2015	2014	2015	2010	7	0	2019	10	11	12	12	14	15	16	17	10	10	2030
MSB internal cleaning	1 year	Plan	CLN	2 CLN		4 CLN		CLN	CLN	CLN	2 CLN	CLN	CLN	CLN	CLN	CLN		CLN		CLN	CLN	
		Done	CLIN		CLIN.	CLIN.	CLIN	CLIN.		CLIN	CLIN			CLIN	CLIN			CLIN	CLIN.	CLIN	CLIN	CLIN
Inspection of entire switchboard based on JRCS inspection guidelines	1 year	Plan	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS
		Done																				
Inspection of all MCCBs and control parts for excess heat or discoloration	1 year	Plan	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS
		Done																				
Retightening of terminals	1 year	Plan	RIN	RIN	RTN	RIN	RIN	RIN.	RIN	RIN	RIN	RIN	RIN	RIN	RIN	RIN	RIN	RIN	RIN	RIN	RIN	RIN
On board chack of the three AE	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Plan	INIS	INIS		INIS	INIS	INIS	INIS	INIS	INIS	INIS	INIS	INS	INIS	INIS	INIS	INIS	INIS	INIS	INIS	INS
1600-SS ACBs for generator use	open/closes	Done																				
On-board inspection of the two	1 year or 300 open/closes	Plan	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS	INS
AE1250-SS ACBs for thruster use		Done																				
Replacement of the four SC-0 AC	2 years	Plan		REP		REP		REP		REP		REP		REP		REP		REP		REP		REP
100 V governor aux. control relays		Done				0.50								0.50				0.50				0.50
Replacement of the three SRC	4 years	Plan				REP				REP.				REP				REP				REP
Inspection of the generator BMS		Plan	INIS	INIS		INIS	INIS	INIS	INIS	INIS	INIS	INIS	INIS	INS	INIS	INIS	INIS	INIS	INIS	INIS	INIS	INIS
(JACOM-21) based on JRCS standards		Done																				
Replacement of the four GB6-2114P	2 years	Plan		REP		REP		REP		REP		REP		REP		REP		REP		REP		REP
JACOM-21 governor control relays		Done																				
Replacement of the six GB6-2114P	4 years	Plan				REP				REP				REP				REP				REP
JACOM-21 ACB control relays		Done																0.50				
Replacement of the GMS-M100A-R1	8 years	Plan								REP								REP				
Poplacement of the two LWT 1140	8 years	Plan								REP								REP				
R-X JACOM-21 power converters		Done																	l			
Replacement of the two ER-2X (004B)	10 years	Plan						İ				REP										REP
governor control switches	TO years	Done																				