

IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF ALABAMA
SOUTHERN DIVISION

LOUISIANA MACHINERY COMPANY,)	
L.L.C.,)	
)	
Plaintiff,)	
)	
V.)	Civil Action No. 09-280
)	
BENDER SHIPBUILDING & REPAIR)	JURY DEMANDED
CO. INC., THOMAS B. BENDER, JR.,)	
BRUCE J. CROUSHORE, DAVID BARNETT,)	
JOSEPH W. MANGIN, JR. AND)	
FRANK TERRELL,)	
)	
Defendants.)	

COMPLAINT

Plaintiff Louisiana Machinery Company, L.L.C. ("LMC") as its complaint alleges as follows:

JURISDICTION AND VENUE

1. LMC is a limited liability company organized pursuant to the laws of the State of Louisiana having its principal place of business in Reserve, Louisiana. The members of LMC are as follows: Clark G. Boyce, Jr., a resident of East Baton Rouge Parish, Louisiana; Robert M. Boyce, a resident of East Baton Rouge Parish, Louisiana; and Robert D. Webb, Jr., a resident of Orleans Parish, Louisiana.

2. Bender Shipbuilding & Repair Company, Inc. ("Bender") is an Alabama corporation having its principal place of business in Mobile, Alabama.

3. Thomas B. Bender, Jr. is an individual citizen of the State of Alabama who, on information and belief, resides in Mobile, Alabama.

4. Bruce J. Croushore is an individual citizen of the State of Alabama who, on information and belief, resides in Mobile, Alabama.

5. David Barnett is an individual citizen of the State of Alabama who, on information and belief, resides in Mobile, Alabama.

6. Joseph W. Mangin, Jr. is an individual citizen of the State of Alabama who, on information and belief, resides in Mobile, Alabama.

7. Frank Terrell is an individual citizen of the State of Alabama who, on information and belief, resides in Mobile, Alabama.

8. This action arises out of a proposal and a purchase order (the "Contract") for the delivery by LMC of MaK 6M25 engines to Bender at Bender's shipyard in Mobile, Alabama for Hull 8184 and Hull 8188. Pursuant to the Contract, LMC delivered two MaK 6M25 engines with the serial numbers 44693 and 44694 to Bender, which engines have been installed in Hull 8184, although Hull 8184 remains in an unfinished state of construction. The remaining balance owed by Bender for the Hull 8184 engines is \$87,381.10. LMC also delivered two MaK 6M25 engines with the serial numbers 44695 and 44696 for Hull 8188. LMC has demanded payment for the Hull 8188 engines in the amount of \$1,572,859.80, but Bender has refused to pay. (The Contract is attached hereto as Exhibit A.) LMC has also requested the return of the Hull 8188 engines, but Bender has refused this request, as well.

9. The Contract called for the delivery of the engines to Bender's shipyard in Mobile, Alabama, and the completed engines currently are located at Bender's shipyard in Mobile. The Hull 8188 engines have not been installed.

10. As shown above, the citizenship of LMC is diverse from that of Bender, and the matter in controversy exceeds \$75,000, exclusive of interest and costs. Accordingly, this Court has jurisdiction pursuant to 28 U.S.C. § 1332.

11. Pursuant to 28 U.S.C. § 1391(a)(1) and (2), venue is proper in this district as the district in which defendants reside, the district in which a substantial part of the events or omissions giving rise to the claim occurred, or as the district in which the property made the subject of this action is located.

FACTUAL ALLEGATIONS

12. On or about November 9, 2007, the parties entered into the Contract under which LMC would deliver the engine sets for Hull Numbers 8184, 8188, and 8192. The first ship set engines have been installed in Hull Number 8184, which is unfinished, and Bender owes LMC \$87, 381.10 for this engine set. The third ship set engines destined for Hull Number 8192 have been canceled due to Bender's financial difficulties.

13. The engines for Hull 8188 were delivered to Bender on or about February 26, 2009. Pursuant to the Contract, Bender owes \$1,572,859.80 for these engines. To date, despite demand by LMC pursuant to the Contract, Bender has not made any payments on these engines.

14. Because of Bender's non-payment, LMC has requested that Bender allow it to remove from the yard the engines for Hull 8188. Bender did not respond to LMC's request.

15. At all times material to this complaint, defendant Thomas B. Bender, Jr. was the president of Bender; defendant Joseph W. Mangin was the chief financial officer of Bender; defendant Bruce J. Croushore was the secretary and vice-president of Bender; defendant Frank Terrell was the vice-president of Bender and defendant David Barnett was

the treasurer of Bender. Further, defendants Thomas B. Bender, Jr., Bruce J. Croushore and Frank Terrell were directors of Bender at all times material to this complaint.

16. Mr. Bender, as president and a director of Bender, had actual knowledge, or was on notice of such material facts that a reasonable person could not conclude otherwise, that Bender could not perform its obligations under the Contract, as it related to the delivery by LMC and payment by Bender for the engines. At the time of delivery, Mr. Bender knew that his company was in zone of insolvency and therefore had a heightened duty of care and loyalty to those entities, such as LMC, supplying materials for Hull 8188. Despite his knowledge of Bender's financial condition and its inability to pay for the Hull 8188 engines delivered by LMC, Bender, acting by and through Mr. Bender and other officers and directors, took delivery and have retained possession of the engines despite having not paid the amounts due for the engines.

17. Mr. Bender, Mr. Croushore, and Mr. Terrell, acting either independently or together in their capacity as directors of Bender violated their fiduciary duties while operating in the zone of insolvency by misrepresenting the ability of Bender to perform its obligations, by failing to actually perform Bender's contractual obligations, and by taking delivery of the Engines when no present ability to pay for the Hull 8188 engines existed.

18. Mr. Bender, as president, Mr. Mangin, as chief financial officer, Mr. Croushore, as vice-president of sales, and Mr. Barnett, as treasurer, each breached their respective fiduciary duties as officers by insisting on and taking delivery of the Hull 8188 engines and misrepresenting the ability of Bender to perform its obligations.

COUNT ONE

Breach of Contract

19. LMC incorporates and realleges the allegations in paragraphs 1-18 as if fully set forth herein.

20. LMC has performed its obligations under the Contract with Bender by delivering, on or about January 6, 2009, the first ship set engines for Hull 8184, which have been installed, and by delivering the Hull 8188 engines to Bender's facility on or about February 26, 2009.

21. Bender currently has possession of the engines. Despite LMC's request that the Hull 8188 engines be returned to it, Bender has refused to return the engines, and has likewise refused to pay for the engines. Bender owes \$1,660,240.90 as the remaining contractual balance on the engines installed in Hull 8184 and the uninstalled engines for Hull 8188.

22. Bender has breached the contract by non-payment of the goods delivered.

23. LMC has been damaged by Bender's breach in the amount of \$1,660,240.90, together with interest from the date on which this sum was due.

WHEREFORE, LMC demands judgment against Bender for \$1,660,240.90, plus interest, and fees and costs as may be properly awarded.

COUNT TWO

Alabama Watercraft Lien Act

24. LMC incorporates and realleges the allegations set forth in paragraphs 1-23 as if fully set forth herein.

25. Hull Numbers 8184 and 8188 have not been completed, and are not vessels within the meaning of any federal maritime vessel lien or general federal maritime law.

26. Hull Numbers 8184 and 8188 are watercrafts under the Alabama Watercraft Lien Act, and LMC, in providing the engines for Hull 8184 and 8188, is entitled to a lien on Hulls 8184 and 8188, and the engines provided by LMC for these Hulls, in accordance with *Ala. Code* § 35-11-60.

WHEREFORE, LMC requests the following relief: (a) that this Court declare that LMC's watercraft lien is superior to any other liens claimed on Hull 8184 and 8188 or on the engines provided by LMC; (b) an order requiring that LMC's lien be first satisfied prior to the engines being installed in Hull 8188, and that LMC's lien in the amount of \$1,660,240.90 be paid in full prior to any purchaser of Hull 8184 or 8188 taking delivery; (c) an order requiring the United States Marshall to seize and possess the uninstalled engines, or to conduct a judicial sale of Hull 8184 and 8188 to satisfy LMC's lien, in accordance with all applicable law; and (d) such other, further, and different relief as justice may require.

COUNT THREE

Suppression – Thomas B. Bender, Jr.

27. LMC incorporates and realleges the allegations set forth in paragraphs 1-26 as if fully set forth herein.

28. At all times material to the complaint, Thomas B. Bender, Jr. was the president, and served as a director of Bender. In his role as director and as president, Mr. Bender had superior knowledge as to Bender's financial condition, its lack of liquidity, its inability to pay debts as they became due, and other matters evidencing Bender's financial status at the time it took delivery of the Hull 8188 engines.

29. At the time of delivery, Mr. Bender knew that his company was insolvent, and that it had no present ability to perform under the Contract.

30. At the time the Contract contemplated delivery, and at the time of the actual delivery, Mr. Bender was under a duty to disclose material facts to LMC relating to the actual financial condition of Bender, because of the duty owed to creditors by an insolvent company and because of the circumstances of this case. Mr. Bender suppressed the material facts of Bender's financial condition, which had they been known to LMC, would have caused LMC to act differently. Instead, in detrimental reliance upon Mr. Bender's representations, LMC delivered the engines to Bender.

31. Mr. Bender had actual knowledge of Bender's true financial condition, or was on notice of such facts that a reasonable person could not have concluded otherwise. Mr. Bender's failure to disclose these material facts to LMC was intentional, wanton or negligent and LMC has suffered damages as a direct and proximate cause of the suppression of material facts by Mr. Bender.

32. Notwithstanding Mr. Bender's knowledge that his company was insolvent and had no ability to pay for the Hull 8188 engines, Bender insisted on their delivery, and to this day refuses to pay for or return these engines. Mr. Bender's actions as president and as a director of Bender have damaged LMC in the amount of \$1,660,240.90 as compensatory damages, together with interest from the dates these sums were owed. LMC demands punitive damages of Mr. Bender, in addition to the compensatory damages asserted herein.

WHEREFORE, LMC demands judgment from defendant Thomas B. Bender, Jr. in the amount of \$1,660,240.90, plus punitive damages, interest, and all other fees and costs as may be properly awarded.

COUNT FOUR

Breach of Fiduciary Duty-Officers and Directors

33. LMC realleges the allegations set forth in paragraphs 1-32 as if fully set forth herein.

34. At all times material to this complaint, defendant Thomas B. Bender, Jr. was the president of Bender; defendant Joseph W. Mangin was the chief financial officer of Bender; defendant Bruce J. Croushore was the secretary and vice-president of Bender; defendant Frank Terrell was the vice-president of Bender, and defendant David Barnett was the treasurer of Bender (“Officer Defendants”). Further, defendants Thomas B. Bender, Jr., Bruce J. Croushore, and Frank Terrell were directors of Bender at all times material to this complaint (“Director Defendants”) (at times collectively referred to as the “D&O Defendants”).

35. The D&O Defendants, by virtue of their superior knowledge of Bender’s true financial condition, had actual knowledge, or were on notice of such material facts that a reasonable person could not conclude otherwise, that Bender could not perform its obligations under the Contract when it insisted on, and took, delivery of the LMC engines beginning on January 6, 2009. At the time Bender took delivery, it was unable to pay its debts as they became due, which facts were known, or should have been known, to the D&O Defendants.

36. At the time Bender took delivery, Bender was in the zone of insolvency, and the D&O Defendants had a heightened duty of care and loyalty to LMC, which duty was breached by Bender’s taking of delivery of items it knew it could not pay for. Bender, acting by and through the D&O Defendants, obtained property from LMC under false pretenses and

to the material detriment of LMC. Had the D&O Defendants made known the condition of Bender to LMC, LMC would not have acted as it did in delivering the Hull 8188 engines to Bender. The D&O Defendants facilitated and/or directed Bender's wrongful taking and present retention of LMC's Engines to the detriment of LMC.

37. The D&O Defendants breached their fiduciary duty to LMC, and LMC has been damaged in the actual amount of \$1,660,240.90, as a result of the D&O Defendants' breach.

WHEREFORE, LMC demands judgment, jointly and severally, against defendant Thomas B. Bender, Jr; defendant Joseph W. Mangin; defendant Bruce J. Croushore; defendant Frank Terrell; and defendant David Barnett for compensatory damages of \$1,660,240.90, plus punitive damages, interest, and other fees and costs as may be properly awarded.

COUNT FIVE

Detinue

38. LMC incorporates and realleges the allegations set forth in paragraphs 1-37 as if fully set forth herein.

39. LMC is entitled to possession of the Hull 8188 engines pursuant to its watercraft lien under *Ala. Code* § 35-11-60.

WHEREFORE, LMC requests the following relief: (a) an order declaring that LMC is entitled to possession of the Hull 8188 engines and requiring the United States Marshall to seize the uninstalled engines and deliver them to LMC; (b) an order requiring the United States Marshall to conduct a judicial sale of Hull 8184 to satisfy LMC's lien, in accordance with all applicable law; and (c) such other, further, and different relief as justice may require.

Respectfully submitted,

/s/Kirkland E. Reid

Matthew C. McDonald (MCDOM2996)

Kirkland E. Reid (REIDK9451)

Attorneys for Plaintiff

Louisiana Machinery Company, L.L.C.

OF COUNSEL:

Jones, Walker, Waechter,
Poitevent, Carrere & Denegre, L.L.P.
P.O. Box 46
Mobile, Alabama 36601
(251) 432-1414
(251)433-1001 (facsimile)

JURY DEMANDED

Plaintiff demands trial by jury on all matters triable by jury.

PLEASE SERVE DEFENDANTS BY PRIVATE PROCESS SERVER:

Bender Shipbuilding & Repair Co., Inc.
265 S. Water Street
Mobile, Alabama 36603-2305

Thomas B. Bender, Jr.
265 S. Water Street
Mobile, Alabama 36603-2305

Bruce J. Croushore
265 S. Water Street
Mobile, Alabama 36603-2305

David Barnett
265 S. Water Street
Mobile, Alabama 36603-2305

Joseph W. Mangin
265 S. Water Street
Mobile, Alabama 36603-2305

Frank Terrell
265 S. Water Street
Mobile, Alabama 36603-2305



Bender Shipbuilding & Repair Co., Inc., 265 South Water Street, Mobile, Alabama 36603

**Purchase Orders
to Furnish Propulsion Engines
between Louisiana Machinery Company, Inc., (Seller) and
Bender Shipbuilding & Repair Co., Inc., (Buyer)**

1. Scope of Work

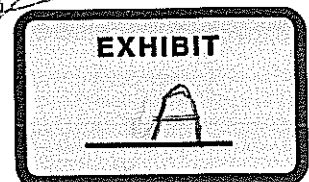
Seller shall supply the Propulsion Engines and the supervision for installation, as well as attendance at sea trials, and for the commissioning in accordance with Bender Shipbuilding & Repair Co., Inc. Purchase Specification, "Propulsion Engines", DWG No. 245SV-001-233-60 Rev. -, dated 11-01-07. Attached hereto is Louisiana Machinery Company, Inc. quotation number 271801 revision 6 dated 10-16-07, as Attachment #1.

Notes:

- A. Seller acknowledges that it has reviewed the contract, specifications, purchase specifications and drawings related to the contract between Buyer and Buyer's customer, ("the Prime Contract"), and Seller confirms that the scope of supply to be provided herein will comply with said contract, specifications, purchase specifications and drawings of the Platform Supply Vessel in regard to technical specifications, schedule and delivery terms, conditions and provisions. Said technical specifications, purchase specifications, schedule and delivery terms, conditions, and provisions are incorporated herein by reference and shall be superceded only by the terms, conditions, and provisions of this purchase order if a conflict arises.
- B. Seller shall provide to Buyer within 90 days after execution of this purchase order a detailed list of all loose components to be supplied.
- C. Seller shall provide a Technical Documentation submission schedule to Buyer no later than six (6) weeks after execution of this Purchase Order. Information shall be sent to the attention of: Sandra Armstrong, Engineering Materials Manager, 265 South Water Street, Mobile, Alabama 36603 and by email in CD-ROM format to: documentcontrol@bendership.com. The information shall address all component lists, drawings, manuals and certificates and shall be furnished in CD-ROM format if available. All required drawings, component parts, manuals and certificates, etc., which shall be acceptable to Buyer, shall be submitted to Buyer in accordance with the "Deliverables List" shown in the referenced Purchase Specification DWG No. 245SV-001-233-60 Rev. -, dated 11-01-07.

2. Price

- A. Total firm fixed Purchase Order price per vessel is:
 - 1.) Vessel #1 (Hull 8184) One million seven hundred thirty-nine thousand forty-eight and no/100 dollars (\$1,739,048.00), CIF Bender Shipbuilding & Repair Co., Inc., Mobile Alabama, USA, in accordance with Incoterms 2000.



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- 2.) Vessel #2 (Hull 8188) One million seven hundred thirty-nine thousand forty-eight and no/100 dollars (\$1,739,048.00), CIF Bender Shipbuilding & Repair Co., Inc., Mobile Alabama, USA, in accordance with Incoterms 2000.
- 3.) Vessel #3 (Hull 8192) One million seven hundred thirty-nine thousand forty-eight and no/100 dollars (\$1,739,048.00), CIF Bender Shipbuilding & Repair Co., Inc., Mobile Alabama, USA, in accordance with Incoterms 2000.

- B. Storage, handling, insurance, freight, etc. are included in the prices shown above.
- C. Note that prices are fixed in US Dollars and not subject to change.
- D. Custom Import Duties are not applicable since Buyer is within an established Foreign Trade Zone in the Port of Mobile. However, Seller must utilize all means necessary and shall follow published U. S. Customs Procedure and Requirements to insure the goods arrive duty free into the Foreign Trade Zone in the Port of Mobile. Seller, as a minimum, shall move all imported goods on a "Mobile Bill of Lading" with the understanding that the goods shall be moved ONLY by a U.S. Customs Bonded carrier to or within the Port of Mobile after arrival into the United States. Seller is liable for any Custom Import Duties and/or fees incurred resulting from failure to comply with the above described procedure.

3. Terms of payment

Payment shall be made per vessel and in strict accordance with Buyers delivery schedule (see paragraph 5) and in accordance with the following milestone events upon receipt of invoice:

- A.) 10% of the total price of all three (3) vessels shall become due for payment within 15 days after receipt of an executed copy of this Purchase Order and receipt by Buyer of related funds from GulfMark Offshore.
- B.) 25% of the total price of each vessel shall become due for payment net 30 days after successful Factory Acceptance Testing (FAT) of all equipment. Seller shall provide a test certificate to Buyer as evidence of successful testing. FAT to be accomplished approximately seven (7) weeks prior to shipment.
- C.) 60% of the total price of each vessel shall become due for payment net 30 days after delivery of the equipment to the shipyard in Mobile, Alabama USA, and upon Seller providing Buyer with satisfactory evidence that each item for which Buyer is making payment is (i) free and clear of any and all liens; (ii) adequately insured with Buyer named as additional insured to the extent of its interest therein; and (iii) covered by a UCC Financing Statement or other appropriate public record providing notice to third parties of Buyer's interest therein. Scope of Supply shall be identified by equipment description and serial number. In the event individual items of equipment are delivered on different dates, the invoice(s) shall be itemized accordingly.
- D.) 5% of the total price of each vessel shall become due for payment net 30 days upon completion of successful commissioning of engines in accordance with M&K guidelines.

4. Acceptance of Seller's Work

Final acceptance of the equipment supplied by Seller will occur only after Seller demonstrates to Buyer that the equipment supplied by Seller functions in accordance with the work scope contained in the Purchase

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Specifications attached. This will occur after completion of the construction, operational testing and sea trial of each vessel. Progress payments paid by Buyer do not constitute acceptance of the equipment.

5. Delivery Schedule

A. Seller shall make delivery of the Scope of Supply to Buyer in accordance with the below Schedule of Performance, provided that this Purchase Order has been signed by both parties. Arrival of goods sooner than four weeks before the required delivery dates shown herein may be subject to rejection and/or may result in storage and handling fees to Seller's account, unless authorized by Buyer. By signing this Purchase Order, Seller confirms it has received all the information that it requires from Buyer. Shipment shall be made to: Bender Shipbuilding & Repair Co., Inc., 265 South Water Street, Mobile, Alabama, 36603, United States of America.

<u>Vessel</u>	<u>Purchase Order No.</u>	<u>Date Required</u>
Vessel 1 (Hull Number 8184)	Purchase Order No. 8184-119014-15	20 NOV 2008
Vessel 2 (Hull Number 8188)	Purchase Order No. 8188-119015-15	07 APR 2009
Vessel 3 (Hull Number 8192)	Purchase Order No. 8192-119016-15	07 OCT 2009

Note: Delivery dates are furnished as guidance only and are subject to change.

B. Seller shall make delivery of the below list of Deliverables, including manuals, lists of spares, etc., in accordance with the below schedule. In your transmittal, please reference the data shown in the "Title/Description" column to aid Buyer in readily identifying each submittal. Kindly submit each of your transmittals to the attention of: Sandra Armstrong, Engineering Materials Manager, 265 South Water Street, Mobile, Alabama 36603 and/or by email in CD-ROM format to: documentcontrol@bendership.com.

Title / Description	Drawing Number	Regulatory Approval Required	Due Date
Propulsion Engines – Installation / Operation / Maintenance Manuals	N/A		20 NOV 2008
Propulsion Engines – Component List	N/A		01 DEC 2007
Propulsion Engines – Schedule of Events / Delivery	N/A		01 DEC 2007
Propulsion Engines – Recommended Spare Parts List	N/A		01 DEC 2007
Propulsion Engines – ABS Certificates	N/A	Yes	20 DEC 2008
Propulsion Engines – Certified Detailed	245SV-001-233-081	Yes	01 APR 2008

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<i>Title / Description</i>	<i>Drawing Number</i>	<i>Regulatory Approval Required</i>	<i>Due Date</i>
Installation Drawings			
Propulsion Engines – Certified Detailed Specifications (for specific make/model)	245SV-001-233-080	No	01 DEC 2007
Propulsion Engines – Certified Detailed Interface Drawings	245SV-001-233-082	Yes	01 APR 2008
Propulsion Engines – Cable Pull List	245SV-001-233-083	No	01 APR 2008

Note: all dates represent final completion "due date". Preliminary documents will be furnished as required. All final documents must be supplied as unprotected MS Word files or other MS files.

6. deleted

7. Warranty

Seller hereby guarantees to Buyer that all equipment supplied hereunder shall be free from all defects of any kind, nature or description on the date of completion thereof and for a period of one (1) year after delivery of each vessel to Buyer's customer, but in no event later than twenty (24) months after notification of readiness for dispatch; and during such period of one (1) year, Seller hereby (a) indemnifies and holds harmless Buyer from and against all loss or damage arising out of or in connection with any such defects, and (b) agrees on notice from Buyer to Seller forthwith to remedy and cure any such defect or defects at the sole cost and expense to Seller.

8. Indemnification

Seller expressly warrants that the goods covered under this purchase order/contract are of Merchantable quality and satisfactory and safe. Seller hereby agrees to indemnify and save Buyer harmless from and against any and all losses, liabilities, damages, demands, claims or causes of action to which Buyer may become subject, including, without limitation, reasonable counsel fees and disbursements, amounts of judgment, fines or penalties and amounts paid in settlement or compromise, insofar as such losses, liabilities, damages, demands, claims or causes of action arise out of, in connection with or result from any alleged defect in the design or manufacture of the products sold by Seller hereunder to Buyer. Buyer shall promptly inform Seller upon learning of the filing of suit or claim against it, may allow Seller or its insurer the opportunity to assume direction and control of the defense of such suit or claim, and shall cooperate in the disposition of any such suit or claim so defended whenever requested to do so. Such indemnity shall be in addition to any other remedies provided by law.

9. Complete Agreement

This Purchase Order represents the entire agreement between the parties. All prior agreements, representations, statements, negotiations, quotations and undertakings whether oral or written are superseded and replaced hereby.

10. Settlement of Disputes:

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A.) Mediation

Prior to demanding arbitration, the parties shall first attempt in good faith to resolve their disputes in mediation before a mediator mutually agreeable to the parties. It is mutually agreed that Mobile, Alabama shall be designated as the place for the conduct of any such mediation. If the parties are unable to resolve any dispute within ten (10) business days of conducting mediation, then provided the parties have met together with the mediator for one full day to resolve the matter, either party may thereafter demand arbitration in accordance with paragraph B below.

B.) Arbitration

All disputes, controversies or differences which may arise between the parties out of, or in relation to, or in connection with this Agreement, or for the breach thereof, shall be finally settled by arbitration, to which each party agrees to be bound. It is mutually agreed that Mobile, Alabama shall be designated as the place for the conduct of any such arbitration. In the event of any dispute, controversy or difference, either party shall place the other party on written notice of its desire to arbitrate and shall select and identify an arbitrator. The other party shall, within fifteen (15) days, reply in writing, selecting an arbitrator. Within fifteen days thereafter, the two arbitrators thus selected shall mutually agree on a third arbitrator. The arbitration panel shall consist of the three arbitrators thus appointed. All such arbitrators shall be attorneys. Each party shall pay the fee and expenses of its respective arbitrator and both parties shall share equally the fee and expenses of the third arbitrator. Each party shall otherwise bear its own expense in connection with any such arbitration. The parties hereby incorporate by reference the Rules of the American Arbitration Association, or its successor, and the arbitration shall be conducted in accordance with such rules, but any arbitration shall not be administered by the American Arbitration Association and it shall not be necessary to select arbitrators from the approved list of the American Arbitration Association. The arbitrators shall have all powers contemplated by 9 U.S.C. Sec 1 et seq. and their decision shall be final and binding on Buyer and Seller. The arbitrators shall not have the right to modify the provisions of this Agreement. Judgement upon the award rendered may be entered in any court having jurisdiction or application may be made to such court for a judicial acceptance of the award and any order of enforcement, as the case may be.

C. Notwithstanding any other provisions herein, Seller agrees to continue to progress the required work that is the subject matter of a dispute, except where such dispute relates to non-payment by the Buyer, referred for resolution under the provisions of paragraphs A and B above and Buyer agrees to make all payments hereunder no later than their due dates. Both parties agree to submit their disputes to resolution under paragraph B above after completion of the work under this Purchase Order/Contract or termination of this Purchase Order/Contract has occurred.

11. Supplemental Terms and Conditions of Purchase Order:

11.1. **Definitions:** The term "Buyer" means Bender Shipbuilding & Repair Co., Inc., and the term "Seller" means the person, firm or corporation from which the goods or services have been ordered.

11.2. **Delivery and Acceptance:** Time of delivery is of the essence of this contract. Buyer reserves the right to refuse any goods and to cancel all or any part of the goods not conforming to applicable specifications, drawings, samples or descriptions. Acceptance of any part of the order shall not bind Buyer to accept future shipments, nor deprive it of the right to return goods shipped.

11.3. **Risk of Loss:** Delivery shall not be deemed to be complete until goods have been actually received and accepted by Buyer.

11.4. **Defects:** By accepting this order Seller acknowledges and warrants that the goods covered by this order are satisfactory for the purposes of manufacturing as intended by Buyer, if disclosed, and that any defects in such goods may occasion special damage to the Buyer.



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- 11.5. **Conforming Goods:** Acceptance of all or any part of the goods shall not be deemed to be a waiver of Buyer's right either to cancel or to return all or any portion of the goods because of failure to conform to order, or by reason of defects, latent or patent, or other breach of warranty, or to make any claim for damages, including manufacturing costs and loss of profits or other special damages occasioned the Buyer. Such rights shall be in addition to any other remedies provided by law.
- 11.6. **Warranty:** Seller expressly warrants that the goods covered by this order are of Merchantable quality and satisfactory and safe. Acceptance of this order shall constitute an agreement upon Seller's part to indemnify and hold Buyer harmless from liability, loss, damage and expense, including reasonable counsel fees, incurred or sustained by Buyer by reason of the failure of the goods to conform to such warranties. Such indemnity shall be in addition to any other remedies provided by law. All warranties rightfully belonging to Buyer shall be assigned to and transferred immediately to Buyers' customer at time of delivery of each vessel to Buyers' customer.
- 11.7. **Data:** Seller shall not use or disclose any data, designs, drawings or other information belonging to or supplied by or on behalf of Buyer, except in the performance of this or other orders for Buyer. Upon Buyer's request such data, designs, drawings or other information and any copies thereof shall be returned to Buyer. Where Buyer's data, designs, drawings or other information are furnished to Seller's suppliers for procurement of supplies by Seller for use in the performance of Buyer's orders, Seller shall insert the substance of this provision in its orders.
- 11.8. **Labor Disputes:** Whenever any actual or potential labor dispute delays or threatens to delay the timely performance of this order, Seller shall immediately give notice thereof to Buyer.
- 11.9. **Title:** Seller warrants that the goods are free and clear of all liens and encumbrances and that Seller has a good and marketable title to same.
- 11.10. **Cancellation:** Buyer reserves the right to cancel all or any part of this order if not filled in accordance with Buyer's delivery schedule, or if Seller becomes insolvent or files a petition in bankruptcy. (see paragraph 999150)
- 11.11. **Termination for Default:** In the event of a breach of any of the terms of this order, including Seller's warranties, Buyer may, at its option and without prejudice to any of its other rights cancel any undelivered goods.
- 11.12. **Applicable Law:** This contract shall be deemed made in Mobile, Alabama and shall be construed pursuant to the laws of the state of Alabama. It sets forth the entire agreement between the parties and cannot be changed or terminated orally. There are no representations or agreements by agents or others, expressed or implied, modifying or inducing the execution of this agreement, other than those herein set forth.
- 11.13. **Use of Buyer Drawings:** When Buyer drawings are furnished in connection with this purchase order, Seller is responsible for furnishing whatever material is required to complete the work specified in the purchase order. If a Bill of Material is furnished on the drawings or together with the drawings, it is understood and agreed that Buyer is making no representations as to its accuracy or completeness and that Seller should make its own material take-off to insure that it furnishes and allows for all materials required by the purchase order.
- 11.14. **Prices:** Prices shown are firm and not subject to change unless change is agreed to in writing.
- 11.15. **Buyer General Supplemental Terms and Conditions:**
- (999000) Seller shall furnish all supervision, labor, tools, materials and equipment necessary and shall perform all of the work ("the work") in accordance with the requirements and provisions of the purchase specifications. No change or addition to the specifications or drawings will be made without Buyer's written approval.
- (999002) Seller shall submit a schedule within five (5) working days of the date of issuance of the purchase order showing planned duration, manpower, scheduled start and completion, which schedule shall be acceptable



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to Buyer. In the event that Seller, in the opinion of Buyer, does not appear to have adequate manpower to successfully complete the work in the time specified, Buyer shall have the right to furnish whatever manpower it deems necessary to assist Seller in the timely completion of the work.

(999004) Seller and its employees shall pursue the work in a safe manner consistent with industry-wide standards and all laws and regulations governing ship repair and overhaul activities. Seller shall comply with all laws, ordinances, rules and regulations issued by Buyer and governmental authorities. Seller shall not subcontract any of the work unless Buyer shall have given its written consent in advance to any such subcontract.

(999014) Seller warrants that it has, and shall have throughout the term of the purchase order, firm labor agreements with all labor unions currently or then representing all of its employees.

(999024) Seller shall provide, monthly, a status of progress on each work item.

(999026) Buyer and owner's representatives shall have the right to inspect Seller's work at any stage. If deficiencies are detected, Seller shall be notified and corrective action must be taken by Seller before proceeding further with that work item or specific piece of equipment.

(999027) Seller shall perform each individual work item in accordance with Buyer's production schedule.

(999190 – 999195a)

Whereas, Seller desires to have certain employees enter the premises of Buyer from time to time to perform Work on the premises of Buyer and/or upon vessels under Buyer's care, custody or control, and; whereas, Buyer is willing to allow Seller to bring such employees on its premises and /or vessels under its care, custody or control provided Seller agrees to indemnify and save Buyer harmless and to provide evidence of certain insurance coverage. Now therefore the parties agree as follows: 1. Buyer shall allow Seller to bring certain employees on its premises and/or vessels under its care, custody or control ("the Property") to undertake certain work ("the Work") thereon from time to time. 2. Seller to the extent of the Seller's action, hereby indemnifies and holds harmless Buyer, its employees and agents, against all suits, actions, claims, costs or demands, (including without limitation, suits, actions, claims, costs or demands resulting from death, personal injury or property damage, whether groundless or not and including counsel fees and all other expenses) to which Buyer may be subject or exposed by reason of damage to the Property or injury to or death of employees of Buyer, Seller or third parties, which may occur or be alleged to have occurred while performing Work on the Property. 3. Seller shall comply with all laws, ordinances, rules and regulations issued by governmental authorities or by Buyer. 4. Seller shall not subcontract work without Buyer's prior written consent and shall furnish Buyer a copy of all approved subcontracts. 5. Seller shall obtain and maintain in force policies of insurance issued by carriers acceptable to Buyer providing the following coverages: A. Comprehensive Public Liability with minimum limits of \$1,000,000. B. Commercial auto liability with minimum limits of \$100,000/\$300,000/\$25,000. C. Worker's Compensation State of Alabama, including Federal Longshore and Harbor Workers' coverage with limits of \$1,000,000. If self-insured: Seller shall provide to Buyer the Certificate of Authority from the Federal Department of Labor authorizing self-insurance. The Certificate of Authority must apply to Federal Longshore and Harbor Worker's coverage. 6. Prior to the commencement of any of the Work, and as a prerequisite for admission to the Property, Seller shall furnish Buyer a certificate of insurance evidencing the above mentioned coverages and containing the following special provisions: A. No policy shall be cancelled nor materially changed without thirty (30) prior days written notice to Buyer. B. The Policy referred to in paragraph 5(A) shall provide coverage on an occurrence basis and shall list Buyer as additional insured with a waiver of subrogation. Furthermore, said policy shall be on a comprehensive form and shall include coverage for premises/operations, products/completed operations, contractual liability, independent contractors, broad form property damage and personal injury. C. The policy referred to in paragraph 5(B) shall provide coverage for any vehicle that is owned, hired, borrowed or used by the Seller in connection with the work on the property. Buyer shall be additional insured, with a waiver of subrogation. D. The policy referred to in paragraph 5(C) shall provide a waiver of subrogation in favor of Buyer, its employees and agents.

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(999149) Any modifications to this purchase order increasing or decreasing the scope of work, cost, schedule, delivery date, or modifying it in any form whatsoever must be made in writing, and signed for by Buyer only, by Buyer's Purchasing or Subcontract Administration departments. No other person, whether having actual or apparent authority, shall bind Buyer for such changes. Buyer shall not be responsible in any manner for any modification not so authorized.

(999150) In the event of cancellation of all or part of this purchase order by Buyer, Buyer shall pay a reasonable cancellation fee based on actual material and labor costs incurred by Seller up to the date of cancellation, provided Seller is otherwise in compliance with the terms of this purchase order and any other agreements pertaining thereto. Sald costs must be documented by Seller. Buyer shall not pay any indirect costs, such as overhead, G&A, or any other consequential costs or expenses not directly related to the work specified in this purchase order.

(999179) Seller agrees to offer warranty service, including but not limited to repair or replacement parts, labor, travel and living expenses in the same manner, on the same conditions and for a period of time no less than the warranty period stated in the contract for which this purchase order was made between Buyer and its customer. A copy of the applicable warranty provision(s) of the contract between Buyer and its customer is available and will be furnished upon request.

(999180) In case any one or more of the covenants, agreements, terms, conditions or provisions contained in this purchase order shall be invalid, illegal or unenforceable in any respect, the validity of the remaining covenants, agreements, terms, conditions or provisions contained herein shall be in no way affected, prejudiced or disturbed.

(999248) Order of precedence: The terms, conditions, and provisions contained within this purchase order take precedence over all other documents referred to, attached to or annexed to the purchase order, in the event of a conflict.

(999251) If Seller is performing surface preparation operations and/or painting, Seller agrees to perform its work in accordance with the requirements of Buyer procedure No. SBMP-0014 (latest revision in effect.) A copy of said procedure was provided at the time of issue of this purchase order. Seller may obtain a copy of said procedure by contacting Buyer's Subcontract Administration Dept.

(999257) From time to time Seller may be requested by Buyer to provide a technical representative to perform or supervise work at a Buyer facility or on a vessel located at a different site. There may be a daily time sheet or service report that Seller's technical representative may complete for such work. Please note that Buyer yard employees do not have authority, expressed, implied or apparent, to legally bind Buyer in any way. A Buyer employee is authorized merely to verify that a technical representative was in fact on site that particular day.

(999258) Any time sheet or service report of a subcontractor, on which a Buyer yard employees signature is requested will be first stamped with the following statement: "The signature of a Buyer's employee below merely verifies that a technical representative was at a Buyer facility (or a different site) on the stated date, and in no way legally binds Buyer to acceptance of any terms and/or conditions contained on or in the time sheet or service report or to any commitment for any labor or material charges related to such work. Such signature does not verify that any work was actually performed, nor attests to the quality of any work performed."

(999259) "Signed: _____; badge no.: _____;
title: _____; date: _____. The only employees of Buyer who are authorized to
legally bind the company are members of either the Purchasing or Subcontract Administration departments or
company officers."

(999265) All charges and fees for material or equipment classification or certification by regulatory bodies such as American Bureau of Shipping (ABS), United States Coast Guard (USCG), Lloyd's Register of Shipping, Det Norske Veritas (DNV), etc., are to Sellers account.

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(999266) Seller shall perform its work hereunder in accordance with, and shall take every precaution needed to insure compliance with, all environmental laws. Environmental laws shall mean any one or more of the Resource Conservation and Recovery Act of 1987, the Compensation and Liability Act, any so-called "Superfund" or "Superlien" law, the Toxic Substances Control Act and any other federal, State or Local statute, law, ordinance, code, rule, regulation, order or decree regulating, relating to or imposing liability or standards of conduct concerning any hazardous materials or any other hazardous, toxic or dangerous waste, substance or constituent or other substance, whether solid, liquid or gas, as now or at any time hereafter..

(999267) ...in effect. Hazardous materials shall mean any hazardous substance, hazardous waste or pollutant or contaminant defined as such in (or for the purpose of) any environmental laws. Seller agrees to protect, indemnify, defend and hold harmless buyer and its officers, directors, employees, agents, successors and assigns to the maximum extent allowed by law, from and against all claims, demands, causes of action, suits, losses, damages (including, without limitation, penalties or punitive damages), violations of any environmental laws, environmental response and/or cleanup costs, fines, penalties and expenses (including, without limitation, counsel fees, all other costs and expenses incurred in investigating and defending against the assertion of such liabilities),...

(999268) ...of any nature whatsoever, which may be sustained, suffered or incurred by Buyer. Seller further agrees to stop work, without cost of any sort to Buyer, so that Seller and/or Buyer are able to comply with any environmental laws.

(999269) If Seller is performing surface preparation operations on a vessel while on a Buyer drydock, Seller shall assume all responsibility (at no additional cost to Buyer) for the gathering of all abrasive materials, along with all other waste or debris generated in its work, including placement of abrasive materials and waste or debris into appropriate Buyer furnished containers or receptacles. Seller shall then "broom-clean" to the satisfaction of the Buyer Subcontract Coordinator, or other designated Buyer representative, all affected areas of the drydock and/or vessel after cleanup of abrasive materials and other waste and debris.

(999270) It is the responsibility of Seller, when performing work on site at any Buyer facility or vessel under its care, custody or control, to make sure that each employee of Seller attends a Buyer safety and environmental orientation so that each employee of Seller is made aware of all pertinent Buyer safety and environmental rules and each employee of Seller can be issued a Buyer Subcontract badge.

(999298) Neither Seller nor any of its subcontractors shall be entitled to a maritime lien upon the vessel. Seller agrees that nothing in or contemplated by this Agreement creates or shall be construed to create any right to assert a maritime lien on the Vessel, the subject of this Agreement.

Read and Agreed:

Buyer

Seller

Bender Shipbuilding & Repair Co., Inc.

Louisiana Machinery Company, Inc.

By: _____

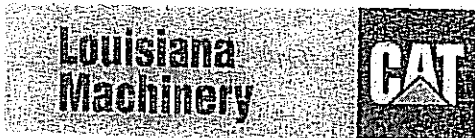
By: _____

Its: SUBCONTRACT ADMINISTRATOR

Its: _____

Date: 11-9-07

Date: _____



Louisiana Machinery Company, Inc.

Corporate Headquarters
3799 West Airline Highway
P.O. Drawer 536, Reserve, LA. 70084-0536
Phone 985-536-1121

October 16, 2007

Quotation Number: 271801 Revision 6

Bender Shipyard
Attention: Frank Terrell
Subject: Gulfmark PSV Main Engines

In response to your request, Louisiana Machinery L.L.C. is pleased to offer the following proposal:

2 MaK Marine Diesel Engines
Type: 6 M25
Rating: 1980 kW (2690 mhp) at 750 rpm

Pricing (1 st shipset):	CIF Mobile	\$1,739,048.00	
	(2 nd shipset):	CIF Mobile	\$1,739,048.00
	(3 rd shipset):	CIF Mobile	\$1,739,048.00

Price basis:
Our prices are exclusive of Customs Duty and exclusive of all taxes. They are fixed for the quoted delivery dates and are: CIF Bender Shipyard, Mobile, Alabama (according to Incoterms 2000), engine on wooden skid, accessories packed.

Terms of payment:
20% within 10 days of signing contract
80% due at confirmation of engines ready for shipment

Delivery Date:
Shipset #1
Approx. October, 2008 out of factory in Kiel, Germany (Estimate 1 month sea transportation time)
Shipset #2
Approx. February, 2009 out of factory in Kiel, Germany (Estimate 1 month sea transportation time)
Shipset #3
Approx. August, 2009 out of factory in Kiel, Germany (Estimate 1 month sea transportation time)

(Note: all delivery dates assume uninterrupted production progress in our and our sub suppliers' works).

Offer validity: Our offer shall remain valid until October 17, 2007

JK 11-9-07
Warranty:

The Warranty period is a total of 12 months after commissioning, in accordance with the "General Terms of Sales and Delivery of MaK Motoren GmbH & Co. KG" ending however no later than ~~18~~ *JK* months after notification of readiness for dispatch.

Wear and tear parts, i. e. valves, fuel oil nozzles, are excluded from this warranty. Our warranty is restricted at our option to either repair or replacement of the faulty part.

Propeller unit:

We do not accept responsibility for cavitation, erosion, ship's speed, bollard pull, efficiency and vibration.

Expenses in connection with dismantling and assembly of the propeller unit or parts thereof, i. e. dry-docking, tools and wages for assisting personnel, will have to be borne by you.

Generating sets

A free of charge torsional vibration and paralleling calculation is included in our scope of supply. Our paralleling calculation will be on the basis of our sets running in parallel with similar sets or with rigid and neutral mains.

In the event of irregularities in the parallel operation of the entire system we shall assist in rectifying them at the lowest cost.

Sound attenuation:

The effect of the noise damping measures taken on the engine is that the sound pressure level measured at a distance of 1m from the engine does not exceed 110 dB A in normal machinery spaces, and thus the ISO limit curve NR 105.

If the location of the engine is unfavorable, or the engine room is reverberant, it cannot be excluded, that the yard has to take special steps for attenuation.

Provision of service engineers:

Start up and commissioning of the Louisiana Machinery provided equipment included in the above mentioned price. Commissioning price based on 2 trips and 30 days at a qualified shipyard on the US Gulf Coast.

Lifting gear, returnable packing:

To lift the engine into the ship we provide lifting gear which will be shipped with the engine and is returnable. You are asked to return the lifting gear within 8 weeks of taking over the engine, together with returnable cases, in good and usable condition, delivered free MaK works. Kiel.

Torsional Vibration Calculation and Components in the ship between Diesel Engine and Propeller resp. Shaft Generator:

To achieve good torsional vibration characteristics, we will carry out in the event of an order a torsional vibration calculation for this propulsion plant free of charge. Should this calculation result in any changes regarding components, which are not part of our scope of supply, the extra charges will have to be borne by yourself.

We reserve the right to invoice you any extra charges caused by changes resulting from our calculations on component which are part of our scope of supply (e. g. highly flexible couplings).

Note:

Compliance with the safety requirements of flag states can only be realized by the overall ship / engine room system and is, therefore, within the responsibility of the shipyard.

If these should have a concrete effect on the engine equipment, this is to be defined and coordinated with the sales engineer.

Documents to be made available to us:

To ensure delivery on time we need to have all documents required for manufacture in hand well in time before the agreed delivery date. This, for instance refers to : final scope of supply, details for the torsional vibration calculation, position of the turbocharger exhaust gas outlet. If the documents are incomplete or supplied late we reserve the right to postpone delivery and pass on extra cost.

For CP propeller units equipped with combinator controls we require to check the combinator characteristics during the design stage. If a load control system is to be employed we require to have a copy of the load control diagram.

Special remarks:

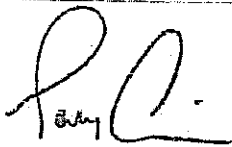
The extent of supply for engine and accessories as laid down in our technical specification incorporates the latest technical development stage and requirements of the classification societies or supervisory bodies at the time of the order acknowledgment. Should these requirements be altered or the classification societies / supervisory bodies request to extend the scope of supply (also for spare parts) as a pre-requisite for acceptance, we reserve the right to charge an appropriate extra price.

The following documents are valid for our offer:

Louisiana Machinery, L.L.C. Sales Contract

We appreciate the opportunity to quote on this project and hope that our offer meets your requirements.

Best Regards,



Gary Aucoin
MaK Business Unit Manager
504-559-3561



Technical Specification 271801 rev 1

Two (2) Mak four-stroke marine main diesel engine to drive two (2) controllable-pitch propellers

Type: 6 M25
 Design: 6 cylinders in-line
 1 counter-clockwise rotation
 1 clockwise rotation
 compressed-air starting, suitable for operation with MDO, max. viscosity: 14 cSt/40 deg C
 Engine complies to EPA Tier 2 emissions

Rated output: 1900 kW at 720 rpm
 reference conditions to ISO 3046/1:

45 deg C (318 K)	air temperature
38 deg C (311 K)	cooling water inlet temperature at charge-air cooler
60 %	humidity
1 bar (100 kPa)	air pressure

The engine will be run at 110 % rated output on the test bed. The fuel rack position will then be limited to 100 %.

Fuel consumption: 186 g/kWh at 100 % rated output
 186 g/kWh at 85 % rated output
 Tolerance: 5 %
 Additional fuel consumption per engine driven pump: +1 %

Reference conditions to ISO 3046/1:

calorific value	LCV = 42,700 kJ/kg
air pressure	1 bar (100kPa)
intake-air temperature	25 deg C (298 K)
charge-air temperature at after cooler	45 deg C (318 K)
cooling water inlet temperature at charge-air cooler	25 deg C (298 K)

In case of different reference conditions conversion of fuel consumption according to ISO 3046/1 Par. 10.4 and 13.2 shall be effected

Lubricating oil consumption (related to 100 % engine output) : 0.6 g/kWh over the entire load range.
 The tolerance is ± 0.3 g/kWh

Exhaust Gas Emission :

Evidence about IMO Marpol 73/78 Annex VI and NOx Technical Code emission compliance of the engine through EIAPP Certificate or EAPP Documents of Compliance or EAPP Statement of Compliance according to the authorization by the flag state and related technical file. An EPA Certificate of conformity will be supplied for US Flag vessels.

IMO SOLAS:

Additional equipment on engine as prerequisite for IMO SOLAS, Chapter II-2, Part A15 (new B4), Regulation 2.9 to 2.11 and 3:

- jacketed high pressure fuel pipes
- leak fuel collecting system with collecting tank and sensor for alarm
- exhaust lagging
- covers for indicator valve and safety valve
- covers for connections in the fuel system
- covers for connections in the luboil system

Provided that other flammable media (i.e. hydraulic oil) could be concerned IMO SOLAS Chapter II-2, Part A15 (new B4), Regulation 4 has to be followed.

Acceptance test run :

Standard acceptance test run of the engine at the water brake on the test bed at the discretion of the contractor with MDO or gas oil.

Test:

Acceptance of the engine and the accessories subject to testing with certificate issued by ABS

Outside preservation

Engine/genset primed according to Caterpillar Motoren-Standard N 576-4.2
Accessories as to maker standard

Inside preservation:

According to Caterpillar Motoren-Standard N 576-3.3

Required kinds of current:

Threephase current	:	480 Volt / 60.Hz
Alternating current	:	230 V
Direct current	:	24 VDC

The electric power supply and the pump controls are not included in the MaK scope of supply.

Engine interfaces:

Engine interfaces with screwed union, counter flange and gaskets as well as electric terminal box.

All connections (incl. material) between engine interfaces and plant components are not included in the MaK scope of supply.

Scale:

Pressure in bar, temperature in deg C, speed in rpm

Lettering/plates:

Lettering and plates in English



Documents to be supplied:

- 4 set of installation documents English
- 4 set (2x as CD-ROM) of documents, consisting of:
 - operating instructions [book A] in English
 - tool and spare parts list and spare parts catalogue [book B] in German/English
 - supplement folder [book C] in English

Engine Components, General

- 2 motor-driven barring gear, fitted on engine, incl. reversing contactor and pushbutton switch with cable, with starting interlock when barring gear is engaged
- 2 electronic speed setting equipment, fitted on engine, consisting of:
 - Actuator (without mechanical back-up) and speed pick-up
- 2 emergency shut-down equipment, fitted on engine, with pushbutton, separate, for manual emergency stop
- 2 power take-off on free end of crankshaft 750 kW

Indicators - Engine

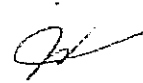
- 2 gauge board, fitted on engine, with 1 set liquid damped pressure gauges each for fuel, lubricating oil, fresh water, starting air and charge air
- 2 set thermometers on the engine for fuel (in case of heavy fuel only), lubricating oil, fresh water and charge air

Electric remote speed indicator, consisting of:

- 2 rpm pick-up, fitted on engine
- 2 indicator, 96x96 mm, fitted in gauge board
- 2 indicator, separate, 144x144 mm, with interior illumination
- 2 turbocharger speed indicator, consisting of:
 - Pulse generator, fitted on engine
 - Indicator, 96x96 mm, fitted in gauge board
- 2 exhaust gas temperature indicator, with selector switch, fitted in gauge board

The analogue signals required for the following remote indicator must be provided by an alarm system not supplied by M&K:

- 2 fresh water (HT) temperature indicator, separate, 96 x 96 mm, input signal 4-20 mA
- 2 lubeoil pressure indicator, separate, 96 x 96 mm, input signal 4-20 mA
- 2 fresh water (HT) pressure indicator, separate, 96 x 96 mm, input signal 4-20 mA
- 2 fuel pressure indicator, separate, 96 x 96 mm, input signal 4-20 mA



Control

- 2 manual control on engine, consisting of:
 - control panel with start/stop key,
 - speed setting device,
 - mechanical shut-down device,
 - change-over of control functions from engine to remote control
- 2 electric start/stop logic on engine
- 2 control cabinet with components for electronic speed setting and engine control

The signals required for change-over of the engine remote control functions must be provided by a central unit for the transfer of control supplied by the propeller supplier.

from ECR:

- 2 panel for electric starting and stopping of the engine

from bridge:

The control unit for speed setting is to be provided by the propeller supplier.

Control of the CP propeller is to be provided by the propeller supplier.

The fuel rack position signal is supplied by MaK.

The overload protection/load control equipment is to be provided by the CP propeller supplier.

The command indicator possibly required by the classification societies is not included.

Monitoring for Unattended Operation

(The monitoring is carried out with analogue and binary sensors. Analogue sensors are indicated specially.)

- 2 set of pressure switches, fitted on engine, for:
 - low lubeoil pressure at full load (alarm)
 - lubeoil pressure at full load below danger level (alarm/reduction)
 - low lubeoil pressure (alarm/analogue sensor)
 - low lubeoil pressure (start of stand-by pump)
 - lubeoil pressure below danger level (alarm/engine stop)
 - low fresh water pressure at engine inlet (alarm/analogue sensor)
 - fresh water pressure at engine inlet below danger level (alarm/engine stop)
 - low fresh water pressure at engine inlet (start of stand-by pump)
 - low fresh water pressure in LT circuit (alarm/analogue sensor)
 - low fresh water pressure in LT circuit (start of stand-by pump)
 - low starting air pressure (alarm/analogue sensor)
 - low control air pressure engine/shutdown air pressure (alarm)
 - low fuel pressure at engine inlet (alarm/analogue sensor)
 - low fuel pressure at engine inlet (start of stand-by pump)
- 2 set of switches, fitted on engine, for:
 - high lubeoil temperature at engine inlet (alarm/analogue sensor)
 - lubeoil temperature at engine inlet above danger level (alarm/reduction or engine stop)
 - high fresh water temperature at engine outlet (alarm/analogue sensor)
 - fresh water temperature at engine outlet above danger level (alarm/reduction or engine stop)

- high charge-air temperature at engine inlet (alarm/analogue sensor)
- low lubeoil level in wet sump oil pan (alarm)
- detection of water in charge-air duct (alarm)
- leak fuel level (alarm)
- alarm contact for high differential pressure at fuel filter (alarm)
- alarm contact for high differential pressure at lubeoil filter (alarm)

pressure switch : make TRAFAG.
 temperature switch : make SENSYCON.

- 2 alarm contact for high differential pressure at lubeoil back-flushing filter (alarm)
- 2 set of thermocouples (Ni/CrNi, signals in mV) after each cylinder, before (not for M20) and after turbocharger
- 2 exhaust gas mean-value monitoring equipment, cassette type, including monitoring after turbocharger (alarm/reduction)
- 2 speed recording and fuel rack position system, cassette type, with service hour counter meter, speed-limit switches, fuel rack position signals and contacts.

signal outputs:

- Overspeed and firing speed
- Alarm suppression below minimum speed (n min)
- Alarm suppression below 0.7 full speed
- Speed-dependent control for start of lubeoil stand-by pump of the engine
- fuel rack position signal 4-20 mA (twice) and 0-10 V
- 2 contacts for overload

An equipment for oil detection in the cooling water is not included.

- 2 protection equipment, cassette type, designed for:
 - automatic and manual stop input signals
 - automatic speed or power reduction input signals
 - starting interlock input signals

All of the input signal units and the emergency shutdown solenoid are monitored for wire break. The equipment works according to the open-circuit system.

Alarm system, not delivered by MaK

The alarm system must be equipped for analogue and binary inputs. For pressure and temperature remote indicators analogue outputs are to be provided according to the requirements of classification societies.

Air Intake System

- 2 air intake filter, fitted on turbocharger

Diesel Oil System

- 2 circulating pump, fitted on engine
- 2 duplex filter, fitted on engine, with differential pressure indication

Exhaust System

- 2 turbocharger at driving end, with transition nozzle,
Nozzle position: 90 degrees from the vertical and away from the engine, with compressor cleaning device
- 1 expansion joint, separate
- 2 silencer and spark arrester, separate, unlagged, 35 dB(A)

Fresh Cooling Water System (designed for two-circuit cooling)

- 2 HT pump, fitted on engine
- 1 HT pump, separate, vertical design, electric motor driven
- 2 LT pump, fitted on engine
- 1 LT pump, separate, vertical design, electric motor driven
- 2 HT thermostat, not powered, separate
- 2 control unit to preheat the charge air at part load condition, separate
- 2 engine preheating equipment, separate, consisting of:
electric preheater, switch box and pump

Lubricating Oil System

- 2 cooler, separate (material: stainless steel)
- 2 force pump, fitted on engine
- 1 force pump, separate, vertical design, electric motor driven
- 2 automatic backflushing filter, fitted on engine
- 2 pressure control valve, fitted
- 2 thermostat, not powered, separate
- 2 wet sump pan, fitted on engine

Connecting Parts - Engine

- 2 set of connecting parts between flange coupling and flywheel
- 2 flexible flange coupling between engine and gearbox

Tools

- 1 set tools for the engine (basic equipment) incl hydraulic tightening tools and nozzle tester
- 1 set of tools for turbocharger (basic equipment)
- 1 set of tools to DIN standards

1 Maximator pump instead of hand pump for hydraulic tightening tools

1 crank web deflection dial gauge

Spare Parts

1 set of engine spares for unrestricted voyage

1 set of spare gearwheels for engine camshaft drive

End of Technical Specification 271801 rev 1

End of Offer

