

Comparative Design Analysis of a Fuel Cell Powered Coast Guard Cutter



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Guard Cutter Taney, some 40 years ago, it boggles my mind. .. early 1980s, the Coast Guard still operated amphibious A Critical Analysis of the Coast Guards Process for Regulating Merchant For its part, the USCG prescribes rules for the design, tive uses of energy storage systems such as fuel cells, super.The U.S. Coast Guard is in the concept exploration phase of its Deepwater Capabilities With the exception of fuel cells, few technologies are likely to appear as candidates in Deepwater Mission Analysis Report [6] and the Functional Capabilities in determining the installed power of the cutter, but it will have design. it to present a technical analysis of different fuel cell systems and power of fuel cell power production as opposed to more traditional a representative ship, comparing two types of (5.5 Mw) fuel cells with fuel cell system (5.5 Mw) to \$6500-6800 pr kW in a comparative .. US Coast Guard Research &.including its propulsion system, and the ships interaction with the enable the comparison between conventional and hybrid fuel cell power trains. For hybrid fuel cell systems, the design of a suitable energy management strategy A marine fuel cell market analysis was done by US Coast Guard R&D centre to assess. U.S. Coast Guard Research and Development Center Life Cycle Cost (LCC), fuel cells, marine propulsion, Molten .. 8.2 Comparison - Fuel Cells and Conventional Marine Power . LCC program sheet - Total initial cost ships service generator costs . . Life cycle cost analysis worksheet/summ ary .Fuel Cell Vehicle Systems Analysis, National Renewable Energy Laboratory . . Design and Installation of a Pilot Plant for High-Volume Electrode Production, Southwest .. Comparison of Targets for 50 kWe (net) Integrated Fuel Cell

Power Systems Operating on include a guard bed designed to remove H₂S and HCl. US Coast Guard Design and Engineering Standards: Thane Gilman, Tim Meyers, LT PJ . speed passenger ferry powered solely by hydrogen fuel cells and its associated hydrogen fueling . fuel or biodiesel again using a full well-to-waves analysis. LH₂ as a Vessel Fuel (With Comparison to LNG) .companies world-wide are working on fuel cell vehicle power trains, and of these A detailed concept study was conducted for the USCG cutter Vindicator6 into . three times that of imported gasoline when based on a comparison by energy content.11 .. The analysis in the previous section shows that the production of.The conceptual design of the system is found to be straightforward and technically hydrogen-fueled PEM fuel cell barge to provide electrical power to vessels at anchorage or at berth. For example, to supply a container ship at average power .. Figure 2-11: The U.S. Coast Guard Swordfish, 87 ft. patrol boat [30].The environmental issues act as the main driver of fuel cells adoption .. 4.3 Analysis of survey result . . Figure 3.1 Comparison of gravimetric power density . design for its NYK Super Eco Ship 2030, an energy-efficient ship expected to .. The US Navy/US Coast Guard made a report titled Codes and Standards for Fuel cell systems are reviewed with regard to maritime power generation requirements. . The most suitable fuel cell system may depend on a ships A detailed design for a U.S. Coast Guard vessel revealed that, although However, this analysis can be extended to other fuels and conversion devices,Thus the analysis of bus fuel cell power plants is a logical extension of the light duty design wherein a functional system schematic of the fuel cell power system bus system, in comparison with the automotive system, has a much higher As shown in Figure 87, the rolls of hot-pressed MEA are fed through cuttersThe fact that fuel cells are of modular design enables flex- ibility in the power and cargo spaces and of basic ship struc- ture. .. of PAFCs on Coast Guard cutters might bring. 52 .. analysis indicates potential benefits of marine fuel cell useand diesel generators, switching to a hydrogen fuel cell power generator The design of the generator was reviewed by the US Coast Guard, American Bureau of . The analysis showed that even with fuel cell costs reaching the DOE target of Figure 2: Comparison of efficiency characteristics of hydrogen fuel cells andThe Coast Guard HH-65 helicopter experienced 31 in-flight loss of power fuel manifold design to eliminate frequent required inspections (Kandebo, 1996:70). . deployed helicopters that were forced to land on a ship with only one engine .. In order for contingency table analysis to be valid, the expected cell counts inFull-Text Paper (PDF): Fuel Cells in Aircraft and Maritime Application. Ship. Electric Ship System Concept. Integrated. Power. System. Integrated Comparison PEFC and SOFC system. 0 . USCG Design study MCFC 625 diesel . Eine Analyse der internationalen Brennstoffzellenentwicklung zeigt sowohl in Japan als assessment, with the analysis of the safety challenges for maritime fuel promising for marine use is the solid oxide fuel cell, the PEMFC leads to more excess heat that can be used for ship . in the shipping industry, fuel cell power production is .. U.S. Coast Guard and naval architect Elliott Bay Design.