



SEncontrol
seaside engineering control



About Us



Company with huge possibilities

The people with **passion** and **dedication** for performed job

Group of specialist within

Automation, mechatronic and electro-engineering

Our core task is to provide FMEA and CMID inspections, system analysis and troubleshooting services. We can provide all services necessary to meet all the needs related to DP vessels.

ISO 9001
BUREAU VERITAS
Certification



REMOTE DP Trials

DP Vessel owners focus on Remote DP trials, as future for DP Vessels inspection during operation. In this short presentation, we would like to propose our Remote DP trials and as well provide comprehensive and objective (as possible) analyze of advantages and disadvantages of „Remote“ and „Attended“ DP trials on board DP vessel.



REMOTE DP Trials

Objectives of DP Annual Trials:

- encouraging vessel operators to carry out detailed, auditable tests on an **annual basis**;
- verifying that the DP system is fully **functional**, well **maintained** and that the failure modes and effects analysis (FMEA) remains valid.
- to provide a common standard approach for the auditing and **accepting of DP vessels by client companies** that adequately discharges their duty of care to the satisfaction of their regulatory bodies;
- to make the DP testing and acceptance process more efficient and thus save the industry **time** and unnecessary **cost**;
- to give failure response **training** and **experience** to DP personnel.



REMOTE DP Trials

Clients, charterers standards and requirements:

As per IMCA, DP Annual Trials are carried to confirm vessel ready for DP operations. However it is client who decide, as per delivered evidence, if vessel is ready.

- IMCA – M190 (Guidance for Developing and Conducting DP Annual Trials Programmes)

Independent verification of any trials programme intended to prove the integrity of systems where the consequences of failure can be severe is desirable. In the case of annual DP trials, **where the trials are performed by those responsible for operating and maintaining the DP system, independence should be introduced in to the process.** This is achieved by arranging for the test results to be **witnessed or reviewed** by an individual or organization competent to understand the significance of results which may deviate from the expected results, but **who is sufficiently removed from day to day operational control or responsibility for the DP system.**

The vessel operator shall arrange for the annual DP trials and/or the results of tests undertaken on an incremental basis to be **witnessed or verified by a competent and independent person** or persons. **The degree of independence is a matter for the vessel operator** and should be such that it provides confidence to all intended users of the annual DP trials report that the results can be accepted without further verification or testing. **Failure to provide users of the report with the necessary level of confidence may limit the acceptance of the document and lead to costly repetition of trials.**



REMOTE DP Trials

Clients, charterers standards and requirements:

As per IMCA, DP Annual Trials are carried to confirm vessel ready for DP operations. However it is client who decide, as per delivered evidence, if vessel is ready.

- DPC – TECHOP (Annual DP Trials and Gap Analysis, currently used by Shell)

No verification process is required for IMCA M190. The only requirement is that trials **be witnessed by a competent person who is considered to be independent**. The level of independence is a **matter for the vessel owner**. When choosing an independent witness the vessel owner may wish to consider what **degree of independence is likely to satisfy prospective charterers**.



REMOTE DP Trials

Clients, charterers standards and requirements:

As you could find on previous slides, **main concern** is client acceptance of Remote DP Trials reports, due to level of **witness independence**.

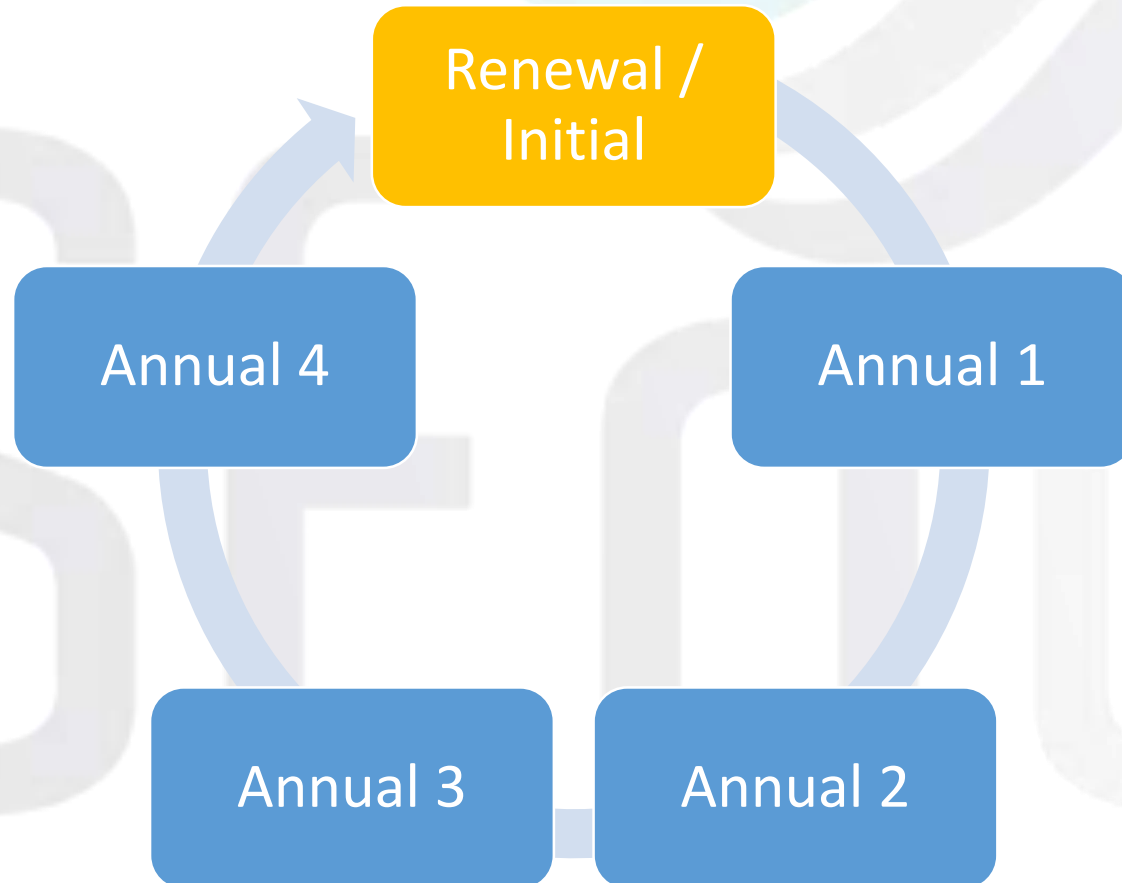
Remote DP trials are developed to avoid independent surveyor visits. In this case vessel owner may nominate one or more of the vessel crew to witness tests, however this is **subject for client interpretation and acceptance**, if nominated person and verification process presents sufficient level of independence.

!!! Critical Situations !!!

To achieve **high level of independency**, we provide reliable results verification procedures and may **send** independent inspector on board the vessel when high concerns arise from results.



REMOTE DP Trials

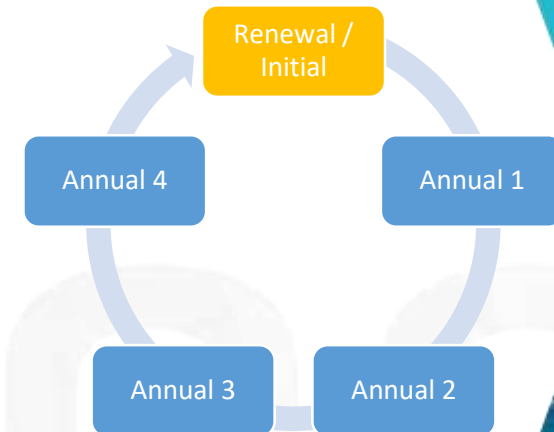


REMOTE DP Trials

Initial:

This step requires attendance, to develop REMOTE DP Trials program and reporting forms, including very sensitive items for clients, proving independent review:

- Timing sequence for each test, providing sufficient time for crew to record results.
- The way of recording results for Sencontrol Surveyor satisfactory review.
- Scheduling tests for next years, till Renewal.
- Issuing DP Annual Trial report.



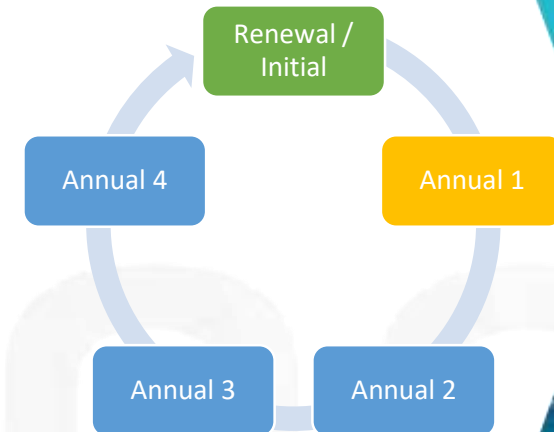
REMOTE DP Trials

Annual 1:

Vessel performs tests as per schedule. Test program can be implemented in to vessel Planned Maintenance Program.

Issuing DP Annual Trial report, after all results are correctly reported.

Each results are thoroughly and reliably checked by our surveyor on monthly bases.



REMOTE DP Trials

Annual 1:

Vessel performs tests as per schedule. Test program can be implemented in to vessel Planned Maintenance Program.

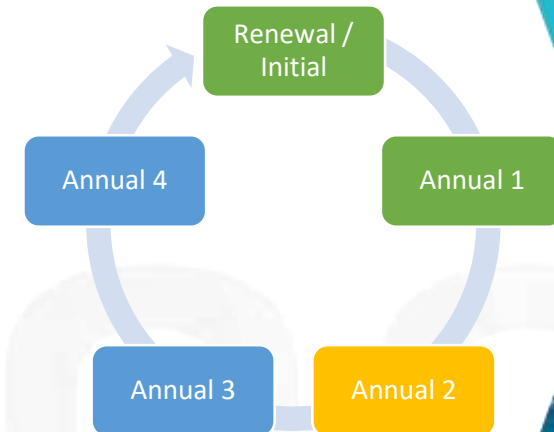
Issuing DP Annual Trial report, after all results are correctly reported.

Each results are thoroughly and reliably checked by our surveyor on monthly bases.

Annual 2:

Vessel performs tests as per schedule. Test program can be implemented in to vessel Planned Maintenance Program.

It is highly recommended to inspect vessel to verify documentation, maintenance and crew performance (4-5 hours inspection)



REMOTE DP Trials

Annual 1:

Vessel performs tests as per schedule. Test program can be implemented in to vessel Planned Maintenance Program.

Issuing DP Annual Trial report, after all results are correctly reported.

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Annual 2:

Vessel performs tests as per schedule. Test program can be implemented in to vessel Planned Maintenance Program.

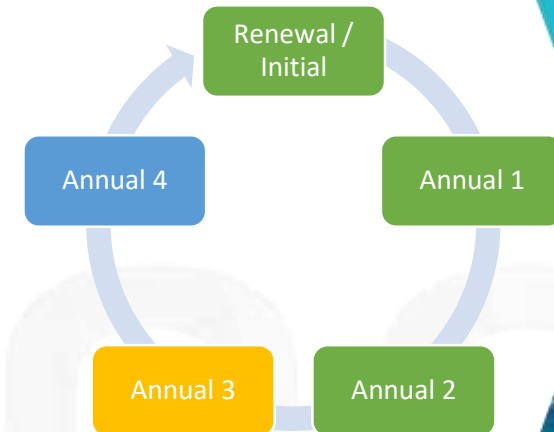
It is highly recommended to inspect vessel to verify documentation, maintenance and crew performance verification (4-5 hours inspection)

Annual 3: (Same as Annual 1)

Vessel performs tests as per schedule. Test program can be implemented in to vessel Planned Maintenance Program.

Issuing DP Annual Trial report, after all results are correctly reported.

Each results are thoroughly and reliably checked by our surveyor on monthly bases.



REMOTE DP Trials

Annual 1:

Vessel perform tests as per schedule. Test program can be implemented in to vessel Planned Maintenance Program.

Issuing DP Annual Trial report, after all results are correctly reported.

Each results are thoroughly and reliably checked by our surveyor on monthly bases.

Annual 2:

Vessel perform tests as per schedule. Test program can be implemented in to vessel Planned Maintenance Program.

It is highly recommend to inspect vessel to verify documentation, maintenance and crew performance verification (4-5 hours inspection)

Annual 3: (Same as Annual 1)

Vessel perform tests as per schedule. Test program can be implemented in to vessel Planned Maintenance Program.

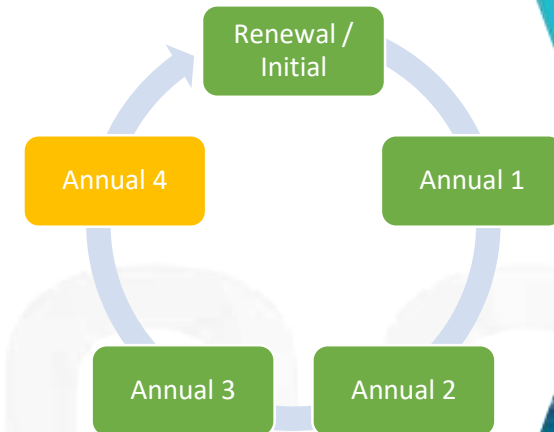
Issuing DP Annual Trial report, after all results are correctly reported.

Each results are thoroughly and reliably checked by our surveyor on monthly bases.

Annual 4: (Same as Annual 2)

Vessel performs tests as per schedule. Test program can be implemented in to vessel Planned Maintenance Program.

It is highly recommended to inspect vessel to verify documentation, maintenance and crew performance (4-5 hours inspection)

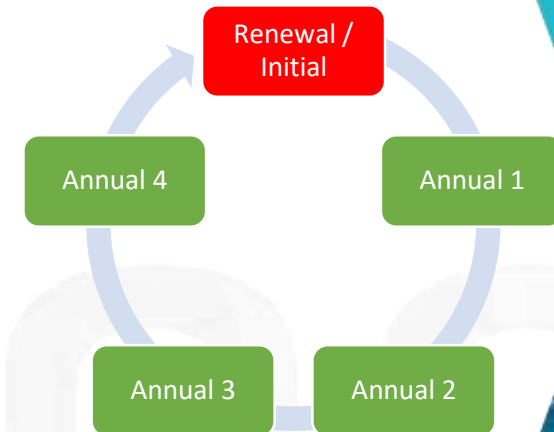


REMOTE DP Trials

Renewal:

This step requires attendance, to verify REMOTE DP Trials program and reporting forms, including very sensitive items for clients, proving independent review:

- Timing sequence for each test, providing sufficient time for crew to record results.
- The way of recording results for Sencontrol Surveyor satisfactory review.
- Scheduling tests for next years, till Renewal.
- Issuing DP Annual Trial report.



REMOTE DP Trials

3rd Party Verification

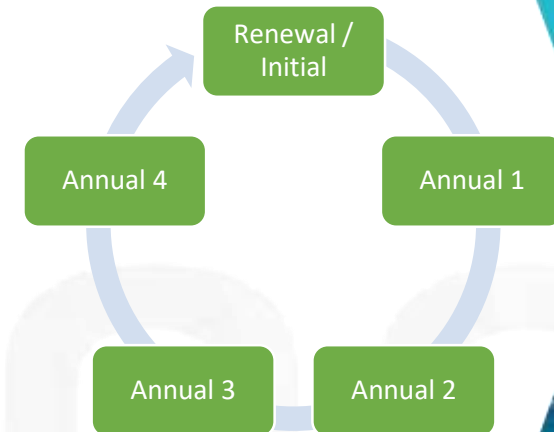
This is the most important subject in REMOTE DP Trials program. Crucial for client „independence of witness“ when vessel crew is performing tests, requires high level of quality in reporting and verification process.

Verification is divided in steps, based on Sencontrol online system:

Step 1. Preliminary results forms are verify if completely filed in, require documents attached, documents are sign by witnesses, dates, etc.

Step 2. Verification of results by experienced DP consultant.

Step 3. Positive, Negative or any concerns from verification will be reported in online system. Categorization (A,B or C) will be highlighted after recognition, to avoid situation, when vessel operate unsafe with known failure.



REMOTE DP Trials

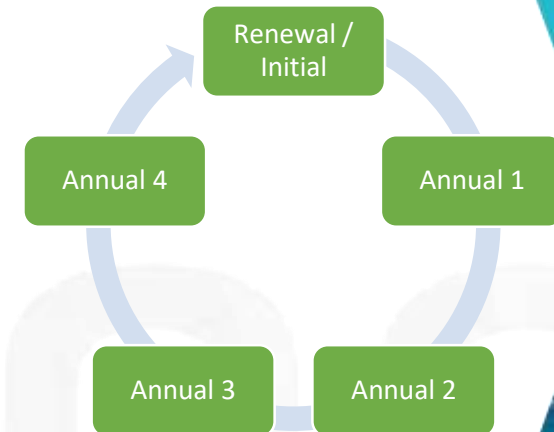
On-line reporting system

Based on **online system**, vessel crew, vessel management and all involved parties will be able to **follow inspections, reporting, findings** process.

Test sheets, schedules and forms are available for download, all **vessel specific**.

Results and attachments like pictures, logs etc., are **uploaded** to online inspection data base and **available any time** for all parties with vessel access.

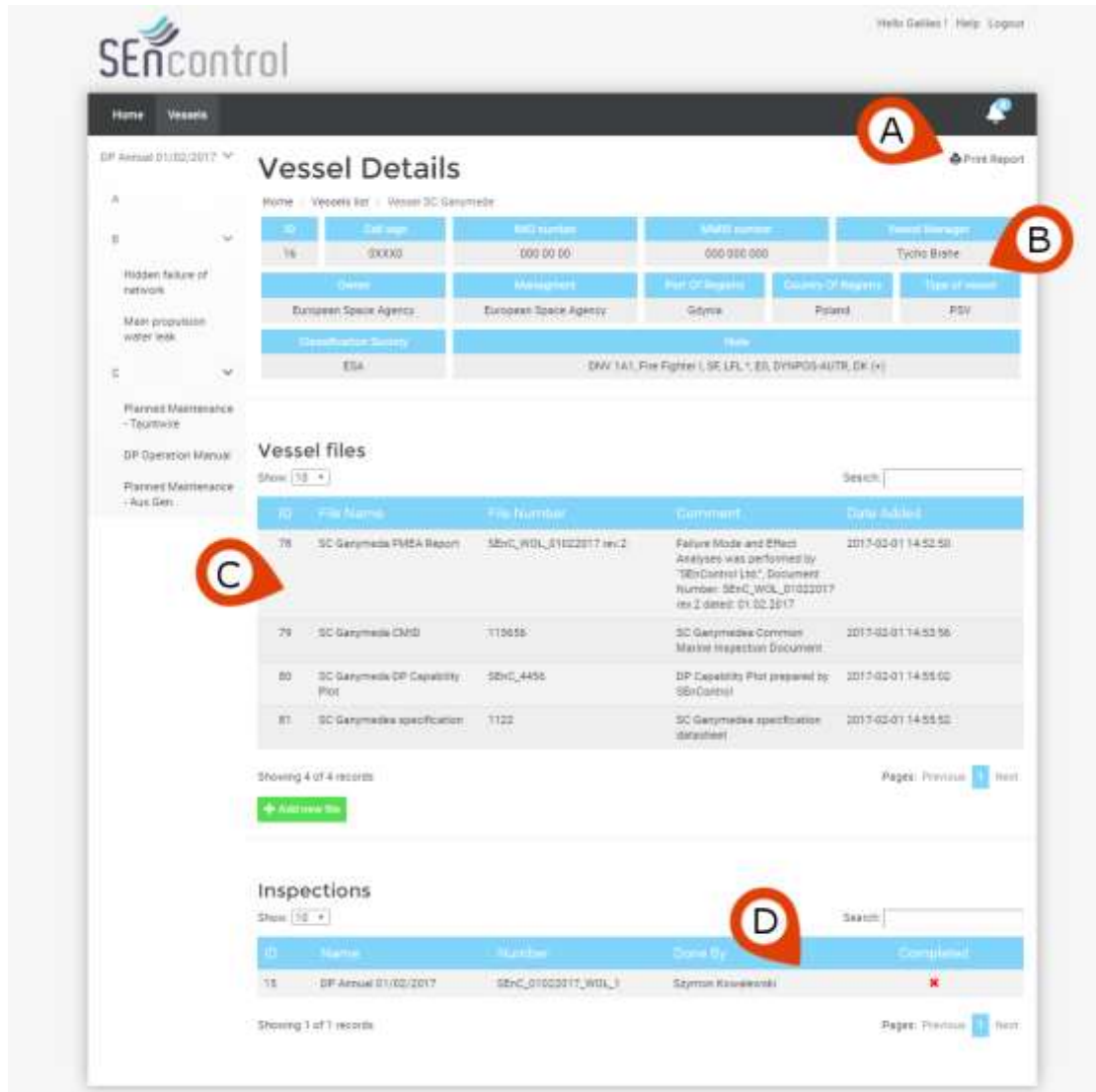
Online reporting system generates **summary status** reports **automatically** for download on request.



REMOTE DP Trials

On-line reporting system (<http://sencontrol.com/en/about-us/item/434-help>)

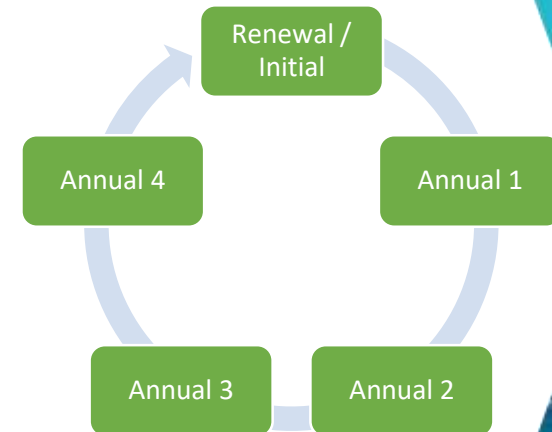
Sample Page:



The screenshot displays the SEncontrol web application interface. At the top, there is a navigation bar with 'Home' and 'Vessels' tabs. The main content area is titled 'Vessel Details' and includes a 'Print Report' button. Below this, there are several sections: 'Vessel files' and 'Inspections'. The 'Vessel files' section contains a table with columns for ID, File Name, File Number, Comment, and Date Added. The 'Inspections' section contains a table with columns for ID, Name, Number, Done By, and Completed. Red callout boxes labeled A, B, C, and D highlight specific elements on the page.

ID	File Name	File Number	Comment	Date Added
78	SC Garmynda FMEA Report	SEnC_WOL_01022017 rev.2	Failure Mode and Effect Analysis was performed by "SEnControl Ltd", document Number: SEnC_WOL_01022017 rev.2 dated: 01.02.2017	2017-02-01 14:52:58
79	SC Garmynda CMD	119055	SC Garmynda Common Marine Inspection Document	2017-02-01 14:53:56
80	SC Garmynda DP Capability Plot	SEnC_4455	DP Capability Plot prepared by: SEnControl	2017-02-01 14:55:00
81	SC Garmynda specification	1122	SC Garmynda specification (draft)	2017-02-01 14:55:52

ID	Name	Number	Done By	Completed
15	DP Annual 01/02/2017	SEnC_01022017_WOL_3	Szymon Kowalewski	✘



REMOTE DP Trials

Advantages:

Lower costs for ship owners and operators. Specially related to travel, and accommodation.

Test results are well documented, all information from results are online available for download any time. (Online system available for Attended and Remote Trials)

When test sheets and procedures are properly create, crew needs to be more involved for testing. This may increase crew knowledge and confidently about vessel, systems, speed up potential troubleshooting processes.

REMOTE DP Trials

Disadvantages:

When choosing **vessel crew** as witness, the vessel owner may wish to consider what degree of independence is likely to **satisfy prospective charterers**.

It is difficult to get **objective results** and observations by crew, even they take photos and fill test sheet „what happened“. Crew more familiar with vessel, more subjective observation will be, forced/pushed to expected results.

Missing **crew evaluation** and verification. Typical attended inspection requires to present all steps require for DP setup. Inspector verify if crew is familiar with vessel, systems and documentation.

Tests performed in past with success for many years, may effect critical equipment unexpected and result vessel downtime. **Our inspectors** have high technical knowledge and help to recover problems in very short time.

REMOTE DP Trials

Disadvantages:

During Inspection our inspectors verify not only hardware but **paper work**, crew **knowledge** and **performance** on board DP vessels. Our inspections starts with documentation verification, FMEA, FMEA Proving trials, **Crew Familiarization**, **Crew experience**, **Checklists**, **Planned Maintenance System** for DP related equipment, certificates, etc. After this verification we ask crew to perform DP setup as in normal operation, by filling checklists, cross checking with engineers, testing of equipment before DP operation. This allow us evaluate crew and they performance. When starting testing our inspectors usually require equipment documentation from crew, to verify they have and they know where documentation is located on board. During testing we require ETO to identify testing equipment, show on drawings tested signals and cabling, to cross check with DP annual tests, checking if ETO can read manuals and find require information from drawings.

REMOTE DP Trials

Recommendations:

We recommend to perform combined testing, this gives confidently that vessel operate safe and high standard.

Combine mode will require inspector attendance, at least, every second year to check on board systems, verify DP model, check documentation, get familiar with vessel crew, etc.

Together with Remote DP trials service, we highly recommend to contract additionally consultancy and technical assistance days.



SEncontrol

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Sencontrol company provides additional days for consultancy and technical assistance in regards to DP related systems, including:

DP Systems, Propulsion Automation Systems, Integrated Automation Systems, Safety Devices, Power Management Systems, Control Automation, Navigation and Positioning equipment, Power Generation, etc.

Sencontrol provides FMEA analyses (DP, 3D gangways, Diving, etc.), DP Capability Plots, dedicated software solutions, Propulsion control systems, DP systems, Dedicated Automation, 4-point Mooring Systems, Navigation equipment, etc.

For more information please visit our website:

<http://www.sencontrol.com/en/>





Thank you for beeing with us....



www.sencontrol.com

