



PACIFIC MARINE SERVICES

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Ship Remote Survey Scheme (SRSS)

P.M.S / Procedures of the Remote Survey

Refers to :

Ship Owners / Manager / operators / Surveyors / PMS Representatives

Foreword

The Surveyors use a combination of permanent, temporary (e.g., staging, scaffolding, rafting, and ladder), and alternative (e.g., rope access) means of access in order to conduct class surveys. Remote inspection technologies are considered as additional alternative means of access.

These technologies can help to reduce safety risks to the Surveyor and within the frame of the critical situation being experienced worldwide due to COVID-19 and taking into account the safety and health of the survey staff, the clients and the difficulties arising due to the restrictions and measures imposed, PMS implements a ship remote survey scheme (SRSS), for facilitating the survey processes and preventing the occurrence of potential disease incidents.

The SRSS may also apply in the occurrence of other crisis situations, which might cause business disruption as well as for the facilitation of inspection processes' handling, as the case may be. Nevertheless, the SRSS implementation lies on PMS Head Office decision. The consent of the responsible Flag Administration involved is required as well, in case of ships' statutory surveys.

Adoption of this program improves scheduling efficiencies and reduces operational disruptions. With P.M.S (SRSS) you can complete select surveys on time without physical surveyor attendance but all requests are subject to P.M.S review and acceptance on a case-by-case basis.

These Guidance Notes offer best practices for class surveys and non-class inspections carried out using (SRSS). These best practices include recommendations and guidance on applications of (SRSS), data handling and data analysis. These best practices are intended to facilitate a safer, more effective and efficient survey.

The following IACS Recommendations and Requirements were considered in the development of these Guidance Notes : <http://www.iacs.org.uk/publications/recommendations/41-60/rec-42-rev2-cln/>

For further information, please refer to PMS on Website of (www.pmsclass.org) - <https://pmsclass.org/rules/pms-technical-publications/>

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For the scope of subject SRSS the following definitions apply :

- Remote survey means a method of obtaining information equivalent to that obtained from site survey by applying digital and mobile internet technologies so as to realize survey without surveyor's physical attendance at survey site.
- Information means contents of electronic documentation for live streaming which can reflect ship structure, equipment condition or inspection process.
- In general, survey process information is transferred by digital and internet technologies and provides survey and judgment basis for the surveyor carrying out remote survey.
- Electronic survey documentation may include survey photos, videos, document and information as well as statements of shipmaster or the chief engineer, etc.
- The Surveyor may require additional inspections using other alternative or traditional inspection techniques depending on the conditions found and results of inspection.

The SRSS applies to the following cases :

- Documents and information (verification, modification or re issuance upon request by clients);
- Damages and repairs (minor hull damages, equipment and machinery damages, equipment replacements), elimination of class conditions, extension surveys (for class conditions, propeller shafts and boilers);
- Machinery continuous surveys, change of owner or name of vessel, etc;
- Statutory surveys, where the feasibility of remote survey is subject to the prior approval of Flag Administration;

Also the following requirements apply:

- Documents It shall always be taken into consideration depending on the case, that P.M.S may also require physical attendance to evaluate and assess the condition of the ship;
- SRSS may also apply to cases other than described as per above. These surveys will be handled on a case-by-case basis, upon P.M.S evaluation.
- The implementation of a remote survey is not to influence other requirements of P.M.S Rules for Classification of Steel Ships.
- The participation and involvement of ship's Master and / or Chief Engineer, is mandatory for the implementation of a remote survey.
- The applicants are responsible to provide TRUE and ACCURATE information relating to remote survey.
- When a customer makes a survey request to P.M.S for some survey types, be given the option by the P.M.S Head office to choose to carry out the survey remotely.

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Survey means and collection/delivery of survey information

- The request for remote survey is to be submitted to P.M.S HO and / or BOs and remote locations. However, all SRSS requests are initially handled and assessed by P.M.S Headquarters.
- The ship is to have access to satellite communication or 3G/4G/5G network for live streaming or transfer of remote survey information.
- The applicant can use mobile equipment, tablet computers, scanners, digital cameras or video cameras to collect survey process information. Use of headphones with microphone is necessary to ensure communication quality.
- The applicant shall take effective measures to ensure the quality of survey information and ensure implementation of remote survey by the surveyor based on such information. Sufficient light is required to show survey process and details through live streaming and its process is to be clear and coherent. Photos are to clearly indicate the situation and defects of hull structure and equipment, etc. Videos are to smoothly reflect the necessary process of inspection or tests.
- Required electronic documents for remote survey are to be in a format accepted by both parties.
- Information is delivered by E-mail or in the manner agreed with the surveyor, but attention is to be paid to the integrity and safety of information delivery.
- Video generated from the SRSS shall be recorded and kept as survey evidence.
- For the Remote Audit service which requires that certain SMS documents be submitted in advance of the audit. Remote auditing requires approval from the Flag Administration. Additionally, information and communication technologies is a prerequisite for remote audits to allow live streaming for opening or closing meetings, interviews, walkabout and drill. The list of SMS documents to be submitted will be provided in email by the attending P.M.S auditor including a schedule for a remote audit planning meeting. If live streaming is not possible, the audit will be scheduled as a streamlined audit or conventional audit



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Inspection Planning

Proper planning between the asset Owner/Operator representatives, (SRSS) Service Provider and attending Surveyor prior to the inspection, is an essential part of the process to facilitate a safe, effective, and efficient conduct of the inspection itself.

Prior to the commencement of any operation, an inspection plan should be jointly prepared by the asset Owner/Operator and the Service provider.

The plan should contain :

- 1- Details and particulars of the ship or unit;
- 2- Description of the area, equipment or system to be inspected, including any document (plans, drawing, etc.) that might contain useful information;
- 3- Type of inspection (e.g. occasional, periodical, not required by the rules...) and extent of the inspection (detailed, overall...);
- 4- Possible presence of areas, part of equipment, or system, that need to be subjected to a Close Visual Inspection;
- 5- Inspection requirements according to the Rule or standard adopted. The inspection requirements should take in account the type of unit to be inspected, the type of inspection and its extent;
- 6- Details of the inspection: location (shipyard, berth, anchorage), date, required time, work permit(s), operational procedures, etc.;
- 7- Condition of inspection according to the anticipated condition of the area, equipment or system to be examined;
- 8- Description of the SRSS method to be used;
- 9- Assessment of the risks connected to the activity and with regard to the SRSS chosen. Among other subsidiary risks the following should be taken in account :
 - Explosion risks in hazardous areas (possible presence of flammable or explosive media).
 - Explosion risks for hazardous equipment carried by the RIT devices (e.g. batteries, electric driving motors, cameras, etc.);
 - Possible works or operations connected to the activity of the unit that may interfere with the activity of the remote inspection device (or vice versa), including radio-frequency interference that may impair the reliability of remote control systems and/or autonomous positioning and localization systems, or other subsystems on board the device or in the remote control station, as applicable;
 - Dropping of objects and equipment carried out by the remote inspection device.
 - Loss of control of remotely controlled devices operating beyond line of sight, and their possible rescue and recovery;
 - Environmental conditions that can affect the quality of data acquisition or of the operation in general (e.g. lighting, cleanliness, humidity, etc.);
 - Collision of the remote inspection facility with obstacles or structures of the unit;
 - Method of access to the area, equipment or system to be inspected;
- 10- Description of the type of data to be acquired, their presentation and reporting. This should include also the details on the data storage and retrieval;

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- 11- Description of the system of communication between the operator(s) of the remote inspection device and the attending surveyor;
- 12- Procedures to be followed in case the any remote inspection tools device should be operated in emergency;
- 13- Description of the precautions to put in place in case of an emergency situation;
- 14- Description of the environment conditions within the remote inspection device may be operated safely;
- 15- Description of the safety measures to be taken in order to grant the safety of all the persons involved in the inspection.

The survey planning, duly signed by the Owners/Operators should be submitted in advance to the attending Surveyor for review and agreement.



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Survey procedure

- 1- Prior implementing a remote survey, the approval of the Flag shall be obtained, if same is related to a survey carried out under the authority of the Flag.
- 2- P.M.S will contact the applicant within 24 hours upon receipt of the request, to become aware of the survey items, the current situation of the ship, ensure that the conditions for remote survey are sufficient, and will feedback the decision on the request of remote survey (accepted, cancelled or transfer).
- 3- The assigned surveyor will obtain further detailed information from the applicant if a remote survey is accepted, including information on the contact person from the applicant, the contact person onboard, location of the ship, expecting date and time for the remote survey (time zone is to be specified), the E-mail address to receive certificates or documents, etc. The surveyor will provide detailed requirements for the remote survey.
- 4- Prior to the commencement of the survey, a survey planning meeting should be held between all parties to verify that the arrangements envisioned in the survey process are in place. A Survey Planning Document prepared by the asset Owner/Operator, with the inspection plan incorporated, should be provided to the attending Surveyor for review and agreement.
- 5- The following topics should be addressed during the meeting and included in the Survey Planning Document :-
 - Type and extent of survey (i.e., Annual Survey, IWS (in water survey, ISM / MLC Audit, Radio survey, etc.).
 - Asset type, operational details, and other asset general information.
 - Location and anticipated time frame for the survey, as well as operational status of the asset & the reason of the Remote Inspection Objective.
- 6- Safety Radio Surveys are credited in collaboration with flag authorization and an approved P.M.S External Specialist who goes on board to test and confirm the functionality of safety critical, radio equipment. Periodical and renewal surveys can be completed remotely following an approved External Specialist report which confirms there are no any deficiencies findings.
- 7- The applicant is to assign the Master and/or Chief Engineer to cooperate with the surveyor to carry out the remote survey at the appointed date and time.
- 8- Live streaming is preferred during the remote survey. After video connection is realized between the officer and the surveyor, real-time collection of survey process information is to be carried out according to the requirements of the surveyor. In case live streaming has a poor performance, due to poor network connection or other reasons, inspection and confirmation may be carried out by the officer on board according to the guidance and requirements by the surveyor, in order to obtain survey information reflecting ship or equipment condition. However, if it is deemed necessary by the surveyor, live streaming is still required to carry out the inspection. Without live streaming a remote survey may be not accepted.

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- 9- The surveyor is to identify the survey information obtained from the applicant, and when it is deemed necessary, ask the applicant to supplement, until the surveyor can provide accurate technical evaluation and judgment for the survey and draw a survey conclusion.
- 10- For remote survey of the underwater portion of the unit for a dry docking survey. Remote underwater surveys require real-time data connection capable of handling audio, video and communication remotely operated vehicle feeds so an P.M.S surveyor can remotely witness the examination. The examination must be performed by an P.M.S approved external specialist.
- 11- During survey, if the surveyor finds that the ship is beyond the application scope of remote survey or the conditions of remote survey cannot be met, the survey will be suspended. After the survey is suspended :
 - a- Within a safe and reasonable time range, the applicant's request on resuming remote survey can be accepted when the conditions of remote survey are met;
 - b- The remote survey will be cancelled upon the applicant's confirmation. An attendance survey may be consulted with the surveyor.

The process and conclusion of remote survey are to be recorded in the ship log upon completion of survey and the applicant is to provide required electronic documents to the surveyor and additional requirements of the surveyor (if any).

After the surveyor verifies that the applicable documents provided by the applicant are correct and valid, relevant certificates and/or reports are to be issued/endorsed according to the requirements of P.M.S procedures and instructions.

For more information or for any inquiries you may have, please do not hesitate to contact us.

PRINCIPAL TECHNICAL DEPARTMENT

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Videos of b/m are required in case of Ship Remote Survey Scheme (SRSS).

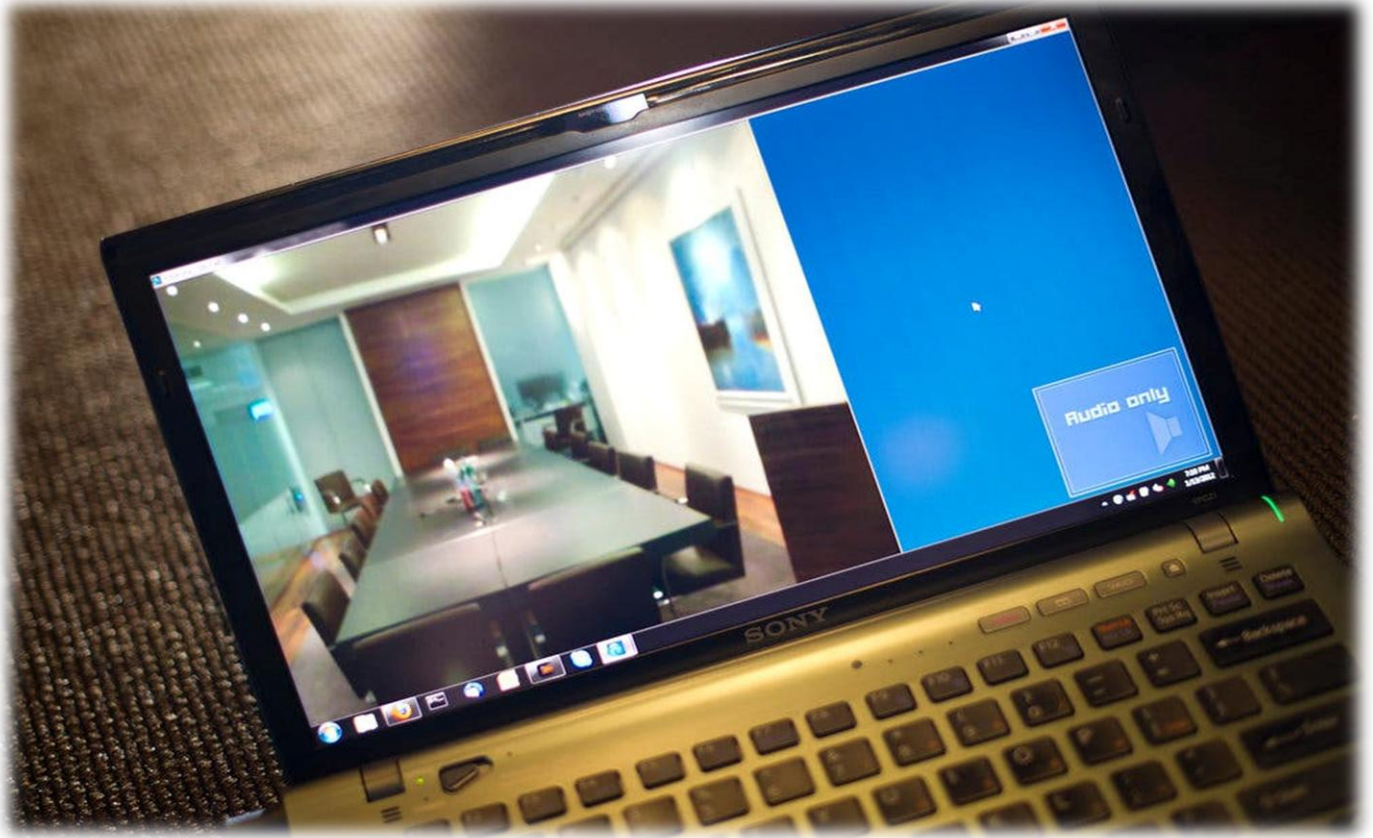
Videos are required in case of Ship Remote Survey Scheme (SRSS)	
Radars, SARTS, EPIRB, AIS, GPS, BNWAS, NAVTEX	Test, Photos
Handheld VHF	Photos (3 pcs), including from the spare batteries (sealed/valid)
magnetic compass, gyro compass, echo sounder	Test / Photos
GMDSS equipment	Photos
ALDIS lamp	Test Operation by em'cy power, Operation at both ship sides
Bridge distress signals	Photo - Valid (12 rocket parachutes, 4 line-throwing jets)
Navigation lights	Alarm test, test under Main & em'cy power
Emergency lighting	Test
Communication to E/R, S/G room	Test
Fire detector	Detector Test, Visible/audible alarm
General Alarm	Test (Audible throughout accommodation and crew working spaces)
Remote stops for ventilation fans	Test
Quick closing valves on the tanks for oil fuel	Test
ventilators , E/R ventilators & E/R funnel damper, Air pipes	Check (Floating Ball in Head, Damper moving, Visual check the flap)
Weather tight doors	Test (No light from outside)
Rescue boat	Engine starting, Properly marked, Fitted with retro-reflective material
Main deck, Hatch cover, Cleats for hatch cover, Hatch coaming, stay, stiffener, Bulwark and handrail, Fire main line	General condition (video)
Windlass and mooring winches	Test
Steering Gear	Test , general condition to be recorded (No Excessive bilge, L.O tank & alarm for Hyd. Pump, test Em'cy steering, communication with bridge)
Drill	Fire, abandon ship (Mandatory)
Em'cy fire pump	Starting (Instructing the caution of low draft starting), Suction pressure, Two jets of water(Fore/Bridge), FO tank content, exhaust pipe insulation, starting instructions posted
Main machinery and essential auxiliaries	Test (Operating and with no excessive fuel, lub oil, or water leakages)
Exhaust pipes	Properly insulated
Rotating parts of machinery, winches	Protective guards properly secured in place
Main generators	To be Tested on load, capable to synchronise, Starting arrangements operating correctly, Secondary means of starting tested
Oil water separator (if fitted)	Test, Video including overboard valve
Emergency source of power – generator:	To be tested on load, Automatic start tested, Starting batteries and charging arrangements, where fitted, checked and charger operating correctly, Secondary means of starting tested
Accommodation spaces (alleyways, cabins, messrooms, WC, galley, refrigerating spaces, provisions rooms, medical store, hospital)	General condition (video or photos of all spaces)
Fire extinguishing means (portable, non-portable, fixed systems)	General condition (video), valid (or extended) service certificates required
Liferafts and rescue boats	General condition (video or photos), video of lowering the boat(s) to embarkation deck and recovery till activate limit-switches, video of starting the motor of the boat(s), valid (or extended) service certificates required, video
means of embarkation for pilots, nautical publications	Photos, valid shore-based supply contract for ECDIS
Lifejackets, immersion suits, fireman outfits, EEBDs, SCBAs	Photos , valid (or extended) service certificates required

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- THE RESPONSIBILITIES ON

- **Ship Owners / Manager / Operators / Surveyors / PMS Representatives, should be ensure that the on ships board maintenance program to take into consideration if owner request remote survey to be provide the above points requirements.**

Recommendation to Owners / Managers / Operators

In order to assist Ship Owners / Manager / Operators / Surveyors that the PMS has issued circular No. P.M.S/C065/20 on 05- October 2020 for the reference required to this technical report and this technical publication is prepared for all the required Procedures for the carrying out remote survey, auditing, inspection in order to help vessels that they like to get remote survey by classification society of Pacific Marine Services.

Kind Regards,

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