



Radiance-class Ships Environmental Leaders

Radiance-class ships will boast a sleek, yacht-like appearance, one of the highest space per guest ratios, and the highest percentage of staterooms with balconies of any Royal Caribbean International ship. But most important, these vessels will be the first Royal Caribbean International ships to have a General Electric gas and steam turbine as their primary source of power, which will reduce exhaust emissions by 80 to 98 percent, as well as the levels of noise and vibration. The power plant on the Radiance-class vessels consists of two gas turbines and one steam turbine. The waste heat from each gas turbine is led through an HRSG (heat recovery steam generator), and steam from this generator is utilized by the steam turbine. Electricity generated by the turbines then powers the external propulsion pods, ABB Azipods. The pods have replaced the traditional propeller shafts used on other Royal Caribbean ships, eliminating the need for rudders and stern thrusters. Because the GE gas turbines burn clean distillate fuel which contains fewer impurities than the fuel oil normally used for diesel-powered vessels, Radiance-class vessels produce substantially lower exhaust emissions. There will be no soot or visible smoke coming from the stacks. The rotating engine does not create the same kind of vibrations as the reciprocating diesel engines used on other ships. And it is easier to sound-insulate a gas turbine plant than a diesel engine. Further, the GE gas turbines and the Azipods take up less space, freeing up more for public areas, as since they weigh less, help improve the efficiency of the entire power plant. The ship also has state of the art waste management systems, including incinerators with emission controls and storage capacity to maximize opportunities for recycling and use of shoreside treatment facilities.

Rotating propulsion pods mounted under the hull will allow the Radiance-class ships to be extremely fast for vessels of this size, enabling them to offer some unusual itineraries in Seattle, Alaska, Southern Caribbean, Hawaii and the Panama Canal.

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