**Specifications to Repair Tugboat M/V Brant (54’ x 22’)**

* Provide and install two 2’ x 20’ x 3/8” steel inserts in engine room bottom plating (one port and one starboard).
	+ Inserts shall be of the same material as existing.
	+ Inserts shall extend from the chine to 24” inboard and run from mid-engine to 3” aft of the forward engine room bulkhead.
	+ Vendor shall provide and install a 4” x 4” x 1/4” angle to be installed over the chine bar the entire length of the repaired area.
	+ All sealing welds at plate splices shall be die penetrant tested.
* Remove and replace section of engine room catwalk plate on port side of vessel over aft water tank, measuring approximately 2’ x 5’ x 1/4”.
	+ Replacement plates shall be of the same material and thickness as existing plates.
	+ Vendor must clean up and remove all debris (abrasives, rust kill inhibitors, supplies, etc.) from these areas.
	+ All treated surfaces shall be thoroughly cleaned and wiped down with appropriate solvent prior to priming and painting.
	+ New plate to be primed with Interguard 264 (or equivalent) epoxy primer. Primer to be applied in two thoroughly covered coats via brush and/or roller (no spraying).
	+ New plate is to be painted with Intersheen 579 (or equivalent) modified acrylic enamel topcoat. Paint to be applied in two thoroughly covered coats via brush and/or roller (no spraying).
		- Entire topside of new plate is to be coated as specified above
	+ The portion of the bottomside of the new plate that extends into the engine room shall be coated as specified above. No portion of the bottom side extending into the watertank shall be coated unless the interior of the watertank is already coated.
	+ Colors shall be same as existing.
* Clean, treat rust, prime, and paint both stuffing box areas. Replace port packing gland
	+ Vendor shall clean, and treat rust with rust kill inhibitor on both packing box areas.
	+ Vendor must clean up and remove all debris (abrasives, rust kill inhibitors, supplies, etc.) from these areas.
	+ All treated surfaces shall be thoroughly cleaned and wiped down with appropriate solvent prior to priming and painting.
	+ Both packing boxes are to be primed with Interguard 264 (or equivalent) epoxy primer. Primer to be applied in two thoroughly covered coats via brush and/or roller (no spraying).
	+ Both packing boxes are to be painted with Intersheen 579 (or equivalent) modified acrylic enamel topcoat. Paint to be applied in two thoroughly covered coats via brush and/or roller (no spraying).
	+ Vendor shall replace the port packing gland.
	+ Colors shall be same as existing.
* Clean, treat rust, prime, and paint bottom of engine room outboard of both main engines the full length of engine room
	+ Vendor shall clean, and treat rust with rust kill inhibitor area to be painted. Vendor must clean up and remove all debris (abrasives, rust kill inhibitors, supplies, etc.) from these areas.
	+ All treated surfaces shall be thoroughly cleaned and wiped down with appropriate solvent prior to priming and painting.
	+ Treated areas are to be primed with Interguard 264 (or equivalent) epoxy primer. Primer to be applied in two thoroughly covered coats via brush and/or roller (no spraying).
	+ Treated areas are to be painted with Intersheen 579 (or equivalent) black modified acrylic enamel topcoat. Paint to be applied in two thoroughly covered coats via brush and/or roller (no spraying).
* Remove and reinstall both propellers and propeller shafts.
	+ Change both cutlass bearings.
		- Existing bearings are 4.5” x 5.5”
	+ Rework both propeller shafts.
	+ Recondition both propellers.
		- Propellers are 54” x 34” 4 blade stainless Workhorse style propellers with a 4.5” bore and standard taper
	+ Upon final installation of propellers, shafts, and cutlass bearings align shafts with clutch and engine. Ensure entire drive system is correctly aligned and balanced.
* Remove and replace up to 50% of each rudder blade as necessary
	+ Remove and replace all portions of rudder blades that are thinned out and wasted, or missing.
		- Overall dimension of each rudder is 55” x 51” with a 4.5” shaft
	+ Replacement material shall be of the same type and thickness as the existing rudder material.
* Power tool clean and paint around overboards on hull exterior
	+ Power tool around overboards on hull exterior to SSPC-SP-3 standards.
	+ Four 1”- 2” on starboard side, five 1”- 2” on port side, and one 3” on port side
	+ Vendor must clean up and remove all debris (abrasives, rust kill inhibitors, supplies, etc.) from these areas.
	+ All treated surfaces shall be thoroughly cleaned and wiped down with appropriate solvent prior to priming and painting.
	+ Cleaned area shall be primed with Interguard 264 (or equivalent) epoxy primer. Primer shall be applied in two thoroughly covered coats via brush or and/or roller (no spraying).
	+ Cleaned and primed areas shall be painted with Intersheen 579 (or equivalent) black modified acrylic enamel topcoat. Paint shall be applied in two thoroughly covered coats via brush and/or roller (no spraying).
* Commercial blast and paint below waterline
	+ Vendor shall commercial blast below vessel waterline to SSPC-SP-6 standards.
	+ Vendor shall apply two coats of Interguard 264 epoxy primer and two coats of Interspeed 640 black antifouling paint according to manufacturer’s data sheets.
	+ Vendor must clean up and remove all debris (abrasives, rust kill inhibitors, supplies, etc.) from these areas.
* Remove existing Detroit generator set on port side of vessel
	+ Existing generator set on port side of vessel is to be removed from vessel and returned to customer.
* Vendor shall provide and install (including electrical wiring, fuel plumbing, cooling plumbing, and any exhaust piping and insulation modifications) a new generator set to replace the existing port side generator set. Generator set must be **Keel Cooled Continuous Duty Marine Generator Set.** See **Page 5** for specifications.
	+ Manufacturer of generator shall have an authorized dealer within 30 miles of the Port of Iberia.
	+ Vendor shall fabricate an aluminum frame to mount the new generator set on to accommodate mounting in vessel. Modification of the existing mounting base may be necessary.
* Vendor shall take all necessary precautions to ensure that abrasives and paint to not come into contact with items that were not intended or could be damaged (exhausts, engines, fluid lines, etc.).
* Vendor/Shipyard shall be responsible for lifting, blocking, and launching the vessel.
* Bottom paint system shall have a 2-year warranty against flaking, bubbling, or sloughing.
* Awarded vendor must complete all work within 60 days from being awarded the bid/receiving notification to proceed.
* LDWF may hire a marine surveyor to periodically assist with inspections of vendor's work on an as needed basis. Vendor must be able to accommodate inspections.
* Vessel shall be sea trialed and replacement generator tested under supervision of LDWF’s tug captain and crew. If any issues associated with the vendor’s work persist, the vendor shall correct the problems at vendor’s expense and shall include re-lifting, re-blocking and re-launching of vessel if warranted.
* LDWF is responsible for transport of vessel from the Port of Iberia up to a 60 mile radius to the successful vendor’s shipyard for repairs to be completed. Transportation and associated costs for any additional mileage beyond sixty will be the responsibility of the awarded vendor. Only towing will be allowed outside of the sixty mile radius. Upon accepted completion of repairs, vendor will be responsible for return of the vessel to within the sixty mile distance from the Port of Iberia if applicable.
* All potential vendors will be required to attend a mandatory pre-bid meeting near the Quintana Public Boat Launch in Cypremort Point, LA. The pre-bid meeting is scheduled for April 25th, 2024 at 9:00AM. Contact Person is Lance Campbell (337) 735-8668, LJCampbell@wlf.la.gov. The vessel will be available for inspection at this meeting. **FAILURE TO ATTEND WILL ELIMINATE YOUR BID FROM CONSIDERATION.**
* **Bidders proposing to use equivalent products, methods, etc. should note these exceptions and supply all descriptive information associated with the equivalent products, methods, etc.**

**Keel Cooled Continuous Duty Marine Generator Set Specifications**

* Brand: Marine Leader or Equal
* Model: ML30YEKD or Equal
* Generator Set Specifications
	+ Continuous Rating 30KW (minimum) & 90 amps, 3 Phase, 240 Volt, 60 Hz
	+ Turbo Charged Diesel 4 cylinder engine
	+ Mechanical fuel system with eco governor
	+ Heavy duty marine brushless generator end with marine coating
	+ Auxiliary winding for motor starting
	+ Automatic voltage regulator
	+ Belt guard
	+ Exhaust flange
	+ Air cleaner
	+ Front engine support legs
	+ Rear generator support legs
	+ Vibration isolators
	+ LCD display full control panel
	+ Automatic safety shutdown system (low oil pressure/high water temperature)
	+ Oil and fuel filters
	+ 12 volt electrics
	+ Electric fuel pump
	+ Shop loadbank tested
	+ Have minimum 2 year/2,000 hour engine warranty and 1 year/1,000 hour generator warranty
	+ No more than 40” height, 57” length & 26” width
	+ Weigh no more than 1,000 lbs.
	+ Must include 12-volt GR 24 battery
* Engine Specific Specifications
	+ Rated RPM: minimum 1800
	+ Horsepower at rated RPM (bhp): minimum 68
	+ Governor type: electronic
	+ Frequency regulation: 0.25 – 3.0%
	+ Air cleaner: replaceable element
	+ Oil filter: spin-on
	+ Fuel shutoff solenoid, fuel pump & fuel pump priming: Electric
	+ Fuel consumption: must consume less than 3 gallons per hour on 100% load and less than 1.5 gallons per hour on 50% load
* Generator Specific Specifications
	+ Type: 4 pole
	+ Exciter type: brushless
	+ Leads quantity: 4
	+ Voltage regulator: 1% automatic AVR
	+ Insulation material: H type
	+ Temperature rise: 105° C
	+ Bearing type: sealed
	+ Coupling: direct bolt-up
	+ Auxiliary winding 300% of rating for 10 seconds
	+ Continuous rating: 30KW minimum