

# Envision, The World's First Environmentally Friendly Mega Yacht



## Where Technology Meets the High Seas!

By Devon Julian

From the moment you set your eyes on this yacht it is hard to believe. Step inside, take the tour, and you will really be in awe. Just what is "Envision"? She is an environmentally friendly mega yacht, perhaps the world's first. Envision, a 110' aluminum motor vessel, is the brainchild of the RGF Environmental Group in West Palm Beach, Florida. RGF was founded in 1985 by the owner and CEO Ron Fink. The company has invented over 500 environmental products. RGF's mission is to provide the world with the safest air, water and food without the use of chemicals. Envision is a floating showroom of RGF products, and over 50 are in use on this vessel.

How was the Envision concept conceived? The RGF team's mission was to build the world's first environment friendly mega yacht. A keyword in any environmental program is sustainability. With that in mind, the team decided to renovate an older tired aluminum yacht and recycle her into a world-class enviro-friendly mega yacht.

Lady BeBe was a 100' Broward charter boat out of St. Croix, USVI, owned and operated by the owner of BeBe Clothing Stores. RGF purchased the boat in August 2004. She was hunkered down for a couple of Florida hurricanes

**The RGF team's mission was to build the world's first environment friendly mega yacht.**

and work began at the Riviera Yacht Center in Riviera Beach, Florida, just five mile from RGF's headquarters. RGF maintains a full staff of over 100 engineers, designers, electricians, welders, carpenters, pipefitters, instrumentation technicians, painters, etc. Work proceeded from bow to aft and mast to keel. The vessel was basically stripped to a bare aluminum hull. A 5' bow extension and a 5' aft stairway to the sea increased her length to 110'. The salon and galley windows were enlarged and softened with rounded ends. Hurricane and bullet-proof glass composite was used for safety, soundproofing and reduced solar load. High density foam core insulation was used to triple the original insulation and sound proofing.



*Envision staging being built*

The original wiring was replaced, as was the entire main electrical panel. Mechanically she was rebuilt from rudders to stabilizers to engines to generators to transmissions. All new navigation was installed, as well as most controls.

The upper deck was extended 8' aft to accommodate an 8' diameter pool/hot tub with an innovative clear bottom providing water-diffused sunlight to the lower aft deck during the day, and a water-diffused light show at night.

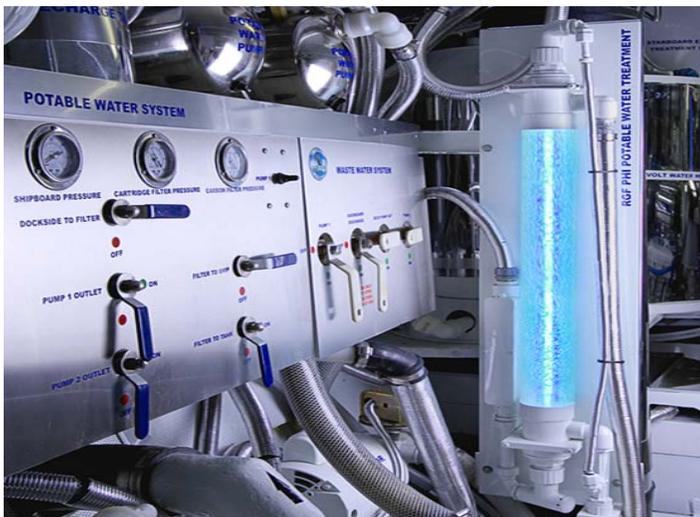


**Envision's upper deck extension and Stairway to the Sea**

A massive U-shaped teak bar dominates the upper deck. The addition of a radar arch and pipe mast opens the upper deck as a major entertainment area.

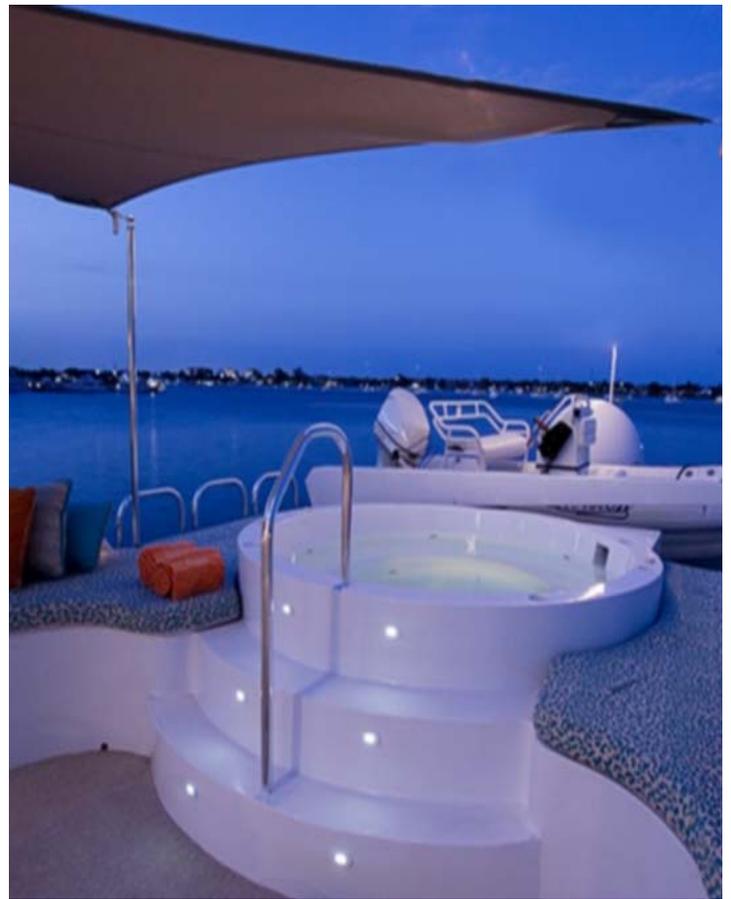
One of RGF's technologies is PHI® or Photohydroionization, a light-based electromagnetic energy that destroys odors, mold, bacteria, viruses and airborne organics. PHI® is used by most Fortune 500 food processors as a food, air and water sanitizer, and in many buildings for air purification. RGF's PHI® technology is used by the U.S. military and other federal agencies, as well as major cruise ship lines for control of mold, bacteria and Norwalk Virus.

Envision was equipped with PHI®-based systems for water, air, food, laundry, sewage, exhaust and bilge treatment resulting in a mega yacht with the purest air, water, food, sewage, laundry and bilge in the world. Just step aboard and



**Envision's engine room water treatment system**

your nose will tell the story, or better yet remove the cap on the holding tank - no odor, not a cover up, just zero odors. Try the bilge; again, no odor. The engine room is unbelievably pleasant to visit.



**Upper deck hot tub with the "Thongbrella" shade and porthole bottom**



Just what does PHI® do for a yacht? First is mold and odor control, it is gone. Just walk on board, your olfactory will never deceive you. Second is food safety and shelf life extension: up to 40% extended shelf life for food treated with PHI®.

Water from the pool/hot tub to the potable holding tank is crystal clear and pure. Nothing can ruin a soak in a hot tub like chemicals. The hot water opens your pores and the bromine or chlorine is readily absorbed into your skin as well as the hot vapors entering your lungs. This is precisely why Envision's hot tub is equipped with PHI Technology using friendly oxygen based oxidizers to maintain crystal clear and pure water.



**APS Air Purification System in Envision's engine room**

Next is safety. PHI® is not a passive system. It is an aggressive system that sends out hydro peroxides and hydro ions into the room, which aggressively kills bacteria, molds, odors and viruses. Tests show a room with PHI® will kill 78%



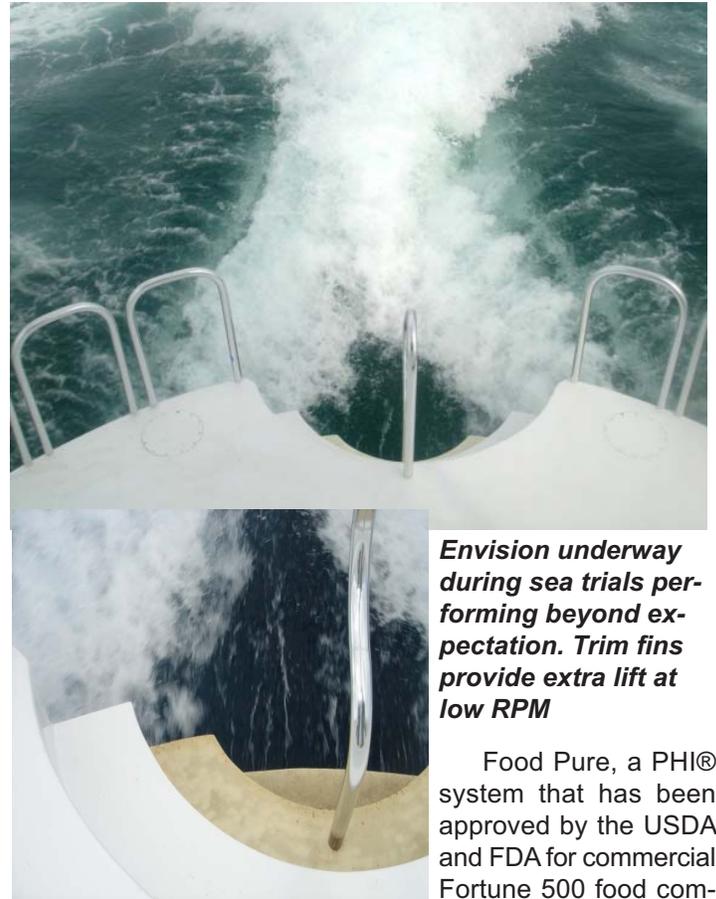
**Envision's Food Pure in galley**

of sneeze germs at three feet. This also includes the dreaded Norwalk Virus and SARS. Independent lab tests for the Cruise Industry provided a 99.99% kill of the Norwalk Virus.

The galley is equipped with a PHI water system that injects the activated friendly oxidizers into the water to wash



fruits and vegetables which eliminates chlorine and pesticides. The refrigeration unit eliminates refrigerator odors and bacteria and increases food shelf life.



**Envision underway during sea trials performing beyond expectation. Trim fins provide extra lift at low RPM**

Food Pure, a PHI® system that has been approved by the USDA and FDA for commercial Fortune 500 food companies, provides safer food and increases shelf life.

PHI® Units are installed in the trash compactor for odor and bacteria control, and also the ice makers, where mold and the deadly Listeria bacteria are destroyed. Airborne cooking grease is broken down to an oxidized white powder for easy and odor-free disposal. Cooking and grease odors are eliminated.

On laundry day you can forget about those unsightly polluting detergent bubbles surrounding the yacht. PHI cleans the clothing as well and possibly better than your favorite detergent. PHI gases are injected into the wash and rinse water for an eco-friendly wash. Silver ions are added to the fabric for ongoing bacteria elimination.

Now, the real challenge: a 20-year old engine room. The door opens...shazam! Everything is white, clean



**Main Salon**



**Sunbrella bow cushions**

labeled, and there is no odor, no fuel, oil, exhaust, bilge or sewage odor; nothing! The white carpeting really set the stage, chrome and polished stainless steel is everywhere.

RGF's APS (air purifier system) provides VOC (volatile organic compounds) Free air VOC's are the usual en-



**Envision's new bow**

gine room odor problem: fuel, oil, grease, mixed with holding tank and bilge odors are the culprits.

For Envision's most impressive act, my RGF host opened the holding tank cap (which was 1/3 full) and invited



**Envision's "Just For Fun" casino**



**Envision leaves the dock for sea trials**

me to "Take a whiff". You guessed it, no odor. The PHI® holding tank system eliminated the odors. Envision even has clear hoses on the pump out system, and although I did not stick around for the show, the Captain assured me it will be a clear, odor-free liquid.

Fuel contamination is a constant battle for diesel powered vessels. Diesel fuel grows bacteria and algae that clogs filters, injectors and burns with dirty smoke; not something an enviro-friendly vessel should have. A PHI Fuel Pure System will continually pump fuel through a PHI cell where the high intensity light based technology kills 99.99% of the bacteria and algae. A filter then captures the dead organisms providing longer fuel life and a cleaner and more efficient engine. By using an electro/mechanical device you eliminate the tradi-



**RGF's custom underwater lights**

tional chemical fuel treatments that can effect the sulphur content of the fuel and possibly cause metallurgical problems.

An RGF US Coast Guard approved Bilge Filter assures no illegal overboard discharge of oily bilge water. The RGF BOS Bacteria Odor System removes the usual bilge odors. The BOS System, originally developed for commercial sewer plants, can be found in each head on the Envision. The unit is hidden in the cabinet and just a small 1/4" tube feeds the advanced oxidation gases into the head bowl destroying odors and bacteria instantly!

What about efficiency? To be enviro friendly, a product must be efficient. The re-design of Envision included a rounded transom to aid in handling following seas. Also 1,400 gallon, split ballast tank system provided 10,000 lbs of ballast, 5,000 lbs each side. This provides a method of providing perfect balancing for a more stable and efficient ride. Also, a trim

fin was added to prevent back wash at low speeds. This trim fin turned out to be better than expected. Not only did she trim out at 1,600 rpm, the entire stairway to the sea was high and dry. The balancing is credited for her performance: 14 knots at 1,700 rpm and 55 gph. It will be hard to convince many that 55 gallons per hour is environmentally friendly, but for a 110' vessel it is quite impressive.

Another impressive feature was the lack of exhaust smoke. Once again, a RGF technology called Hygenization™ Smoke Reduction, which is a combination of RGF's hydrogen ion cannon and REME™, which reduces the particulate in exhaust and destroys many of the gases.

Environmental concerns encompass many aspects. Most people think of chemical pollution of air and water contamination. There is also visual pollution.



**Library / guest room**

The RGF team was determined to change the profile into a unique and innovative design. With the aid of CAD, scores of designs were reviewed, tested and rejected. In the end, an old-fashioned French curve was used to design the bow extension. The RGF designers found the French curve next to an old slide rule in the back of a very old desk draw.

A just for fun casino was installed consisting of genuine Vegas slot machine, poker and roulette wheel. To avoid "visual pollution", the casino was built onto a disappearing lift as was the 42" LCD TV.



**Master stateroom**



Recognizing the value of a totally unique mega yacht, Sunbrella Corporation decided to use Envision as a showplace for their new line of fabric, which includes furniture, cushions, pillows, bedspreads, headlines, even a wedge-shaped upper deck shade, which the RGF team promptly nicknamed a "thongbrella".

Step into the master stateroom and your are greeted with an open airy feeling provided by 4 oversized portholes. The master stateroom is decorated in marble, granite, coral,



**Master stateroom**

sea glass and 9 different woods and veneers. Over 20 species of woods and veneers were used onboard. All exotic wood were purchased through World Panel Products Inc. which assures that all the exotic species were farmed and processed to avoid deforestation of our environmentally sensitive rainforests. the master also has an environmental friendly fireplace for those "cold" south Florida nights. Needless to say the fireplace is all electric but you literally have to touch the flame to be sure its not real. The master head is equipped with a massive 6' x 6' twin shower head marble and sea glass shower. The sink is molded colored glass that perfectly matches the deep purple sea color of the Atlantic meeting the shallow turquoise water of the Bahama Bank just off West End, Bahamas.

Dust mites are a serious environmental problem. Apparently they live off our dead skin which is constantly flaking



**Port and starboard guest staterooms**



off, a pleasant thought! The dust mites themselves aren't the problem it's their droppings that create a dust that can aggravate allergies. Traditional mattresses can have 2/3 of it's weight being dustmite feces, another pleasant thought. Envision's 10 mattresses and 42 cushions are made of a space



**Bow cocktail table**

age closed cell memory foam that literally seals out dust mites avoiding another serious environmental problem. Of course the master king size is also an oversized custom made 15" thick memory foam mattress for an environmentally friendly night's sleep. Two spacious guest staterooms, one port and the other starboard, are equipped with all the amenities of a first class hotel, large closet, make-up table, LCD TV,



DVD, CD, shower, jacuzzi, memory foam mattress and of course the purest air possible. A redesign of the lower deck included a library with an over sized porthole for extra lighting and more of an open feel. The library includes a wet bar, refrigerator, LCD TV, DVD, CD and video games and converts to a double bed.

The plans called for an underwater lighting and video system. The lighting presented the team with some challenges. First

**Port entrance art center** was the rounded stern swim platform and second was suitable commercially available aluminum housings.

One of the advantages of having a first class factory of craftsman, is you simply design, engineer, fabricate and install your own. Four 10,000 hour LED super bright underwater lights were installed and work beautifully.

Details were not overlooked anywhere. Even the powder room features coral stone walls, marble floors, and woven wood door. In addition a

**Lower hall art center**





Before

Envirovision is a realistic, practical approach that helps preserve all our natural resources: water, air, food and energy. The concept, developed by RGF Environmental Group, provides a facility with safe, purified air, water and food. The process encompasses a broad spectrum of natural, non-chemical oxygen and light source based environmental technologies, combined with conservation for a total eco friendly, yet sustainable environment. Resorts, hospitals, cruise ships, yachts, food processors, and restaurants are embracing this program. The benefits include a safer environment;



After

Bacteria System is built into the head eliminating the need for a noisy exhaust fan. Custom crown molding, designed and fabricated by RGF, is found throughout...even in the helm. The salon crown molding consists of 12 individual pieces and includes a low noise and draftless heating and air conditioning duct. The RGF team imported a container of farmed teak for many teak projects. Teak is laminated and clearcoated in the massive 8' x 8' upper bar, the aft deck table seats 8 and the bow cocktail area features a laminated teak surfboard table.

Every available space was used to improve the visual environment. Two art centers occupy unused space. The mermaid includes underwater illumina-



**Envision's upper deck teak bar**

tion and recirculation pump which feeds water to her shell providing a pleasant water feature at the port entrance.

RGF awarded Envision its Envirovision Award. En-



**12 piece crown molding with built-in HVAC vent**

lower utility costs, reduced liability and civil lawsuits, elimination of environmental compliance liability, reduction of employee sick time, all resulting in improved public image and enhanced quality of the overall facility.

The formality of some mega-yachts can be intimidating. Aside from being environmentally friendly, a visit to this mega-yacht will leave you with a fresh and easy feeling, and a level of comfort that makes you want to return for another breath of fresh air.



Port guest room



Starboard guest room



*"EnviroVision is a realistic, practical approach to provide a vessel with the purest possible water, air and food without the use of chemicals."*

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RGF manufactures over 500 environmental products

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