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Our Time and Experience  
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**May 30, 2026**  
**File No.: 13984-26**  
**Page 1 of 36**

**RE: "ELYSIAN", 2004,  
130' Westport Motor Yacht**

**RECOMMENDATIONS**

**Notes:**

- A. The items marked with a star (★) should be taken care of for safe operation and/or insurability.
- B. Many of the following items describe systems that are either not operational or not functioning properly.
- C. Most of the other items are considered to be issues of general maintenance.
- D. In addition to this recommendation list, there are 53 pages of survey text which is an integral part of the report and should be read in conjunction with these recommendations.

**GENERAL:**

1. It is recommended that the buyer or buyers agent be provided with a written affidavit from the seller stating that the above named yacht is free and clear of any liens, fines or debts.

**SAFETY EQUIPMENT:**

1. ★No Current Compass Correction Card was sighted onboard. If the compass Deviation exceeds  $5^0$  after dry docking or after 1 year, swing the compass and provide an up dated deviation card.
2. ★The Dregar escape hoods expired in 2020 & 2021, replace the hoods.
3. ★The vessels fire alarm is not fully operational, the NightWatch system fire alarm arrangement is not operating. Further, review this condition and rectify immediately, it is also recommended that the fire alarm system be modified to include a stand-alone independent system.
4. ★Carbon monoxide sensors are fitted in the control room and lazarette, did not operate when test operated. Replace these sensors.

5. ★There appear to be no high-water bilge alarms in any of the main thirteen (13) bilge compartments. It is recommended to install totally separate and independent float switches, which will indicate high water alarms in the bilges.
6. ★All thirteen (13) bilge location submersible bilge pumps and float switches are wired in terminal strips. These terminal strips are considered to be low in the bilges and are subject to corrosion from any possible bilge water. All wire connections should be made in waterproof junction boxes, well up out of the bilges.
7. ★It is not recommended to install check valves in submersible bilge pump discharges. The thirteen (13) Rule 2000 submersible bilge pumps installed on the yacht are considered undersized and it is not common practice to install this type of bilge pump on a yacht of this size. If this type of submersible pump is to be used it is recommended to upgrade pumps to at least 3500 GPH.

### **HULL CONSTRUCTION:**

1. ★The watertight bulkhead between the Engine Room and Control room has been breached with the installation of a dock water feed line to the Spotzero dock water treatment system. The bulkhead penetration has not been fitted with a watertight gland. Install a watertight gland to ensure bulkhead sealing.
2. Watertight bulkheads throughout the yacht are not considered truly watertight. Pipe and wire penetrations are only sealed with a marine sealant, not watertight glands.
3. The structural composite bulkhead that supports the portside Engine Room, has been modified at one point to access/remove the port generator PTO. The bulkhead has been cut with no evidence of corrective reinforcement to re-instate the composite laminate. Recommend laminating the area to restore structural integrity.

### **BILGES:**

1. The engine room bilge is oil stained and filled with debris. Recommend removal of all spares and equipment and the bilges professionally cleaned.

### **BONDING:**

1. The bonding wires for the port and starboard stabilizer shafts are incorrectly connected to a pipe support and not to a dedicated bonding point. Remake the connection to adequately bond the stabilizer shafts.

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2. There is corrosion noted on what appears to be grounding plate connections in the lower guest bilge starboard side near midships. Clean and remake the connections and confirm continuity. Suggest a dielectric grease is applied to protect the connections.

**TANKS:**

1. ★The gasoline tank is set in the swim platform. Due to the location of this gasoline tank, we do not recommend using for carrying of gasoline. Consider using this tank as an additional lube oil tank, ice chest or sealed storage compartment separate of the lower bilge.
2. The aluminum fuel tanks are not fitted with accessible inspection covers, to determine the condition of the fuel tanks. Comment only.
3. The inspection cover for the forward black water tank is corroded and the gasket appears degraded. Recommend restoring/ replacing the cover and gasket as part of an inspection/cleaning of the tank.
4. Comment Only: All onboard liquid contents tanks were visually examined, externally only. Unless otherwise mentioned in the "RECOMMENDATIONS" section of this report, no external signs of leaks or damage were found during these examinations. It is to be noted that the tanks are not totally accessible or visible on all sides. For a complete evaluation of tank tightness, they should be hydro-tested.

**FUEL SYSTEM:**

1. The Alfa Laval fuel centrifuge drip tray has a hole cut in it to run a supply to the feed pump. There is a possibility of fuel draining into the engine room bilge through this hole. Re- route feed pump supply hose, seal the hole.
2. The main engine primary fuel filters (SeaPro 600) are not fitted with pressure/vacuum gauges to measure restriction in the system. Recommend fitting gauges to the primary fuel filter manifold with isolation valves.
3. There is evidence of corrosion and diesel fuel leakage noted on the water separator bowls of the main engine primary fuel filter units. Repair the leaks and treat the corrosion.
4. Recommend the fitment of a drip/catch tray to be fitted to the main engine primary fuel filter manifold.
5. The Alfa Laval fuel centrifuge has some surface corrosion on the unit and supply pump. Treat the corrosion and apply new coatings.

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6. The Alfa Laval fuel centrifuge panel is missing key labeling as to the function of the control switches. Replace the missing label.
7. It is reported the Alfa Laval fuel centrifuge is used only occasionally. Suggest the regular use of the system, cycle tanks to retain fuel quality and reduce water and sludge build up in tanks. Recommend the system is cleaned and serviced.
8. During fuel transfer testing, fuel is back feeding through the manifold, via the fuel transfer pump, it appears that there is not internal or external check valve fitted, or it is not functional, before starting the pump, the transfer meter started flowing in the opposite direction when the valves were open. Investigate the cause and rectify.
9. The fuel transfer system is operated on a rotary switch timer. This is fitted as standard on Westport vessels. It is recommended that an on/off non timed switch is fitted, as there has been reported instances of the rotary switch sticking and not turning off while un-monitored, causing overfilling of tanks.
10. There is no alarm indication noted on the AMCS for the fault alarms of the fuel separator. The alarm panel can only be observed locally for faults. Recommend integration of fuel centrifuge alarms into the AMCS system.
11. The three (3) fuel tank sight glass indicator penetrations have failing bulkhead penetration sealant, noted in the bilge of the control room. Remake the sealant with fire block or similar sealant product.
12. The three (3) tank top fuel return line penetrations fitted behind the central control room panel are not fitted with fire block or similar bulkhead penetration sealant. Apply fire block or similar type bulkhead sealant.
13. The gasoline storage tank located on the swim platform has noted areas of corrosion. Refer to previous comment regarding the gasoline storage tank.
14. There is a diesel fuel leak noted on the fuel transfer pump and plumbing. There is diesel fuel staining noted in the control room bilge. Inspect the system for leaks and repair as required.
15. There is a corroded isolation valve noted on the port side fuel tank in the control room at bilge level. Treat the corrosion on the valve.
16. The portside wing tank sight glass tube isolation has evidence of fuel leakage. Check for diesel fuel leakage, replace the seals as necessary.

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**FRESHWATER SYSTEM:**

1. There is no UV or water sterilization system seen fitted onboard. Recommend installing some form of freshwater sterilization. Water onboard is only filtered at this time.
2. There is a cracked/degraded pressure gauge noted for the freshwater pressure system, located on the middle panel of the Control Room. Repair/replace the gauge.
3. Inspection of some sections of the freshwater system plumbing indicate signs of corrosion at the pex tube bronze fittings. The plumbing is original to the vessel in most places. It is recommended to monitor fittings where possible for further condition degradation and leaks. Anticipate repair/replacement.
4. The Owners Bathroom, starboard sink is missing the plunger. Replace the missing plunger.
5. The starboard aft guest cabin bathroom sink was not functioning and sealing correctly. Repair/replace the plunger as necessary.
6. The starboard forward guest cabin handheld shower fixture is leaking at the connection. Repair/replace the fixture.
7. There is a maintenance required alert shown on the Spotzero ZTC II unit, responsible for dockside water treatment. Service the unit and reset the timers.

**Hot Water System:**

1. The hot water system temperature was measured at around 115-120° F. It is recommended that the hot water circuit is maintained at 140° F for water safety, to prevent the possible growth of bacteria.
2. There is some corrosion noted on the bronze fittings connected to the hot water heater in the lazarette. Treat the corrosion.
3. The swim platform handheld shower did not have hot water when tested. Investigate the cause and repair.

**Jacuzzi:**

1. The jacuzzi tub located on the bridge deck is not fitted with an RCD/GFCI breaker, the Balboa jacuzzi heating/control unit is not grounded by the casing to a vessel ground. Replace the supply breaker for a rated GFCI type to protect persons from a ground fault/ short circuit, connect a vessel ground to the heater/control unit.

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2. There is a water leak noted in the jacuzzi plumbing near the heater/control box, while the system is running. There is water accumulating below the jacuzzi, which is allowing the buildup of mold in the space. Repair the leaking plumbing, treat the mold accumulation and keep the area dry, consider the implementation of forced ventilation in the area.
3. While operating, the circulation pump of the jacuzzi was noted as hunting and being aerated, this is most probably due to the water level of the tub at the time of testing. Fill the tub to full level, if the problem persists, inspect the condition of the circulation pump impellor and housing.

**BLACK WATER SYSTEM:**

1. The diaphragm style sewage discharge pump is exhibiting signs of deterioration; the rubber is starting to degrade and crack. Recommend servicing the pump and repairing the diaphragm to prevent odors or leaks.
2. There is noted stress coatings on the foundation base of the forward black water tank, on the forward end. The foundation tabbing has separated. Monitor this condition, repair if the condition worsens.

**RUNNING GEAR:**

1. There is some noted vibration transmission felt while the vessel is clutching ahead and astern while maneuvering. It is understood the main engine/gearbox resilient mounts are original. Monitor the condition.

**COMPRESSED AIR:**

1. The air compressor, tank and associated plumbing fittings are corroded in areas. The compressor was found with little to no oil inside the unit. Recommend servicing and reconditioning/replacement of components. The resilient mounting for the combined tank and compressor is wasted. The compressed air tank was found with a large amount of water in the tank. It is recommended to fit an automatic tank drain unit to reduce accumulated condensation in the tank, consider replacement of the tank due to the unknown condition of the tank with evidence of a water retention. The addition of a filter/dryer unit is also recommended.

**DIVE COMPRESSOR:**

1. The dive compressor has not been used by the current owner. Recommend a full service and air test procedure is completed by a competent dive compressor contractor before putting into service.

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**STABILIZERS:**

1. There is a small oil leak noted on the port and starboard stabilizer actuator assemblies, particularly on the lower hydraulic rams. Clean the area of residual oil and monitor the condition.

**HYDRAULICS:**

1. There are unsecured hydraulic pipe fittings noted in the starboard guest bilge spaces, the mounts have been removed and are laying loose. There are areas of corroded pipe unions and spot corrosion noted on the stainless-steel piping. The piping on both the port and starboard sides should be inspected and corrosion treated before the condition worsens. Recommend the use of grease wrap type tape on steel compression fittings to protect from corrosion.
2. There is multiple hydraulic pipe union connectors throughout the vessel that are corroded, noticeable areas are the Engine Room, Control Room and the guest bilge section. Recommend cleaning and treating the corrosion and the application of grease tape to protect the steel connections.
3. The supply connection to the port main engine forward mounted PTO (Power Take Off) is oil sodden. The hose clamp connections do not appear to be suitable for this plumbing. Replace the sodden hose for new, make appropriate connections for hydraulic systems.
4. The port generator PTO plumbing is leaking oil into the Engine Room bilge. Repair the leaking connections.
5. The bow/stern thruster tank is leaking hydraulic oil into the bilge of the Engine Room.
6. There is noticeable hydraulic oil leaks on the plumbing of the hydraulic steering system in the engine room at the reservoir tank. Repair the leaking plumbing.

**PLUMBING:**

1. There is a degraded hose located behind the starboard DC panel, above the battery charger access to the forward bulkhead of the control room, it could not be determined what this hose is for. Investigate its purpose and recommend that it is replaced.

**AIR CONDITIONING:**

1. There is condensation leaking from the Control Room overhead ceiling panel, above the main control board. It is suspected that it is coming from condensation from chilled water plumbing. Investigate the cause and rectify.

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2. The Electrosea chlorine generator, that is used to reduce marine growth in the HVAC seawater system is plumbed with flexible hose and single hose clamps. It is recommended that all flexible seawater connections are double clamped for safety. Apply double clamps.
3. The chilled water loop pressure was noted at 1 psi during first inspection. Water was added to the loop and the pressure monitored. There was no substantial loss of pressure during survey. Monitor the loop pressure.
4. Temperature probes for the four (4) chillers were found unsecured in the drip trays. Re-secure the probes in the correct positions, it is unknown if the probes are functional.
5. The chilled water pump is not insulated and condensating freely. Recommend insulation of the pump to improve unit efficiency and reduce condensation accumulation. As an additional note, the drip tray fitted beneath the pump is corroded. Treat the corrosion and apply an epoxy-based paint coating.
6. The chiller sea water plumbing from the units to the discharge are unsecured and loose. There has been some plastic clips fitted to try to secure the hose, however they are ineffective. Install correct securing clamps to the plumbing.
7. The HVAC control unit panel has been refitted, a majority of the control boards have been removed, limiting the controllability and automation of the system. As an example the chilled water pump is controlled directly from energizing the breaker. The system is functional, however with limited controllability and safety measures. Comment only.
8. The master stateroom and the forward crew accommodation all recorded high relative humidity at which level mold spores will develop, these areas are supplied by the make-up air unit which may not be functioning correctly. Service and prove make up air unit.
9. The make-up air unit is a large fan coil unit. This was not designed for the environment it has been put in and is directly exposed to the outside environment. Replace this fan coil with a makeup air unit or install a Delta T type, louver with an additional filter and heater unit mounted behind to dry the air entering the yacht.
10. The lazarette fan coil return air is being drawn across the hot water tank and the hot water circulating pump. This is rendering this unit ineffective. The return air for this unit needs to be ducted from the grill directly to the back of the unit with the return air filter after the grill.

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11. The 3-way chilled water control valve for the Control Room fan coil is not responding to commands, it is fixed in the full flow position. Investigate the cause, repair and prove.
12. The main salon starboard forward fan coil condensate drain pan is clogged with debris build up. There is evidence of previous water leaks in the surrounding carpentry. Clean pan and drain line. There is noticeable vibration in the fan motor, recommend removing the fan for cleaning and balancing.
13. The cupboard hinges for the main salon port aft fan coil are falling out of the paneling. Re secure the hinges.
14. The starboard forward guest cabin fan coil 3- way valve is not responding to commands for cooling. Investigate the cause and rectify.
15. The port aft guest cabin can coil 3- way valve control/release level is not attached to the actuator. It will be difficult to replace the valve if it fails. Comment only.
16. The starboard aft sky lounge fan coil unit has poorly supported chilled water plumbing, it is currently secured to the flexible ducting and drooping the lines and ducting. It is also noted that the fan motor is vibrating. The 3- way fan coil valve was not working correctly. Correctly secure chilled water lines and service the fan motor and 3- way valve.
17. The galley return air plenum in the ceiling of the galley has a grease sodden filter. Remove and degrease the filter, inspect the ducting for residual buildup and clean.

**REFRIGERATION:**

1. The Traulsen fridge/freezer unit in the lazarette is in the final stages of a rebuild, there is some existing issues regarding defrosting/frosting. Comment only.

**VENTILATION:**

**Make-up Air Unit:**

1. The master stateroom and the forward crew accommodation all recorded high relative humidity at which level mold spores will develop, these areas are supplied by the make-up air unit which may not be functioning correctly. The make-up air unit fan was vibrating and appeared to be overheating. The chilled water plumbing insulation was soaked and degraded. Perform a full-service including insulation replacement.

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2. The make-up air unit is a large fan coil unit. This was not designed for the environment it has been put in and is directly exposed to the outside environment. Replace this fan coil with a makeup air unit or install a Delta T type, louver with an additional filter and heater unit mounted behind to dry the air entering the yacht.

**Engine Room:**

1. The engine room ventilation trunking and extraction ducting are both coated in dust and debris, the Engine Room ventilation deflector has areas of corrosion. Recommend a thorough cleaning and treat the corrosion and apply paint coatings.
2. The engine room ventilation, mist eliminators which are fitted on the bridge deck are degraded, the perimeter framing has cracked due to age. Recommend replacing the degraded sections.

**Technical Ventilation:**

1. The Owner's bathroom extraction fan filter mesh is clogged with debris. Clean the extraction filter.

**BOTTOM AF COATINGS:**

Sea Hawk Biocop TF1200 – Black

**THROUGH-HULLS:**

1. The discharge valve is frozen and should be serviced. As an annual maintenance project, it is recommended that all of the seacocks and sea strainers be disassembled, cleaned, inspected, and lubricated.

**MAIN ENGINES and EXHAUST:**

1. There is exhaust leaks noted at the port main engine spray ring flanged connection, above the sea water injection point. Repair/replace the gaskets.
2. The ceiling mounted main engine exhaust resilient mounts are degraded and wasted. Replace the resilient mounts.
3. The port and starboard main engine exhaust risers have exposed sections either side of the blankets, these exposed areas reach temperatures in excess of 380°F. Fabricate larger insulated blankets to prevent hot spots and accidental contact to personnel.

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4. The starboard main engine exhaust flexible spray ring bellows have been fitted with constant torque hose clamps, instead of exhaust type T-Clamps as have been fitted to the rest of the exhaust system, this appears to be a temporary repair. Replace the clamps with T-type exhaust bellows clamps.

**ELECTRICAL SYSTEMS:**

**Note 1: The ★ symbol indicates a recommendation for priority repair. Note 2: Unless mentioned below, the items below were not reviewed.**

**Shore Power:**

1. The shore power input is arranged with seimens100 amp protection breakers which are not E.L.C.I. (Equipment leakage Circuit Interrupter) or G.F.C.I. (Ground Fault Circuit Interrupter) type to aid in preventing E.S.D. (Electrical Shock Drowning) it is our professional opinion safety could be improved by the following recommendation. Install ground fault protection breakers conforming to the IEC regulation.
2. The shore power cable when connected to dock side services is not arranged with cable strain relief. Provide adequate cable strain relief for connected shore power cable.
3. The Asea manufacture suggests connections be tightened every six months. Perform this manufacture's maintenance requirement.
4. The Asea manufacture suggests the CPU battery to be replaced every 3 years, may require greater frequency with elevated ambient temperatures or extended periods of operation. Anticipate CPC battery replacement.
5. The Asea manufacture suggests recalibration every year, may require additional calibration after battery replacement. Lack of calibration may result in a 5% increase in metering and voltage programming accuracy. Perform re-calibration.

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6. The shore power 480 volt supply protection breakers three phase output connections are connected directly to the galvanic isolators earth connection stud within the breaker enclosure. It is unclear if this arrangement is a home made type of surge arrestor. Further review this arrangement and provide electrical drawings supporting this connection. Anticipate removal of these connections.



7. A multimeter set on the diode test setting was placed across the galvanic isolator's connection terminals, readings of 0.45 volts was captured, which indicates a shorted diode. Bench test both galvanic isolators, anticipate diode and or capacitor replacement.
8. The master and slave Asea shore power converters both utilize additional forced air cooling fans, indicating possible overheating, the converters were opened for review and showed little contamination. Monitor the Asea shore power converters running temperatures.
9. Potential energized conductors in the shore power input breaker connection enclosures are resting on sharp edges of the breakers securing hardware. Provide additional cable chafe protection.
10. The back-up shore power breakers supply conductors are connected without the use of pins or ferules to aid in reducing damage to the copper conductors. Re-connect these conductors' using pins, ferrules as used on similar breaker connections.

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11. The shore power input selector switch is located starboard aft machinery space; the switch connections are connected using nuts and bolts then wrapped with electrical tape which is not rated for the expected current. Re-connect these connections to approved marine grade connectors.



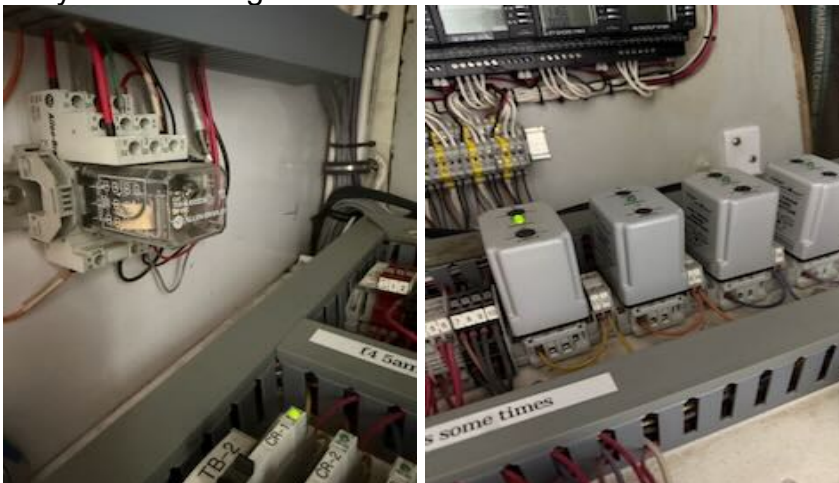
12. The three phase 480 volt shore power input is fitted with a Glendenning CM-8 electrical cord reel and storage bin; the storage bin is not secured. Secure this cable storage bin.
13. The shore power input protection breakers connections are exposed. Provide suitable connection protection covers.
14. No operation procedure place has been placed to show the shore power connection methods. Post and shore power connection procedure plaque.
15. No shore power input frequency of voltmeter has been installed for the back-up shore power transformer. Provide local mounted back-up transformer shore power input volt and frequency meters.
16. The shore power is arranged with a 100-amp supply used for the back-up transformer, this system was not demonstrated, nor was the transformer data available. Provide auto transformer data plate and demonstrate operations.
17. The Asea converters case section cover securing hardware is missing. Replace all securing hardware.

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**Main Switchboard:**

1. All main switchboard terminations to include mechanical fasteners should be checked for proper torque as per fastener design and construction. Recommend this procedure be performed annually within the main switchboard and all distribution boards to aid in eliminating excessive heat caused by loose connections.
2. The main switchboard is fitted with an internal fire suppression system; this system will not be effective due to open cable entries in the bottom and top of the main switchboard. Seal all main switchboard openings
3. The main switchboard doors are not fitted with hold open devices. Install door hold open devices.
4. The main switchboard hand rail is conductive. Replace this with a non-conductive type.
5. The main switchboard door are not grounded Ground these doors.
6. The conductors connected to the 12 VDC battery chargers 30-amp protection breaker do not appear to be rated for 30 amps. Further, review this condition and ensure conductors and over current protection are correctly sized for the loads expected.
7. An unidentified Allen Bradley relay and Tmax timer relays mounted in the inboard section of the main switchboard is not fitted with a relay retaining clips. Identify this relay and install a relay retaining clips to all relays to aid in preventing the relay from working lose.



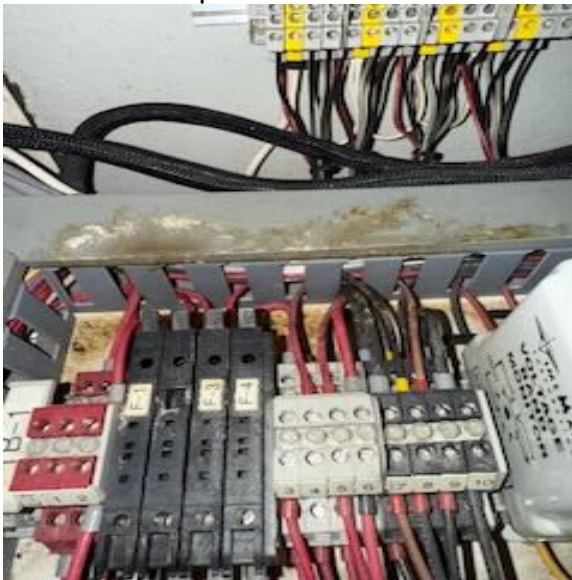
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8. The lower inboard section of the main switchboard house the battery chargers, the section door houses cooling fans that are not filtered, contaminants are being drawn into the battery chargers. Service all battery chargers, clean this panel section and ad filter to the cooling fans.



9. ★Air conditioning chilled water is leaking on to electrical components in the main switchboard inboard section. Trace and remove this leak, replace any damaged electrical components.

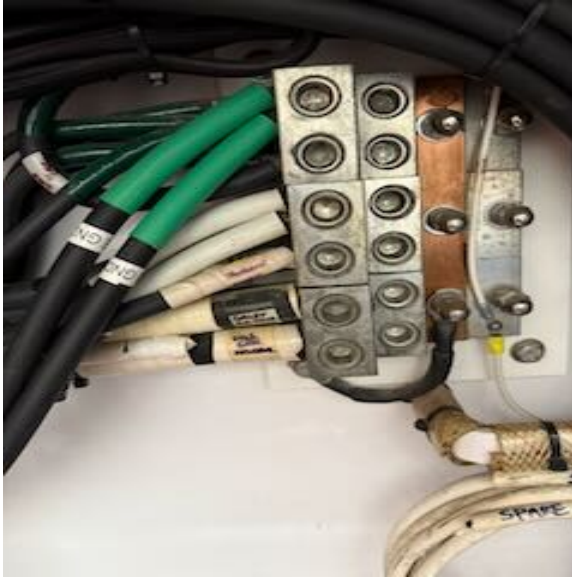


10. The original Maxwell capstan re-settable fuses are no longer used. Remove these protection fuses and associated cables.
11. The main switchboard Pizzo alarm buzzer is not secured and is free swinging. Secure this alarm buzzer.

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12. The main switchboard is not able to be fitted with ground fault monitoring, as the neutral and ground busses are connected together, the system is designed as a TN-S grounded system means the neutral and grounds are separated with only a single neutral to ground link, this link is using for ground fault monitoring. Re-configure the connection method to a TN-S grounded system by separating the neutral and ground busses.



13. The main switchboard's main power select Allen Bradley contactors are original. Bench test these contactors, anticipate replacements.

**Generators:**

1. The generators vibration mounts are contaminated. Anticipate generator vibration mount replacements.



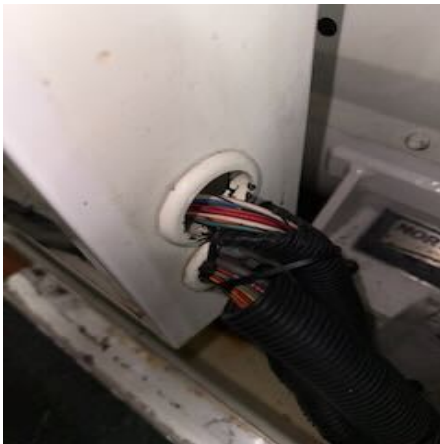
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2. The port generators electrical end securing hardware is contaminated. Replace this securing hardware.



3. The generators sea water supply hoses are single hose clamped. Install back-up hose clamps.
4. The generators sender and control conductors are sleeved with black split flexible conduit; this conduit was found to be flame supporting. Re-place this flexible conduit with self-extinguishing type.
5. The generators starter and slave solenoid energized connection are exposed. Provide connection protection covers as used on the main engines.
6. Both generators drip trays contain oily water. Trace source of water and oil and seal.
7. Control and sender conductors are pulled from the port generators local connection. Panel within the sound shield. Re-secure these conductors.



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8. The port generators charge alternators protection cover is damaged by a previous charge alternator fire. Replace this protection cover.



9. The port and starboard generators sound shields are both in poor condition, in addition the port generators sound shield insulation has been damaged by a previous charge alternator fire. Re-condition both generators sound shields, anticipate sound shield replacement.



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10. The port generators output protection breaker is mounted above the sound shield, the bend radius for the L-1 power cable is too tight, the heat generated by this has caused the cables outer jacket to crack. Replace this cable and install conforming to cable bend radius minimums.



11. The generators output protection breakers cable connections are not connected using pins of ferules, and in addition the connections are exposed. Re-connect these cables using pins, ferules or similar and provide suitable connection protection covers.



12. The generators mechanical sets were reviewed by a diesel engine survey company. Please refer to their report.

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13. The port and starboard generators electrical ends are not fitted with condensation heaters. Install generators anti-condensation heater fitted with exclusive over current protection.
14. The generators prime movers were review by a diesel mechanic; it is highly likely the engines will be either re-built or replaced. The connected electrical ends were visually reviewed, the rotor and stator windings show contamination consistent with run hours and should be serviced during engine works.

The port electrical ends appears to have been replaced, no data supporting this assumption was available.

Megger test the electrical ends rotor and stator windings, replace forward and rear bearings and replace rotating rectifiers.

**Cable:**

1. Cables associated with the Besenzoni Passerelle hydraulic power pack located port aft engine room are not secured or protected and are secure to hydraulic lines. Re-wire this hydraulic power packs cabling in its entirety and provide additional cable support and protection.



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2. VDC cables are run under the port side engine room deck plates without support and protection. Provide cable support and protection.



3. Cables have been run through the engine room perforated overhead sheeting without chafe protection. Install cable chafe protection.



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4. The supply cable to the hot tub is not conforming to cable bend radius minimums. Relieve this cables bend radius.



5. The machinery space and galley distribution panels consumer cables are run through cable glands; the glands are not fitted with chafe rings. Install cable gland chafe rings.



6. The machinery space distribution panel cable entries are not sealed, this is a critical safety and operational requirement that prevents the ingress of moisture, dust, and contains sparks and flames in the event of an internal fault. Seal all distribution panels cable entries.

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7. An unidentified boat cable is located in the inboard section of the main switchboard the cables bend radius is too tight. Relieve these cables bend radius.



8. Cable to the newly installed main switchboard capstan protection breaker has been line splice the nut and bolt and electrical tape. Replace this cable.



9. The cable gland from the control room bilge area into the engine room is not sealed. Seal this cable penetration.
10. An unidentified cable is run through the deck head down into the plenum above the fiddley stairway, no penetration cable glands has been fitted. Install a water tight cable gland.

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11. The cable run from under the wheelhouse console into the interior is not sealed. Seal this cable gland.
12. Multiple cables are stripped back too far exposing the current carrying conductors at the wheelhouse console 12 /24 VDC main connection enclosure. Re-connect these conductors ensuring the exposed conductors are within the enclosure.



13. The windlass control cables are pulling from the connection enclosure. Re-secure these cables.



14. The windlass control pendants are not fitted with emergency stop switches. Install emergency stop switches.

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15. The galley ovens 50-amp circuits neutral connections are whiskering. Re-connect these connections using pins or ferrules.
16. The supply phase and neutral supply cables for the sky lounge and crew distribution panels are tapped from the main gally cables, the connections are line spliced and wrapped with electrical tape which is not rated for the expected currents. Re-connect these connections to approved marine grade connectors.

### **Lights**

1. Multiple bridge deck overhead lights were not illuminating. Rectify these conditions.
2. Section of guest accommodation valance rope lights are not illuminating. Rectify these conditions, anticipate rope light replacement.
3. The mast and towing navigation lights were not illuminating. Rectify these conditions.
4. ★ During emergency light testing the aft saloon, master cabin and crew area light did not illuminate. Rectify these conditions.
5. ★ The emergency light Finder relay mounted in the port wheelhouse emergency light control enclosure is not fitted with a relay retaining clip. Install a relay retaining clip.
6. The starboard under helm light fixture lens is missing. Replace this lens.
7. The light fixture located under the control room door is connected using household wire nuts. Re-connect this fixture using fully encapsulating marine grade connectors.
8. The illuminated fan reset switch in the control room is not connected. Remove if no longer required.

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9. ★ The aft deck low voltage transformers running temperature was captured at 100.3 °C / 212°F, these transformers are used throughout the vessel and appear to be from the original installation. Replace all of these type transformers.



10. The control room work bench fluorescent light fixture lens is missing. Install a fixture lens.

**VDC:**

1. The vessels battery banks were not load tested. Load test all battery banks regardless of age including fire alarm batteries.
2. No battery bank low voltage alarms were sighted. Ensure all battery banks are fitted with low voltage alarms.
3. The vessels battery banks permanently energized connection. Posts are exposed. Provide battery post “Boot” type protection covers to all onboard batteries.
4. ★The GMDSS batteries are stored in a purpose made battery box, the box is fitted with a vent hose venting the gasses overboard, the vent and battery box lid were found loose. Ensure this battery box and vent hose are tightly secured to allow the battery gasses to vent properly.
5. The Besenzone Passerelle 24 VDC hydraulic pump motor connections are exposed. Provide suitable protection covers.
6. The battery banks located under the engine room deck plates are installed within Todd purpose made battery boxes, the box lid securing hardware is missing. Secure these battery box top covers.

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7. The generator starting banks are 12 VDC, the banks are permanently connected in parallel with the house 12 VDC bank using a bank connection cable, this is not an acceptable practice. Isolate the generator starting banks from the house bank.
8. ★Unidentified 10 awg cables are connected to each of the generators starting banks and are not over current protected. Identify these circuits and provide over current protection as close to the battery connection posts as practical.



9. The GMDSS battery chargers permanently energized connections are exposed. Provide suitable protection cover.



10. The vessels battery banks with the exception of the GMDSS bank are not fitted with battery heat sensors to aid in preventing overcharging, although the GMDSS sensor is adrift. Ensure all battery banks are fitted with sensors.

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11. No GMDSS battery bank over current protection was sighted. Verify a GMDSS battery bank over current protection is installed.
12. The main engine starting banks are 24 VDC, the banks are permanently connected in parallel with the house 24 VDC bank using a bank connection cable, this is not an acceptable practice. Isolate the generator starting banks from the house bank.
13. No wheelhouse 12 VDC battery banks has been provided as shown on the original electrical drawings, instead a 24-12 volt 30 amp Newmar converter has been fitted. Re-install a wheelhouse 12 VDC battery bank.
14. The starting and house battery banks located under the engine room deck plates have been modified from the original arrangement, no approved updated drawings are provided. Provide updated electrical drawings supporting the current arrangement.
15. 24 VDC cables from the GMDS battery bank have pulled from the enclosure. Re-secure these cables.
16. The generators are fitted with battery isolation switches able to select either starting banks or select in parallel, the switches were left in the parallel position, this is not good practice as a damaged bank can cause damaged to a good bank. Replace this switches so to only be able to parallel banks momentarily.
17. No volt meters for the generator and main engine starting banks has been provided. Provide generator and main engine battery volt meters.
18. The main engine mounted charge alternators end covers are missing. Replace these covers.
19. The 1800 watt inverter located under the wheelhouse console has exposed permanently energized connections. Install connection protection cover.

**Air conditioning:**

1. The air conditioning compressors are fitted with frequency drives, the associated cables are not shielded, shielded cables reduce electromagnetic interference (EMI). (The same condition was noted for the engine room blower frequency drives) Replace the frequency drive cables from the drive to the compressors with shielded cable.

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2. ★The air conditioning chilled water pump motor and the sea water pump #2 are open wound type not suitable for machinery space use. Replace these pump motors with a Totally Enclosed fan Cooled (TEFC) type.



3. The air conditioning chilled water pump is leaking. Service this pump, anticipate replacement.



4. The power on lamp and multifunction meter and selectors switch mounted on the air conditioning systems main control panel are disconnected. Re-connect these components.

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5. The air conditioning chilled water pump associated 20 amp protection breakers running temperature was captured at 44.6°C / 112.°F. Further review this condition, verify the connections are clean and tight and that the cable and breaker are correctly sized for the loads expected.



**Grounding/ Bonding:**

1. No grounding cables were sighted for the gear boxes. Ground both gear boxes
2. The propeller shafts are grounded using handmade propeller grounding brush gear, the resistance from each propeller shaft to the vessels bonding/ ground system was captured at > 3.1ΩOhms. The port shaft brush gear ground connection is corroded and separated from ground.  
  
Re-connect the port shaft brush ground cable, clean both propeller shafts and brush gear, to assure > 1ΩOhms resistance from the propeller shaft to ground, it is suggested purpose made self-adjusting propeller shaft brushes are provided.
3. The sea water intake bonding conductor connection to the air conditioning sea water pipe work is showing contamination. Chemically clean these and all similar connections.
4. No enclosure door ground link was sighted for the air conditioning main control panel. Provide a door grounding link / strap.

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5. An unidentified ground / bonding conductor is disconnected and free swinging under the starboard main engine. Identify this conductor is re-connect.



6. The stern thruster is not grounded/ bonded. Ground the stern thruster body

**General:**

1. The engine and generators fuel filters are not fitted with catch bowls. Install fuel spill catch bowls.
2. The starboard main engine exhaust associated control relay and terminal block connection located just inboard of the shore power Glendenning cable reel are exposed. Re-connect these electrical components within a marine approved connection box.



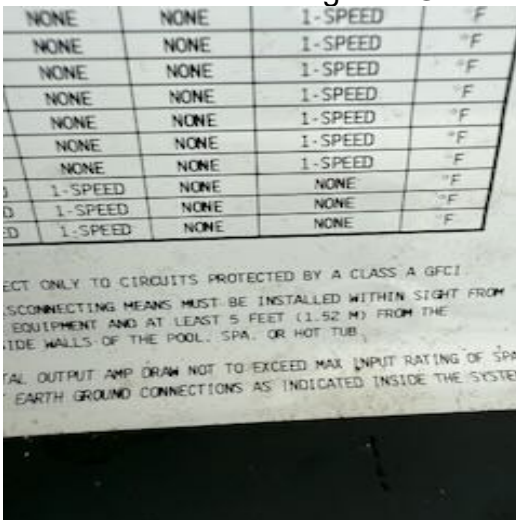
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3. The Electrosea associated 120-24 volt power supply located starboard aft machinery space has the permanently energized connections exposed. Provide a suitable connection protection cover.
4. ★The aft machinery space and boat deck 120 volt receptacles are not ground fault protected. Ensure all receptacles located in machinery spaces, laundries, galleys, heads, weather decks and any areas subject to water intrusion are ground fault protected.
6. ★The engine room air compressor motor is open wound type not suitable for machinery space use. Replace this motor with a Totally Enclosed fan Cooled (TEFC) type.



5. ★The Balboa hot tub is not ground fault protected as required and as noted on the unit connection diagram. Ground fault this hot tub.



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6. The navigation light is only arranged with a single power supply, no back up supply has been fitted. Provide a back-up navigation light power supply.
7. No emergency shut down was sighted outside the galley. Provide galley emergency shut down switches.
8. The majority of the vessels large motors are original. Megger test all onboard large motor windings.
9. The vessels NightWatch system has several issues including incorrect starboard generators readings and the fire alarm system including annunciation not operational. It is recommended the NightWatch system be upgraded.
10. The run / start capacitor for the control room air handler is free swinging. Rectify this condition.

### **Power quality**

The vessels power system was connected to a Fluke power quality analyzer, test results show the harmonic distortion very high at 15.3%, which is above the acceptable level of 8%, and the voltage crest factor was very low at 1.28.

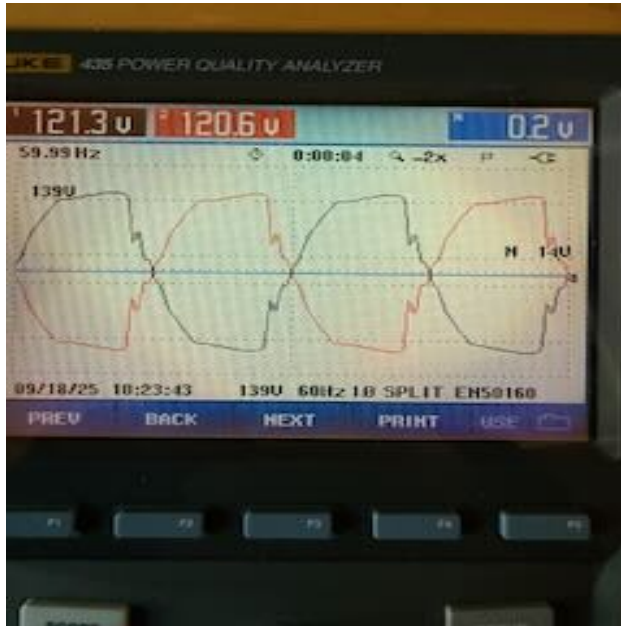
In addition, voltage wave form is heavily corrupted and is flat topping, this condition will not allow any electrical components utilizing capacitors to fully re-charge which could cause damage / failure of sensitive equipment.

A separated power quality report has been provided.



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Please refer to the separate power quality report.

**TEAK:**

1. The aft deck teak margin board, below the sliding door threshold is degraded from termite infestation, there is also evidence of ants onboard, near the bar. Replace the teak margin plank and treat the termite/ant infestation.

**LIGHTING:**

1. The air conditioning compressor flat room has very dim lighting. Recommend install brighter fluorescent lights.
2. The interior lighting for the lower bilge spaces are halogen type with limited light spread. Recommend installation of LED lighting to improve the lighting of the technical bilge spaces.

**EXTERIOR FINISH:**

1. The exterior paint is reportedly original and in poor condition. The paint is worn very thin where the primer is exposed in areas. There are large corrosion blisters on the mast. The window caulking is weathered and will need to be reefed out and recaulked. The vessel is due for a new coat of paint at this time.

**INTERIOR:**

1. The dining room table glass top is scratched up a new owner may consider replacing the table.

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2. The material above the pilothouse helm and bulkhead at the communication desk are delaminated loose and sagging anticipate replacing.
3. The interior outboard paneling of the port forward guest cabin, near the portlight is separating from the wall. Remove paneling and repair/replace.
4. The starboard forward guest cabin closet carpet is wet, with staining noted and high humidity in the paneling. It is reported the moisture is from a failed damp rid bag. The carpet should be removed, and the area dried to prevent degradation of the paneling and mold growth.
5. The interior paneling fitted around the ac ceiling plenums in the main salon is degraded and falling away from the ceiling. Recommend removal and replacement of the degraded panels.

**WINDOWS DOORS and HATCHES:**

1. The hanged hatch to access the steering gear and bilge area is drooping on its hinges. Repair/adjust hatch to ensure a watertight seal.
2. The exterior hinged watertight door accessing the lazarette does not dog correctly, day light can be seen through the gasket. This is a dogged watertight door and must seal correctly. Adjust/repair the door as required.

**APPLIANCES:**

1. The aft deck bar ice maker has a service light illuminated. Service the unit.

**CRANE:**

1. No Safe Working Load is posted on the tender crane, label the crane with the SWL

**TENDER:**

1. The Zodiac RIB tender tubes are weathered and they swim ladder mounts glued to the tubes are peeling off, anticipating retubing the tender or replacing.
2. The Navigation lights on the tender are not operating, troubleshoot and rectify.

**SUGGESTIONS ONLY:**

Note: All of the following items are considered to be improvements and upgrades that an owner and/or his captain and crew may want to consider. The yacht has run fine without any of the following.

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1. Consider installation of an approved USCG/IMO MARPOL Sewage Treatment Plant (STP) to process gray and black water.
2. Suggest the installation of a Delta-T type Engine Room ventilation control system to automatically control airflow based on air pressure and temperature.
3. The vessels navigation light system is not arranged with Not Under Command (NUC) lights. Suggestion is to include NUC lights to the navigation light system.

Note: In addition to this recommendation list, there are 53 pages of survey text which is an integral part of the report and should be read in conjunction with these recommendations.

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