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Good morning Mr. Flaherty,
M/Y Flagship, a 23,90 meters long and 9,90 meters wide Catamaran Motor Yacht, has been built in Yalova, Turkey, in 2022 and 2023, by Visionf Yatçılık A.Ş.
M/Y Flagship has been built in accordance with CE rules and regulations.
Regarding your questions please find our answers below in red.
Best regards,

From: David Flaherty
Sent: Friday, October 18, 2024 5:57 PM
To: Eyüp Yılmaz
Cc:
Subject: Flagship Fire Casualty Questions
Importance: High

Hi

Hope all is well.

I greatly appreciate your company's assistance with this investigation.

Please answer the following question, if you need any clarity on any of the questions, feel free to contact me.

- Where was the Flagship constructed?

Flagship has been built in Yalova / Türkiye.

- How many other yachts or commercial vessels did the shipyard construct with lithium-ion batteries systems prior to and since the Flagship?

For its previous builds Visionf were using Lithium-Iron-Phosphate batteries, M/Y Sitara and M/Y Flagship were built almost simultaneously, with Lithium-Ion batteries, as per electrical design supplied by Silent Yachts Trading GmbH.

- What maritime standard was the yacht constructed to?

Flagship has been built in accordance with CE regulations.

- Does that standard have guidance or requirements for the installation of lithium-ion batteries?

There are general rules but not detailed guidance for the installation of Lithium-Ion batteries within CE regulations.

  - If yes, please provide that standard.
  - If no, please provide the standard that was utilized for the battery design and installation.

Flagship has been built in collaboration with Silent Yachts, their electrical design has been followed for installation.

- Are there sister vessels to the Flagship?
  - If yes, please provide the vessel's name and flag registration.

Yes, M/Y Sitara is a sister yacht, registered in Jersey / Channel Islands.

- When did construction begin on the Flagship?

Flagship construction has started in early 2022.

- When did the construction of the Flagship end?

Flagship construction has ended in September 2023.

- What company manufactured the lithium-ion batteries for the Flagship?

MG Energy Systems B.V. has manufactured the batteries, installation done by a local subcontractor, Marinel Elektrik Elektronik Sanayi ve Ticaret Ltd. Şti.

- Where there any concerns with the conditions of the batteries?

There were no concerns regarding the conditions of the batteries.

- Prior to the installation of the lithium-ion batteries, where the batteries maintaining a charge?

Yes, the batteries have been received from the supplier charged at a certain level.

- Where there any issues encountered with the installation of the lithium-ion battery management system?

There were no issues with the installation of the 48 volt lithium-ion battery management systems. 24 volt batteries could not have been charged properly by MG Master LV unit installed on yacht, the commissioning of 24 volt batteries has not been completed for this reason before the shipment.

- When were the lithium-ion batteries and management system installed onboard the Flagship?

Around mid of 2023.

- What systems did the Lithium-ion batteries provide power too within the vessel.

All systems are being fed by the batteries, other than propulsion system.

- When were the lithium-ion batteries and management system first test or placed into operation on the vessel?

In late August, 2023.

  - Was the test/operation successful?

Tests have been done in sea of Marmara, all systems were running properly other than MG Master LV unit installed for 24 volt batteries.

  - If not, please pass what was wrong with the system.
    - Was that deficiency (or deficiencies) corrected, enabling a successful operation of the system?

There was not enough time to check and correct or replace MG Master LV unit before shipment, instead separate 24 volt batteries used for sea trials, a charger also placed onboard to charge these separate 24 volt batteries, commissioning of 24 volt battery system decided to be commissioned in US.

- Was the system able to provide power when the vessel was operating at full demand?

Other than 24 volt MG batteries, yes.

- Where the lithium-ion battery systems able to maintain their charge prior to the vessel being transferred to the United States?

Other than 24 volt MG batteries, yes.

- Was the battery management system able to monitor the batteries and charge them prior to the vessel being transferred to the United States?

Other than 24 volt MG batteries, yes.

- When was the vessel shipped from Turkey to the United States?

On 14th of September, 2023.

- When the vessel was shipped from Turkey to the United States, were all of the vessel's systems operating as designed?

Other than 24 volt MG batteries, yes, Flagship has been loaded on a ship in Haydarpaşa / İstanbul harbor, she sailed there very same day from Tuzla, almost 4 hour sail done without any problem just before the shipment.

  - If no, please provide a list of which systems were not working and what was wrong with them.

MG Master LV unit for 24 volt batteries were not charging 24 volt batteries properly, there were not enough time to find out the reason, repair or replace the unit before previously arranged shipment, instead spare 24 volt batteries has been deployed to run the systems.

  - Who approved the transportation of the Flagship, if there were systems not operating

properly?

The decision is made with the owner of the yacht to make Fort Lauderdale International Boat Show.

- After the Flagship was shipped to the United States, when was VisionF notified that the lithium-ion battery system was unable to maintain a charge and the battery management system was not able to charge the system?

After being shipped to US, M/Y Flagship has been exhibited at Fort Lauderdale Int. Boat Show, between 25th and 29th October, 2023, during these period, there were no issues with the yacht.

After the Fort Lauderdale Int. Boat Show, M/Y Flagship has been left almost unattended by its owner at Fort Lauderdale, until 19th of January, 2024.

On 19th of January, 2024, all batteries on board, including 48 volt group were almost empty, M/Y Flagship was towed to RMK Merrill Stevens, Miami, from Fort Lauderdale, for repair and maintenance services and preparations for Palm Beach International Boat Show.

Between 19th January and 17th of March, 2024, M/Y Flagship has received repair and maintenance services at RMK Merrill Stevens, Miami. They also managed to charge 24 volt MG batteries onboard and removed additional 24 volt batteries from the yacht.

On 17th of March, 2024, M/Y Flagship left RMK Merrill Stevens and started sailing for Palm Beach, thorough channel, almost a day long sail.

Between 21st and 24th March, 2024, M/Y Flagship has been exhibited at Palm Beach Int. Boat Show.

On 24th March, 2024, M/Y Flagship left Palm Beach and started sailing for RMK Merrill Stevens, Miami, for remaining repair and maintenance services, and arrived at RMK Merril Stevens, early next morning.

No issues has been encountered regarding batteries and battery management systems during these sails and Palm Beach Int. Boat Show.

No shore power has been used throughout the Palm Beach Int. Boat Show. The batteries have been fed only by solar panels other than the second day of the show, when it was raining all day and the sun was not shining, after charge level gone under 60%, we had to run generator, only for few hours. The pictures of Victron Energy screen, taken during the show are attached.

- Did VisionF recommend that the lithium-ion batteries be recharged utilizing a portable battery charger?

The 48 volt MG batteries were almost empty due to lack of proper maintenance after Fort Lauderdale International Boat Show, Visionf recommended having Victron Energy service for commissioning of 24 Volt system, as well as utilizing a proper charger for Lithium-Ion batteries to recharge the batteries installed on yacht.

The charger found on board Flagship beside 24 volt batteries at the investigation was deployed for charging additional 24 volt batteries, not for Lithium-Ion MG batteries installed on board.

- Was VisionF working with the vessel owner to resolve the issues with the lithium-ion battery system?

Yes, Visionf technicians were in touch with the owner rep. on board and RMK Merrill Stevens officials.

- What was VisionF proposed solution to correcting the issues with the lithium-ion battery management system?

Visionf suggested to receive service from Victron Energy for commissioning of 24 volt system, also suggested few local Victron Energy service provider for the job, as well as suggesting to utilize a proper charger for Lithium-Ion batteries to recharge the MG batteries installed on yacht.

- What does VisionF think occurred to cause the thermal runaway of the lithium-ion batteries on 28APR24?

The incident happened on 28th of April, Sunday, we believe there was no work at all on Flagship that day, we believe it was same for the very previous day, 27th of April, Saturday, most probably other than security personnel no one was present at RMK-Merrill Stevens these days. Throughout the fire investigation at Palm Beach it has been found out that all battery management systems installed on Flagship had been bypassed by jump cables, we believe Flagship have been left or most probably forgotten connected to shore power thorough some portable charger running, since at least the last previous workday, 26th of April, Friday, afterwards the incident happened after at least three days of constant charging without proper monitoring while battery management systems were also bypassed by jump cables.

Please pass to me any other information you think would assist me with my investigation.

Few things to mention, first the fire has been reported late, as I recall the time frame from the video taken on site, we watched at Palm Beach, and referring the time frame given within attached fire department report, after like an hour security personnel reported the fire.
Secondly, the fire department has not been informed properly, and their first response to the fire was with water, which we believe was not helpful at all, maybe worsened the fire and the water accumulated inside the hull eventually sank the boat. Later after the fire department was informed that it's a boat with Lithium-Ion Batteries, they started using foam and this way we believe they managed to extinguish the fire.

In addition, if you have received a fire investigation report that you can share with me, please email it to me so I can review it.

We have received only Miami Fire Department report so far, a copy is attached, we have not received any report from FOCUS so far.

Again, please reach out to me if you need additional clarity to answer the questions.