

Ship Sailing Management Monitoring System

FIELD OF THE INVENTION

[0001] The present invention relates to a transporting management system, and more particularly relates to a ship sailing management monitoring system.

BACKGROUND OF THE INVENTION

[0002] The current ship sailing management technology is unable to provide shipping managers with sailing situation information and ship-equipment-operation information of ships belonging to a shipping company in real time and also lacks a technical solution to collect and organize relevant information of ship sailing for the knowledge of the shipping managers. In addition, the shipping managers are also unable to provide immediate notifications or warnings to the ships under high-risk sailing conditions.

SUMMARY OF THE INVENTION

[0003] Therefore, one objective of the present invention is to provide a ship sailing management monitoring system which is capable of monitoring ship-sailing information, transmitting safe alerts, and collecting, organizing and displaying corresponding sailing information.

[0004] In order to overcome the technical problems in the prior art, the present invention provides a ship sailing management monitoring system for information monitoring of at least one managed ship, comprising: a ship-side information

management device disposed at the managed ship and including a ship information obtaining unit, an equipment parameter obtaining unit and a ship information processing unit, wherein the ship information obtaining unit is configured to obtain ship-sailing-real-time information related to the managed ship in real time, the equipment parameter obtaining unit is configured to obtain equipment-parameter-real-time information related to hardware equipment operation conditions of the managed ship in real time, and the ship information processing unit is connected to the ship information obtaining unit and the equipment parameter obtaining unit and is configured to transmit the ship-sailing-real-time information and the equipment-parameter-real-time information as ship-real-time-monitor information along with a ship identifier of the managed ship in real time; and a shore-side information management device including a ship-engine-room-equipment-real-time-monitor-information receiving unit, a geography-hydrology-information obtaining unit, a weather-information obtaining unit, a nautical-chart-and-sailing-information display unit, a ship-location-real-time-deviation monitoring unit and a sailing-restriction-area monitoring unit, wherein the ship-engine-room-equipment-real-time-monitor-information receiving unit is communicated with the ship information processing unit of the ship-side information management device to continuously receive the ship-real-time-monitor information from the ship-side information management device of the managed ship, the geography-hydrology-information obtaining unit is configured to obtain geography information related to a ship routine plan of the managed ship, the weather-information obtaining unit is configured to obtain weather information related to the ship routine plan of the managed ship, the nautical-chart-and-sailing-information display unit is connected to the

ship-engine-room-equipment-real-time-monitor-information receiving unit, the geography-hydrology-information obtaining unit and the weather-information obtaining unit, and the nautical-chart-and-sailing-information display unit is configured to perform, based on the ship-real-time-monitor information, the geography information and the weather information, tasks listed as below: (1) on a management overview screen, displaying ship motion of each managed ship in real time in the form of an electronic nautical chart and selectively displaying weather situation including wave flow information, barometric pressure information, weather front information, typhoon forecast path information or wind direction information, (2) on a ship-information display screen of the management overview screen, correspondingly displaying ship speed information, ship routine information and ship location information of the managed ship selected by the nautical-chart-and-sailing-information display unit, and (3) on an engine-room information display screen of the management overview screen, correspondingly displaying main-engine-operation information and power-generator-operation information of the managed ship selected by the nautical-chart-and-sailing-information display unit, the ship-location-real-time-deviation monitoring unit is connected to the ship-engine-room-equipment-real-time-monitor-information receiving unit, the geography-hydrology-information obtaining unit and the nautical-chart-and-sailing-information display unit, wherein the ship-location-real-time-deviation monitoring unit is configured to continuously detect a ship-location deviation between a ship location of the managed ship and a planning-sailing-routine track line of the ship routine plan and, when the ship-location deviation exceeds a predetermined ship-location-deviation tolerance range, transmit in real time a ship-location deviating alert to the ship-side

information management device and the nautical-chart-and-sailing-information display unit of the shore-side information management device, and the sailing-restriction-area monitoring unit is connected to the ship-engine-room-equipment-real-time-monitor-information receiving unit, the geography-hydrology-information obtaining unit and the nautical-chart-and-sailing-information display unit, wherein the sailing-restriction-area monitoring unit is configured to continuously detect a relative location relationship between the ship location of the managed ship and a predetermined-sailing-restriction area and, when the managed ship enters the predetermined-sailing-restriction area, transmit in real time a sailing-to-restriction-area alert to the ship-side information management device and the nautical-chart-and-sailing-information display unit of the shore-side information management device.

[0005] In one embodiment of the present invention, the ship sailing management monitoring system is provided, wherein the nautical-chart-and-sailing-information display unit is operated to further display, in the power-generator-operation information on the engine-room information display screen of the management overview screen, amount-of-power-generator-in-use-and-power-usage information in a bow thruster operation.

[0006] In one embodiment of the present invention, the ship sailing management monitoring system is provided, wherein the ship-engine-room-equipment-real-time-monitor-information receiving unit of the shore-side information management device is communicated with the ship information processing unit of the ship-side information management device via satellite communication to continuously receive the ship-real-time-monitor

information from the ship-side information management device of each managed ship.

[0007] In one embodiment of the present invention, the ship sailing management monitoring system is provided, wherein the shore-side information management device further includes an arrival-harbor-speed monitoring unit connected to the ship-engine-room-equipment-real-time-monitor-information receiving unit, the geography-hydrology-information obtaining unit and the nautical-chart-and-sailing-information display unit, the arrival-harbor-speed monitoring unit is configured to continuously detect a relative location relationship between a ship location of the managed ship and an arrival-harbor-deceleration area and, when the managed ship arrives the arrival-harbor-deceleration area and a ship speed exceeds a predetermined arrival-harbor speed, transmit in real time an arrival-harbor-speed alert to the ship-side information management device and the nautical-chart-and-sailing-information display unit of the shore-side information management device.

[0008] In one embodiment of the present invention, the ship sailing management monitoring system is provided, wherein the shore-side information management device further includes a dense-waters-power-consumption monitoring unit connected to the ship-engine-room-equipment-real-time-monitor-information receiving unit, the geography-hydrology-information obtaining unit and the nautical-chart-and-sailing-information display unit, the dense-waters-power-consumption monitoring unit is configured to continuously detect a relative location relationship between a ship location of the managed ship and a predetermined-waters area and, when the managed ship arrives the

predetermined-waters area and the amount of power generator used by the managed ship is less than a predetermined standard of the amount of power generator used, transmit in real time a power-usage-in-harbor alert to the ship-side information management device and the nautical-chart-and-sailing-information display unit of the shore-side information management device.

[0009] In one embodiment of the present invention, the ship sailing management monitoring system is provided, wherein the shore-side information management device further includes a ship-speed-in-warning-area monitoring unit connected to the ship-engine-room-equipment-real-time-monitor-information receiving unit, the geography-hydrology-information obtaining unit and the nautical-chart-and-sailing-information display unit, the ship-speed-in-warning-area monitoring unit is configured to continuously detect a relative location relationship between a ship location of the managed ship and a predetermined warning area and, when the managed ship arrives within the predetermined warning area and a ship speed of the managed ship is greater than a predetermined warning speed, transmit in real time a ship-speed-in-warning-area alert to the ship-side information management device and the nautical-chart-and-sailing-information display unit of the shore-side information management device.

[0010] In one embodiment of the present invention, the ship sailing management monitoring system is provided, wherein the predetermined-sailing-restriction area includes an adjacent-to-shore waring area, a reef hazardous area and/or a weather hazardous area, wherein the adjacent-to-shore waring area is defined as an area within an offshore safe distance from a shoreline, the reef hazardous area is defined as an area where reefs are distributed, and the weather hazardous area is an area designated according to

area affected by severe weather.

[0011] In one embodiment of the present invention, the ship sailing management monitoring system is provided, wherein the shore-side information management device further includes a history recording unit and a history report output unit, the history recording unit is connected to the ship-engine-room-equipment-real-time-monitor-information receiving unit to record the ship-real-time-monitor information, and the history report output unit is connected to the history recording unit to correspondingly output history report information related to the ship-real-time-monitor information according to a searching condition.

[0012] In one embodiment of the present invention, the ship sailing management monitoring system is provided, wherein the nautical-chart-and-sailing-information display unit is configured to further display harbor information of a harbor on the management overview screen in real time, the harbor is related to the ship routine plan of the managed ship, and the harbor information includes: a harbor name, a harbor code, harbor longitude-and-latitude and past-ship-accident information.

[0013] In one embodiment of the present invention, the ship sailing management monitoring system is provided, wherein the nautical-chart-and-sailing-information display unit is operated to further display wind-speed-and-wind-direction information for a location where the managed ship is, pitching-and-yawing-and-rolling information for ship's motion, ship-fuel-consumption information, ship-loading information, ship-ballast-water-amount information, ship-draught-and-propeller-immersion-percentage information and ship-gravity-center-height information in the ship-information display screen of

the management overview screen.

[0014] With the technical means adopted by the ship sailing management monitoring system of the present invention, the technical effects described as below can be obtained. The shore-side information management device can continuously receive the ship-real-time-monitor information from each managed ship and display the weather situation, corresponding information related to the managed ship, and main-engine-operation information and power-generator-operation information of the managed ship on the management overview screen. In addition, when the ship-location deviation exceeds the predetermined ship-location-deviation tolerance range or when the managed ship enters the predetermined-sailing-restriction area, the ship-location deviating alert or the sailing-to-restriction-area alert is transmitted in real time to the ship-side information management device and the nautical-chart-and-sailing-information display unit of the shore-side information management device.

BRIEF DESCRIPTION OF THE DRAWINGS

[0015]

Fig. 1 is a schematic block diagram illustrating a ship sailing management monitoring system according to one embodiment of the present invention;

Fig. 2 is a schematic block diagram illustrating a ship-side information management device of the ship sailing management monitoring system according to the embodiment of the present invention;

Fig. 3 is a schematic diagram illustrating a ship-information display screen displayed on a management overview screen by a nautical-chart-and-sailing-information display unit of the ship sailing management

monitoring system according to the embodiment of the present invention;

Fig. 4 is a schematic diagram illustrating an engine-room information display screen displayed by the nautical-chart-and-sailing-information display unit of the ship sailing management monitoring system according to the embodiment of the present invention; and

Fig. 5 is a schematic diagram illustrating a predetermined-sailing-restriction area displayed on the management overview screen by the nautical-chart-and-sailing-information display unit of the ship sailing management monitoring system according to the embodiment of the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0016] The preferred embodiments of the present invention are described in detail with reference to Figs. 1 to 5. The description is used for explaining the embodiments of the present invention only, but not for limiting the scope of the claims.

[0017] As shown in Fig. 1, a ship sailing management monitoring system 100 according to one embodiment of the present invention is for information monitoring of at least one managed ship. The ship sailing management monitoring system 100 comprises: a ship-side information management device 1 and a shore-side information management device 2.

[0018] Specifically, each managed ship is provided with the ship-side information management device 1. As shown in Fig. 1, the ship-side information management device 1 includes a ship information obtaining unit 11, an equipment parameter obtaining unit 12 and a ship information processing unit 13. The ship information obtaining unit 11 is configured to obtain ship-sailing-real-time

information related to the managed ship in real time. The equipment parameter obtaining unit 12 is configured to obtain equipment-parameter-real-time information related to hardware equipment operation conditions of the managed ship in real time. The ship information processing unit 13 is connected to the ship information obtaining unit 11 and the equipment parameter obtaining unit 12 and is configured to transmit the ship-sailing-real-time information and the equipment-parameter-real-time information as ship-real-time-monitor information along with a ship identifier of the managed ship in real time.

[0019] As shown in Figs. 1 and 2, the shore-side information management device 2 includes a ship-engine-room-equipment-real-time-monitor-information receiving unit 21, a geography-hydrology-information obtaining unit 22, a weather-information obtaining unit 23, a nautical-chart-and-sailing-information display unit 24, a ship-location-real-time-deviation monitoring unit 25 and a sailing-restriction-area monitoring unit 26. The ship-engine-room-equipment-real-time-monitor-information receiving unit 21 is communicated with the ship information processing unit 13 of the ship-side information management device 1 to continuously receive the ship-real-time-monitor information from the ship-side information management device 1 of the managed ship. The geography-hydrology-information obtaining unit 22 is configured to obtain geography information related to a ship routine plan of the managed ship. The weather-information obtaining unit 23 is configured to obtain weather information related to the ship routine plan of the managed ship.

[0020] Specifically, as shown in Fig. 1, in one embodiment of the present invention, the ship sailing management monitoring system 100 is provided, wherein the ship-engine-room-equipment-real-time-monitor-information receiving

unit 21 of the shore-side information management device 2 is communicated with the ship information processing unit 13 of the ship-side information management device 1, via satellite communication of a satellite S, to continuously receive the ship-real-time-monitor information from the ship-side information management device 1 of each managed ship.

[0021] Furthermore, as shown in Figs. 2 to 4, the nautical-chart-and-sailing-information display unit is connected to the ship-engine-room-equipment-real-time-monitor-information receiving unit, the geography-hydrology-information obtaining unit and the weather-information obtaining unit. Moreover, the nautical-chart-and-sailing-information display unit 24 is configured to perform, based on the ship-real-time-monitor information, the geography information and the weather information, tasks listed as below: (1) on a management overview screen G, displaying ship motion of each managed ship in real time in the form of an electronic nautical chart and selectively displaying weather situation including wave flow information, barometric pressure information, weather front information, typhoon forecast path information or wind direction information, (2) on a ship-information display screen G1 of the management overview screen G, correspondingly displaying ship speed information, ship routine information and ship location information of the managed ship selected by the nautical-chart-and-sailing-information display unit 24, and (3) on an engine-room information display screen G2 of the management overview screen G, correspondingly displaying main-engine-operation information and power-generator-operation information of the managed ship selected by the nautical-chart-and-sailing-information display unit 24.

[0022] In addition, in one embodiment of the present invention, the ship sailing management monitoring system 100 is provided, wherein the

nautical-chart-and-sailing-information display unit 24 is operated to further display, in the power-generator-operation information on the engine-room information display screen G2 of the management overview screen G, amount-of-power-generator-in-use-and-power-usage information in a bow thruster operation.

[0023] Furthermore, the nautical-chart-and-sailing-information display unit 24 is operated to further display wind-speed-and-wind-direction information for a location where the managed ship is, pitching-and-yawing-and-rolling information for ship's motion, ship-fuel-consumption information, ship-loading information, ship-ballast-water-amount information, ship-draught-and-propeller-immersion-percentage information and ship-gravity-center-height information in the ship-information display screen G1 of the management overview screen G.

[0024] Moreover, the nautical-chart-and-sailing-information display unit 24 is configured to further display harbor information of a harbor on the management overview screen G in real time, the harbor is related to the ship routine plan of the managed ship, and the harbor information includes: a harbor name, a harbor code, harbor longitude-and-latitude and past-ship-accident information.

[0025] As shown in Fig. 2, the ship-location-real-time-deviation monitoring unit 25 is connected to the ship-engine-room-equipment-real-time-monitor-information receiving unit 21, the geography-hydrology-information obtaining unit 22 and the nautical-chart-and-sailing-information display unit 24. The ship-location-real-time-deviation monitoring unit 25 is configured to continuously detect a ship-location deviation between a ship location of the managed ship and a planning-sailing-routine track line of the ship routine plan. Moreover, when the

ship-location deviation exceeds a predetermined ship-location-deviation tolerance range, the ship-location-real-time-deviation monitoring unit 25 transmits in real time a ship-location deviating alert to the ship-side information management device 1 and the nautical-chart-and-sailing-information display unit 24 of the shore-side information management device 2.

[0026] As shown in Figs. 2 and 5, the sailing-restriction-area monitoring unit 26 is connected to the ship-engine-room-equipment-real-time-monitor-information receiving unit 21, the geography-hydrology-information obtaining unit 22 and the nautical-chart-and-sailing-information display unit 24. The sailing-restriction-area monitoring unit 26 is configured to continuously detect a relative location relationship between the ship location of the managed ship and a predetermined-sailing-restriction area L. Moreover, when the managed ship enters the predetermined-sailing-restriction area L, the sailing-restriction-area monitoring unit 26 transmits in real time a sailing-to-restriction-area alert to the ship-side information management device 1 and the nautical-chart-and-sailing-information display unit 24 of the shore-side information management device 2.

[0027] Furthermore, the predetermined-sailing-restriction area L includes an adjacent-to-shore warning area, a reef hazardous area and/or a weather hazardous area. The adjacent-to-shore warning area is defined as an area within an offshore safe distance from a shoreline; the reef hazardous area is defined as an area where reefs are distributed; and, the weather hazardous area is an area designated according to area affected by severe weather.

[0028] As shown in Fig. 2, in one embodiment of the present invention, the ship sailing management monitoring system is provided, wherein the shore-side information management device 2 further includes an arrival-harbor-speed

monitoring unit 27. The arrival-harbor-speed monitoring unit 27 is connected to the ship-engine-room-equipment-real-time-monitor-information receiving unit 21, the geography-hydrology-information obtaining unit 22 and the nautical-chart-and-sailing-information display unit 24. The arrival-harbor-speed monitoring unit 27 is configured to continuously detect a relative location relationship between a ship location of the managed ship and an arrival-harbor-deceleration area. When the managed ship arrives the arrival-harbor-deceleration area and a ship speed exceeds a predetermined arrival-harbor speed, the arrival-harbor-speed monitoring unit 27 transmits in real time an arrival-harbor-speed alert to the ship-side information management device 1 and the nautical-chart-and-sailing-information display unit 24 of the shore-side information management device 2.

[0029] Moreover, as shown in Fig. 2, the shore-side information management device 2 further includes a dense-waters-power-consumption monitoring unit 28. The dense-waters-power-consumption monitoring unit 28 is connected to the ship-engine-room-equipment-real-time-monitor-information receiving unit 21, the geography-hydrology-information obtaining unit 22 and the nautical-chart-and-sailing-information display unit 24. The dense-waters-power-consumption monitoring unit 28 is configured to continuously detect a relative location relationship between a ship location of the managed ship and a predetermined-waters area. When the managed ship arrives the predetermined-waters area and the amount of power generator used by the managed ship is less than a predetermined standard of the amount of power generator used, the dense-waters-power-consumption monitoring unit 28 transmits in real time a power-usage-in-harbor alert to the ship-side information management device 1 and the nautical-chart-and-sailing-information display unit

24 of the shore-side information management device 2.

[0030] Furthermore, as shown in Fig. 2, the shore-side information management device 2 further includes a ship-speed-in-warning-area monitoring unit 29. The ship-speed-in-warning-area monitoring unit 29 is connected to the ship-engine-room-equipment-real-time-monitor-information receiving unit 21, the geography-hydrology-information obtaining unit 22 and the nautical-chart-and-sailing-information display unit 24. The ship-speed-in-warning-area monitoring unit 29 is configured to continuously detect a relative location relationship between a ship location of the managed ship and a predetermined warning area. When the managed ship arrives within the predetermined warning area and a ship speed of the managed ship is greater than a predetermined warning speed, the ship-speed-in-warning-area monitoring unit 29 transmits in real time a ship-speed-in-warning-area alert to the ship-side information management device 1 and the nautical-chart-and-sailing-information display unit 24 of the shore-side information management device 2.

[0031] Moreover, as shown in Fig. 2, the shore-side information management device 2 further includes a history recording unit 201 and a history report output unit 202. The history recording unit 201 is connected to the ship-engine-room-equipment-real-time-monitor-information receiving unit 21 to record the ship-real-time-monitor information. The history report output unit 202 is connected to the history recording unit 201 to correspondingly output history report information related to the ship-real-time-monitor information according to a searching condition.

[0032] The above description should be considered as only the discussion of the preferred embodiments of the present invention. However, a person having ordinary skill in the art may make various modifications without deviating from

the present invention. Those modifications still fall within the scope of the present invention.

What is claimed is:

1. A ship sailing management monitoring system for information monitoring of at least one managed ship, comprising:

a ship-side information management device disposed at the managed ship and including a ship information obtaining unit, an equipment parameter obtaining unit and a ship information processing unit, wherein the ship information obtaining unit is configured to obtain ship-sailing-real-time information related to the managed ship in real time, the equipment parameter obtaining unit is configured to obtain equipment-parameter-real-time information related to hardware equipment operation conditions of the managed ship in real time, and the ship information processing unit is connected to the ship information obtaining unit and the equipment parameter obtaining unit and is configured to transmit the ship-sailing-real-time information and the equipment-parameter-real-time information as ship-real-time-monitor information along with a ship identifier of the managed ship in real time; and

a shore-side information management device including a ship-engine-room-equipment-real-time-monitor-information receiving unit, a geography-hydrology-information obtaining unit, a weather-information obtaining unit, a nautical-chart-and-sailing-information display unit, a ship-location-real-time-deviation monitoring unit and a sailing-restriction-area monitoring unit,

wherein the ship-engine-room-equipment-real-time-monitor-information receiving unit is communicated with the ship information processing unit of the ship-side information management device to continuously receive the ship-real-time-monitor information from the ship-side information management device of the managed ship,

the geography-hydrology-information obtaining unit is configured to obtain

geography information related to a ship routine plan of the managed ship,

the weather-information obtaining unit is configured to obtain weather information related to the ship routine plan of the managed ship,

the nautical-chart-and-sailing-information display unit is connected to the ship-engine-room-equipment-real-time-monitor-information receiving unit, the geography-hydrology-information obtaining unit and the weather-information obtaining unit, and the nautical-chart-and-sailing-information display unit is configured to perform, based on the ship-real-time-monitor information, the geography information and the weather information, tasks listed as below:

(1) on a management overview screen, displaying ship motion of each managed ship in real time in the form of an electronic nautical chart and selectively displaying weather situation including wave flow information, barometric pressure information, weather front information, typhoon forecast path information or wind direction information,

(2) on a ship-information display screen of the management overview screen, correspondingly displaying ship speed information, ship routine information and ship location information of the managed ship selected by the nautical-chart-and-sailing-information display unit, and

(3) on an engine-room information display screen of the management overview screen, correspondingly displaying main-engine-operation information and power-generator-operation information of the managed ship selected by the nautical-chart-and-sailing-information display unit,

the ship-location-real-time-deviation monitoring unit is connected to the ship-engine-room-equipment-real-time-monitor-information receiving unit, the geography-hydrology-information obtaining unit and the nautical-chart-and-sailing-information display unit, wherein the

ship-location-real-time-deviation monitoring unit is configured to continuously detect a ship-location deviation between a ship location of the managed ship and a planning-sailing-routine track line of the ship routine plan and, when the ship-location deviation exceeds a predetermined ship-location-deviation tolerance range, transmit in real time a ship-location deviating alert to the ship-side information management device and the nautical-chart-and-sailing-information display unit of the shore-side information management device, and

the sailing-restriction-area monitoring unit is connected to the ship-engine-room-equipment-real-time-monitor-information receiving unit, the geography-hydrology-information obtaining unit and the nautical-chart-and-sailing-information display unit, wherein the sailing-restriction-area monitoring unit is configured to continuously detect a relative location relationship between the ship location of the managed ship and a predetermined-sailing-restriction area and, when the managed ship enters the predetermined-sailing-restriction area, transmit in real time a sailing-to-restriction-area alert to the ship-side information management device and the nautical-chart-and-sailing-information display unit of the shore-side information management device.

2. The ship sailing management monitoring system as claimed in claim 1, wherein the nautical-chart-and-sailing-information display unit is operated to further display, in the power-generator-operation information on the engine-room information display screen of the management overview screen, amount-of-power-generator-in-use-and-power-usage information in a bow thruster operation.

3. The ship sailing management monitoring system as claimed in claim 1, wherein the ship-engine-room-equipment-real-time-monitor-information receiving unit of the shore-side information management device is communicated with the ship information processing unit of the ship-side information management device via satellite communication to continuously receive the ship-real-time-monitor information from the ship-side information management device of each managed ship.

4. The ship sailing management monitoring system as claimed in claim 1, wherein the shore-side information management device further includes an arrival-harbor-speed monitoring unit connected to the ship-engine-room-equipment-real-time-monitor-information receiving unit, the geography-hydrology-information obtaining unit and the nautical-chart-and-sailing-information display unit, the arrival-harbor-speed monitoring unit is configured to continuously detect a relative location relationship between a ship location of the managed ship and an arrival-harbor-deceleration area and, when the managed ship arrives the arrival-harbor-deceleration area and a ship speed exceeds a predetermined arrival-harbor speed, transmit in real time an arrival-harbor-speed alert to the ship-side information management device and the nautical-chart-and-sailing-information display unit of the shore-side information management device.

5. The ship sailing management monitoring system as claimed in claim 1, wherein the shore-side information management device further includes a dense-waters-power-consumption monitoring unit connected to the ship-engine-room-equipment-real-time-monitor-information receiving unit, the

geography-hydrology-information obtaining unit and the nautical-chart-and-sailing-information display unit, the dense-waters-power-consumption monitoring unit is configured to continuously detect a relative location relationship between a ship location of the managed ship and a predetermined-waters area and, when the managed ship arrives the predetermined-waters area and the amount of power generator used by the managed ship is less than a predetermined standard of the amount of power generator used, transmit in real time a power-usage-in-harbor alert to the ship-side information management device and the nautical-chart-and-sailing-information display unit of the shore-side information management device.

6. The ship sailing management monitoring system as claimed in claim 1, wherein the shore-side information management device further includes a ship-speed-in-warning-area monitoring unit connected to the ship-engine-room-equipment-real-time-monitor-information receiving unit, the geography-hydrology-information obtaining unit and the nautical-chart-and-sailing-information display unit, the ship-speed-in-warning-area monitoring unit is configured to continuously detect a relative location relationship between a ship location of the managed ship and a predetermined warning area and, when the managed ship arrives within the predetermined warning area and a ship speed of the managed ship is greater than a predetermined warning speed, transmit in real time a ship-speed-in-warning-area alert to the ship-side information management device and the nautical-chart-and-sailing-information display unit of the shore-side information management device.

7. The ship sailing management monitoring system as claimed in claim 1, wherein

the predetermined-sailing-restriction area includes an adjacent-to-shore waring area, a reef hazardous area and/or a weather hazardous area, wherein

the adjacent-to-shore waring area is defined as an area within an offshore safe distance from a shoreline,

the reef hazardous area is defined as an area where reefs are distributed, and

the weather hazardous area is an area designated according to area affected by severe weather.

8. The ship sailing management monitoring system as claimed in claim 1, wherein the shore-side information management device further includes a history recording unit and a history report output unit, the history recording unit is connected to the ship-engine-room-equipment-real-time-monitor-information receiving unit to record the ship-real-time-monitor information, and the history report output unit is connected to the history recording unit to correspondingly output history report information related to the ship-real-time-monitor information according to a searching condition.

9. The ship sailing management monitoring system as claimed in claim 1, wherein the nautical-chart-and-sailing-information display unit is configured to further display harbor information of a harbor on the management overview screen in real time, the harbor is related to the ship routine plan of the managed ship, and the harbor information includes: a harbor name, a harbor code, harbor longitude-and-latitude and past-ship-accident information.

10. The ship sailing management monitoring system as claimed in claim 1, wherein the nautical-chart-and-sailing-information display unit is operated to

further display wind-speed-and-wind-direction information for a location where the managed ship is, pitching-and-yawing-and-rolling information for ship's motion, ship-fuel-consumption information, ship-loading information, ship-ballast-water-amount information, ship-draught-and-propeller-immersion-percentage information and ship-gravity-center-height information in the ship-information display screen of the management overview screen.