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Beaufort Gyre Exploration Project: Dispatch 13: Below Decks

Within its steel outer shell, the CCGS Louis St. Laurent houses a modern and impressive power generation system. The ship is raw power: 27,000 max shaft horse power which is generated by 5 MAK diesel generators driving 3 DC motors coupled with a Siemens electrical PC diagnostic & control system. All of which are responsible for generating and distributing the power necessary to drive the ship not only in open water, but more importantly through multi-year (thick) ice. To avoid this ice as much as possible when applicable, the ship depends on a robust and powerful hydraulic steering system which manipulates the rudder in order to re-direct the water flow generated by the propellers.

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Upon the completion of a recent tour of the engine room by Jimmy Gale, I learned that there are other "accessories" which make this ship much like a home. Specifically, In order to support all of the mechanical devices and general maintenance on the Louis, the ship possesses an extensive machine shop operated by an experienced engineering staff. Particular machines include a lathe, mill, sand blaster and welding equipment just to name a few. The ship also boasts an energy intensive operation of continually producing enough fresh water to support the people on board. This process is accomplished by the distillation of salt water, extracted directly from the ocean around us. The sewage system is also an important aspect of daily life aboard. The aerobic type of sewage treatment depends on accelerated bacteria action to break down collected solid waste. And lastly, while at sea much waste is collected and organized produced by over 100 people aboard. Fortunately there is an extensive recycling program, but for those items which cannot be recycled, the Louis disposes of trash through an incinerator which heats and burns the garbage until it becomes a fine dust like product.

Overall, the engineering department keeps this ship operational 24 hours a day, 7 days a week. When on deck, working or asleep at night, often times these simplest things referenced above are simply forgotten, but it's the hard work and dedication of the engineers and oilers which keep us going.

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