



INSURV

Insights

We at INSURV are continuing our voyage to publish a more light-hearted, fun-to-read, electronic newsletter with tips and tidbits from all aspects of the inspection process! **HOLD ON!** Just because it says INSURV doesn't mean it's bad! This is quite the contrary! On a bi-monthly basis we will provide tips from the deck plates, highlights of successful inspections and good things happening in the Fleet with relation to inspections or trials. We will provide expert advice from the inspectors and a column called "Advice from a Crusty Old Salt" which will be past experiences, humorous stories, or just some great advice to the younger sailors from the guys who have been around for a while! Read through it, share it with your shipmates, and let us know what you think!

CELEBRATING VICTORIES

Protecting the Ship's Hull to Most Cost-Effectively Meet Expected Service Life

Mr. Conrad Hedderich , Common Assessment Coordinator

Cathodic Protection (CP) is a technique used to control the corrosion of a metal surface. CP in Navy ships finds its primary application on the underwater hull. The underwater paint coatings are the principal corrosion preventive, but they must have a backup to compensate for paint damage and failures. Therefore, CP systems are an essential back-up to the coating systems preventing corrosion to the underwater hull. The two types of CP used by the Navy are: (1) Sacrificial Anode System ("Zincs") and (2) Impressed Current Cathodic Protection (ICCP) System.

The maintenance strategy for the ICCP System employs remote condition monitoring by the In-Service Engineering Agent (ISEA), Naval Ship Systems Engineering Station (NAVSSSES), Philadelphia. That is, per the Joint Fleet Maintenance Manual (JFMM), Volume VI, Chapter 17, ships submit logs monthly (submarines quarterly) no later than 15 (10) days after the last day of the reporting period to the ISEA. In turn, NAVSSSES subject matter ex-

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PROTECTING THE SHIP'S HULL (CONT.)

perts review the ICCP log data and provide a reverse distance support email response to each ship within 15 working days indicating log receipt and system operational status with recommendations.

To optimize the INSURV Material Inspection (MI), INSURV began "linking" its results to the ISEA reverse distance support findings rather than expending ship and shore resources during the MI. However, during 2014, INSURV stopped receiving the emails. Through our investigation, we learned that the ICCP remote condition monitoring program had run out of funds thus ending ISEA reverse distance support. INSURV reported the non-compliance with the JFMM process. This resulted in adequate funding being restored allowing ICCP distance support to be restarted to protect ships' hulls. The money and contract are in place and the delivery order is currently in process. Monthly review of logs, with reverse distance support, will restart shortly. If you recognize an anomaly and require a tech assist, use the normal T/A 3 procedures for your region.

To learn more, see Naval Ships' Technical Manual (NSTM) Chapter 633 - Cathodic Protection.



PRESINSURV'S ADVICE COLUMN

RDML Michael Smith, President Board of Inspection and Survey

Your material inspection (MI) ought to be a meaningful experience. Here's my advice to ensure your success:

An INSURV "Recorder" is assigned for each MI. This individual is your ship's primary point of contact for all MI matters. Your INSURV

Coordinator should work closely with our Recorder to discuss inspection details and resolve conflicts prior to and during the inspection. If you have any technical questions, please do not hesitate to communicate promptly with applicable Board members for clarification or resolution. Our inspectors are on travel quite frequently, so e-mail is best means of making contact. Moreover, the CO and XO should not hesitate to contact the INSURV Senior Inspector to clarify any issue. The flow of information, both between the Board and your ship and between your supervisors and deck plate personnel, is *critical* to ensuring a smooth, transparent event.

I recommend checking "Inspection Resources" on our website regularly at least a year before your MI to ensure you have the most recent guidance. There are some sample MI SOEs as well as the checklists for each of the six functional areas (Engineering, Combat Sys-

tems, Deck, Aviation, Supply/Habitability, and NAVOSH). These checklists articulate equipment/system checks we will observe and provide the specific references.

Assemble and study the checklists and all the material available on the INSURV website for the particular deck/demo (checklists, rules, and instructions). Assign an owner to each checklist. It is of paramount importance these checklists are held by those individuals who will actually conduct the checks. This does not always happen and, as a consequence, MI execution on some ships is often slower than desired.

Identify a list of discrepancies in your decks for recent ships of your type. The MIDATA Warehouse on our website can give you a list of every MI discrepancy for your ship type. Anybody with a CAC can request an account and then query this database.

Perform each check at least three times *correctly*. Preferably in the presence of a supervisor to make sure it's being done right. Always ensure procedural compliance!

Record deficiencies. Document thoroughly the equipment that doesn't operate properly.

Run a master deficiency list for your deck. It should include: (1) your CSMP, (2) Zone Inspection and PMS program deficiencies, and (3) MIDATA Warehouse query items.

Fix the deficiencies that affect warfighting readiness first. If you have time, fix the others on a prioritized basis.

At the MI pre-brief conducted at 60-90 days before the event, you will receive specific guidance for each inspection area. The Board also strongly recommends that, if possible, some of your key assistants observe an INSURV inspection on a similar type ship prior to MI. It helps to observe the flow of operations that facilitates better MI SOE execution.

When INSURV arrives for your MI, we expect that the ship is ready to conduct sustained combat operations at sea. Ships that have effective and comprehensive Zone Inspections and PMS programs, practice strict procedural compliance, and maintain their spaces clean and orderly are always the most ready for MI. All the best and steam safely!

IT'S ALL ABOUT THE DECK

Plain Talk from Submarines

Submitted by INSURV Submarine Inspectors

Greetings from the INSURV Submarine Team. Our team is composed of nine submarine-qualified 1120s, LDOs, and EDOs. The team's career experience includes command-at-sea, major staff assignments, special projects, IMFs, depot maintenance, and IA assignments in Iraq and Afghanistan. In addition to submarines, the team also inspects assault craft, small boats, barges, and yard craft.

This article is intended to provide direct feedback to submarines in the Fleet on our observations from recent inspections and give you some resources to access if you have an INSURV coming up in the next year. Submarine material inspections (MIs) are nominally scheduled at a periodicity of 60-66 months to avoid exceeding the maximum allowable interval of 72 months. Additionally, a submarine MI is executed within 6 months of completing a CNO availability. INSURV is a material inspection, not an operational or tactical inspection. Basic submarining skills, formality, and level of knowledge are expected to be at normal submarine standards, but they are not graded as part of the inspection.

The MI is an open-book test. There are no special INSURV procedures or standards. Procedures used during the inspection should be those available during the ship's normal operations (e.g. MRCs, SSMS, etc.) to ensure compliance with safety requirements and technical rigor. Additional information (including INSURVINST 4730.2H, the checklists we use, and sample agendas) can be found on both our NIPR and SIPR websites. Be aware that the NIPR site is CAC enabled. We HIGHLY recommend you assign a submarine-qualified JO as ship's coordinator to interact with the team.

“The diesel is a vital piece of equipment and demands the attention of shipboard supervisors consistent with its importance.”

MI performance metrics are available in our periodic reports and from your ISIC and TYCOM representatives. We maintain a historical file of INSURV reports. If you would like a copy of your last report, contact INSURV and we will provide that to you. We also maintain a query capable database where you can locate all historical deficiencies for your specific ship or class of ship.

Overall, submarine performance during MIs has been good. Three recent observations are highlighted below for your benefit. The areas we discuss here have been noted on recent INSURVs.

IT'S ALL ABOUT THE DECK (CONT.)

The first area concerns thermographic deficiencies. As part of the INSURV, we perform thermographic monitoring of major electrical components. Deficiencies are graded from one star to four stars in accordance with NSTM 504 and MRC EL-019/900. On one end of the spectrum, a one star deficiency indicates failure is unlikely, but it should be corrected during the next scheduled maintenance period or as schedule permits. On the other end, a four star deficiency indicates failure is imminent, the equipment should be shut down, and corrective action taken as soon as feasible. More often than not, we find that all three and four star deficiencies from the previous INSURV have been corrected but some one and two star deficiencies remain uncorrected although cleared from the CSMP. A lower level deficiency left uncorrected does not get better on its own. Often, deficiencies that were one or two star on a previous MI turn into three or four star deficiencies because they were not addressed. In some cases, this inaction resulted in avoidable equipment or component failures .

The second observation is the number of Diesel inspection deficiencies we find that should have been addressed much sooner. Two recently inspected submarines had an unexplained loss of Diesel Freshwater that was not fully investigated. In both cases, the cause was a material problem with cylinder fittings allowing water intrusion into the engine. This condition requires the diesel to be placed out of service until repairs are made. Additionally, we have frequently seen Diesel Inspection reports issued to the ship well beyond the 30 day JFMM requirement. The diesel is a vital piece of equipment and demands the attention of shipboard supervisors commensurate to its importance.

The final area for this edition is the performance of PMS and workload of IT Division. The amount of PMS under IT division responsibility is difficult to accomplish with the current manning. Many boats inspected were not fully manned and the personnel assigned had not been to all the FLTMPs required training. The manning is not expected to change anytime soon.

We have observed limited instances where commands have not allowed the LTOW to perform any divisional duties. These commands, predictably, had difficulty keeping up with required PMS. The Submarine Force has emphasized cyber warfare as commander's business for several years now, yet we normally see evidence of heavy ISIC involvement to prepare for the expanded IS portion of the INSURV MI. The ship's goal should be to maintain its Information Systems and Security at a steady-state high level of readiness without ISIC intervention. One foundational area to start with is to ensure that your IT inventory is accurate and kept up to date real time. If the inventory is incorrect, then you can be sure that your system will not be adequately scanned and routine PMS such as anti-virus and system updates will be overdue.

If you have any questions or have topics you would like to see us address in the newsletter, contact any of the INSURV Submarine Team members. The first email address listed below is the collective address that all members will receive. We have responsible officers for each inspection area, but all of us are knowledgeable in the conduct of the inspection and can answer most questions. We look forward to hearing from you.

INSURV Submarine Inspectors

INSURV_LTLC_SUB@navy.mil

CAPT Jason Wartell, Senior Inspector

(757) 462-1039

Jason.Wartell@navy.mil

CDR Steve Mathews, Executive Officer

(757) 462-1450

Steven.J.Mathews@navy.mil

LCDR Christopher Dias, Scheduler

(757) 462-1069

Christopher.Dias@navy.mil

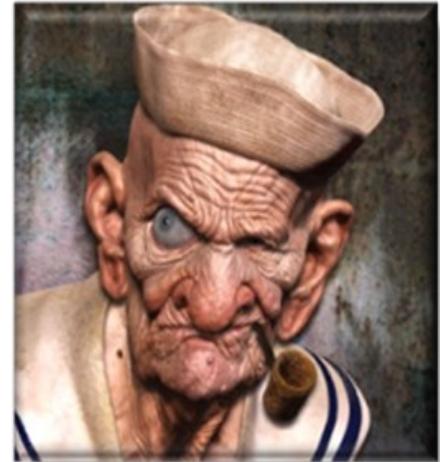
ADVICE FROM A CRUSTY OLD SALT

Operating Your Equipment

Submitted by INSURV Deck Inspectors

Procedural compliance is a very important factor to ensuring you're operating your equipment correctly. Validate that you have the most up-to-date procedures, and then follow them step-by-step. Don't try to invent your own procedures in an attempt to streamline the process, because invariably you'll leave something out which may cause equipment damage or personal injury. Do you understand that there may be different modes of equipment operation such as normal, alternate and emergency modes? We want to see you operate your equipment in the normal operating mode during our inspections, but you should also be familiar with the other in the event of an abnormal condition or casualty. What happens if you encounter

conflicting operating guidance in the procedures? Go see your supervisor soonest for resolution. The Joint Forces Maintenance Manual, Volume V, provides the order of precedence for operations and maintenance procedures.



INSURV PLAIN TALK

"Smarter" INSURV Initiative

Submitted by Captain Thomas Brasek, Director of Inspections

Under the guidance of Board President, RDML Mike Smith, INSURV recently embarked on a "Smarter" INSURV initiative. It entails an internal review as well as an external outreach to other Fleet material assessment organizations to enable us to better leverage material readiness information across the entire Navy enterprise.

In March, INSURV conducted its own internal bottom-up review. The first step consisted of an assessment of our equipment inspection checklists (i.e., statements of work) to determine the minimum equipment needed to evaluate ship performance and determine the optimal technical evaluations required for our equipment checks. We developed a methodology using metrics which would give our inspectors an "informed" look at reviewing our equipment operating capabilities (EOC) subsystems. We built spreadsheets identifying the EOC subsystems that are most critical to the ships' missions, generate the lowest EOC scores, consume the most man-hours (both INSURV uniformed inspectors and RMC technical inspectors), and possess the lowest operational availabilities (Ao). These metrics are being used to evaluate our EOC checklists, which govern the scope and depth of our inspections. The checklist revisions are scheduled to be completed in mid-May, and these updates will continue to be posted to our website.

INSURV PLAIN TALK (CONT.)

“Smarter” INSURV Initiative

Submitted by Captain Thomas Brasek, Director of Inspections

In continuing with the bottom-up review, we held an internal off-site on 18-19 March to determine what we would change on our own to make the present 3-day material inspection (MI) the most productive we could. It started with an evaluation of the efforts taken to reduce the MI from five days to three. We then revisited our inspection methodology, recording, and reporting processes. During this forum we also had the opportunity to identify which new MI initiatives would be ready as initial operating capabilities (IOC) starting on 01 May 2015. These IOCs included new INSURV material readiness metrics, an updated CO's MI Letter of Concern, the use of PRISMS to replace AWN in recording material deficiencies, and the implementation of a high speed demonstration (to be conducted in conjunction with the high power engineering demonstration). Other approved projects are the initiation of growth and new work (G&NW) surveys and the implementation of a MI using a new construction Trials format for those ships undergoing extended overhauls and significant new systems upgrades. Discussions then continued on how INSURV might leverage insights, inspections, and products through partnerships with external organizations.

“Ultimately INSURV is exploring how to better utilize our inspection data to benefit the broader Navy enterprise by providing quicker, more relevant feedback to the waterfront. This entails better external engagement with existing material readiness programs and working groups.”

On 14-15 April, INSURV hosted a second off-site with external organizations that also assess material readiness performance to examine how we could better influence the broader Navy enterprise to improve our results. Representatives from AEGIS BMD, NSWC PHD, SPAWAR, NAVSSES, OPTEVFOR, PEO IWS 1.0, IRAT, CSRAT, SURFMEPP, Naval Safety Center and Fleet Analysis Center were in attendance. We discussed possibilities of leveraging their assessment/data tools and products as well as determining how our inspections results might better enable their efforts. INSURV will team up with the Naval Safety Center and NAVIDFOR to complement efforts to maximize material readiness assessments while reducing ICAV burdens to the Fleet. We are working to codify these partnerships and ensure these events are positioned for mutual support on the upcoming O-FRP timeline. In late May, INSURV will conduct a third off-site to discuss progress on our alignment with the Air and Surface Material Inspection Teams, which conduct their material inspections during the MI off-cycles.

Ultimately INSURV is exploring how to better utilize our inspection data to benefit the broader Navy enterprise by providing quicker, more relevant feedback to the waterfront. This entails better external engagement with existing material readiness programs and working groups. INSURV membership and participation on the Fleet Maintenance Board of Directors, Naval Air and Surface Warfare Enterprises, Surface Warfare Officer School Board of Visitors, and Fleet Maintenance Effectiveness Review boards are our means of working collectively through the Navy enterprise to get our feedback to the Fleet more rapidly and directly. Moreover, we have re-established a regular quarterly drumbeat with NAVSEA-05 for adjudicating technical information papers and feedback reports from the Fleet.

INSURV PLAIN TALK (CONT.)

Smarter INSURV's

Submitted by Captain Thomas Brasek, Director of Inspections

The "Smarter" INSURV initiative is our process to successfully expand our business rules from reporting only the material condition of individual ships. We will continue to be the independent organization that inspects individual units, as we have done for the past 150 years, but now our focus is more on promoting Fleet material readiness with our TYCOM and SYSCOM partners. Expect now that INSURV will be conducting deeper looks into the problem areas and performing better trend analyses to help ensure our ships are materially ready to execute their deployments. The old "wheel book" mentality is giving way to INSURV becoming a more relevant material readiness process enabler.

Be on the lookout for INSURV's Mid-Year report!

This report will provide a summary of findings from 2014, current 2015 readiness findings and a summary of all material inspections, trials and audits. It will present material concerns and recommended actions, studies and initiative updates from the 2014 Annual Report.

When released in mid-summer, it will be available at <http://www.public.navy.mil/fltfor/insurv> ("Inspection Resources" – "Recent Briefs & Reports").

If you have any questions regarding this report, please contact [INSURV LTLC Communication Operations@navy.mil](mailto:INSURV_LTLC_Communication_Operations@navy.mil)

INSURV is now piloting a "CO Letters of Concern" template!

Starting with the USS Bulkeley, INSURV will begin providing a template for the CO's Letter of Concern, one of INSURV's inspection pre-deliverables. The purpose behind the template is to control of the information that is being provided so that material readiness and self assessment capabilities can be measured and tracked. As a follow on to this template, a post inspection survey may be conducted to further analyze the information that was provided in the original template against what was noted during the inspection.



INSURV

The Board of Inspection and Survey (INSURV), Virginia Beach, VA is an independent activity established under Title 10, under direction of a President, with direct reporting requirements to the Chief of Naval Operations (CNO) and the Commander, U.S. Fleet Forces Command (USFF).

The Board of Inspection and Survey conducts acceptance trials of ships and service craft for the purpose of determining the quality of construction, compliance with specifications and Navy requirements, to determine if builder responsible equipment is operating satisfactorily during the guarantee period following acceptance and to make recommendations upon their acceptance by the Navy. They conduct material inspections of all naval ships at least once every 3 years if practical, for the purpose of determining and reporting upon a ship's fitness for further service and material conditions which limits its ability to carry out assignment missions. The Board conducts surveys when directed by the Chief of Naval Operations (CNO), for the purpose of determining and documenting the material condition of the ship in conjunction with their inactivation. They periodically ascertain and report of the material condition and performance capabilities or limitations, the status of fleet operations safety and health and on the status of fleet environmental protection program compliance.

In addition, the Board compiles statistical information regarding recurring or significant acquisition or maintenance deficiencies for the ships, reviews specifications for new ship designs, reporting the results to SECNAV, CNO, fleet commanders, SYSCOMs, and higher authorities such information as they may require. They conduct other inspections and trials of ships and service craft as directed by the CNO and CFFC, while performing other functions as may be assigned by higher authority. Based on observations during INSURV assessments, the Board provides timely, candid, and accurate findings to fleet commanders, TYCOMs, SYSCOMs, and appropriate SECNAV and office of the CNO, (OPNAV) offices, and higher authority, together with recommended actions where appropriate.



Board of Inspection and Survey

Joint Expeditionary Base—Little Creek
2600 Tarawa Court, Suite 250
Virginia Beach, VA 23459

Phone: 757-462-7325

DSN: 253-7325

Fax: 757-462-7090

Website: <http://www.public.navy.mil/fltfor/insurv>

SIPR Website: <http://cffo.fleetforces.navy.smil.mil/insurv>

Facebook: <https://www.facebook.com/Official.INSURV>

YouTube: <http://www.youtube.com/insurvboard>

Publication POC:
INSURV Communications Department

INSURV_LTLC_Communication_Operations@navy.mil

(757) 462-2273