



LONGO ELECTRICAL-MECHANICAL, INC.

Industrial Electrical and Mechanical Service and Sales Specialists
ENGINEERS REBUILDERS DISTRIBUTORS

ORIGINAL INVOICE

PLEASE REMIT CHECKS TO:
P.O. BOX 511
WHARTON, NJ 07886-0511

FED I.D. # 22-1621596

ONE HARRY SHUPE BLVD.
PO BOX 511
WHARTON, NJ 07886
(973) 537-0400

1625 PENNSYLVANIA AVE.
LINDEN, NJ 07036
(908) 925-2900

829 EAST 144TH ST.
BRONX, NY 10454
(718) 585-5330

1400 ADAMS RD.
UNIT F
BENSALEM, PA 19020
(215) 638-1333

BILL TO: 4530
ATLANTIC COUNTY UTILITIES AUTHORITY
PO BOX 996
PLEASANTVILLE, NJ 08232-0996

SHIP TO: A.C.U.A
ADMINISTRATION OFFICES
P.O. BOX 996
PLEASANTVILLE, NJ 08232-0996
ATTN: WILLIAM BILL

DATE:	CUSTOMER ORDER NO.	JOB TICKET NO.	INVOICE NO.
6/19/2018	C7-00032	01824200	018242

SHIPMENT NO:	18242	DATE SHIPPED:	5/15/2018	SALESPERSON:	00N	TERMS:	NET 30
HP / KW:	1250	RPM:		MANUF:		PH / HZ:	
VOLTS:		AMPS:	77	FRAME:		SERIAL NO:	
MOD/TYPE:							
DESCRIPTION:	JOHNSON 48CMC-1 VERTICAL TURBINE PUMP						

ORDER	SHIP	B/O	DESCRIPTION	UNIT	TOTAL
1	1		CONTRACT AMENDMENT #1: C7-00032 JOHNSTON 48CMC-1 VERTICAL PUMP REPAIR	\$ 87,275.00	\$ 87,275.00
SUBJECT TO TERMS AND CONDITIONS ATTACHED				INVOICE SUBTOTAL	\$ 87,275.00
				SALES TAX	\$ -
				TOTAL AMOUNT OF INVOICE	\$ 87,275.00

We hereby certify that these goods were produced in compliance with all applicable requirements of Section 6,7 and 12 of the Fair Labor Standards Act, as amended, and of regulations and orders of the United States Department of Labor issued under Section 14 thereof.



Atlantic County Utilities Authority

P.O. Box 996 • Pleasantville, NJ, 08232-0996

street address: 6700 Delilah Rd., Egg Harbor Twp., NJ, 08234-5623

609.272.6950 • acua.com

Andy

January 3, 2018

Joseph M. Longo, President
Longo Electrical Mechanical
1 Harry Shupe Blvd.
Wharton, NJ 07885

RE: Contract Amendment – 2017-WW-12

Dear Mr. Longo:

Please be advised that the Authority Board has approved a contract amendment increasing the maximum amount of your contract by \$17,345.00 to \$87,275.00. A copy of ACUA Resolution 17-12-279 approving this contract amendment is enclosed for your information and reference.

If you have any questions, please do not hesitate to call.

Very truly yours,

A handwritten signature in cursive script, appearing to read "Patricia Keeper", with a long horizontal flourish extending to the right.

Patricia Keeper
Assistant Board Secretary

Enc.

cc: Purchasing Department
Dennis Smith, Maintenance Resource Coordinator

RESOLUTION 17-12-279: APPROVES CONTRACT AMENDMENT TO CONTRACT WITH LONGO ELECTRICAL MECHANICAL, BID 2017-WW-12, FOR JOHNSON 48CMC-1 VERTICAL PUMP. AMOUNT OF INCREASE IS \$17,345.00.

**ATLANTIC COUNTY UTILITIES AUTHORITY
RESOLUTION 17-12-279**

**RESOLUTION AUTHORIZING
CONTRACT AMENDMENT TO CONTRACT WITH
LONGO ELECTRICAL MECHANICAL
FOR JOHNSON 48CMC-1 VERTICAL PUMP REPAIR, BID 2017-WW-12**

WHEREAS, a contract was awarded in Bid 2017-WW-12, for Johnson 48CMC-1 Vertical Pump Repair in the amount of \$69,930.00; and

WHEREAS, due to the matters set forth in detail below and in the attached documentation including the Certification of Dennis Smith, Maintenance Resource Coordinator, for the reasons set forth therein, it is necessary to increase the amount of said contract; and

WHEREAS, pursuant to N.J.A.C. 5:30-11.9 the Chief Finance Officer of the Authority has filed with the Board a request for the Change Order indicating why the proposed Change Order is allowed under the applicable State Regulations; and

WHEREAS, it is the desire of the Authority to authorize these changes;

NOW, THEREFORE, BE IT RESOLVED by the Board of Commissioners of the Atlantic County Utilities Authority as follows:

1. That the contract with the said Longo Electrical Mechanical be and hereby is amended as follows:

A. Contract amendment No. 1, due to the unanticipated repairs, upward adjustment of \$17,345.00 is approved;

Original contract amount:	\$69,930.00
This contract amendment-increase:	\$17,345.00
Revised contract amount:	\$87,275.00
Total change orders to date:	\$17,345.00 increase
Total change order percentage:	24.9 % increase

2. Attached hereto is the certification of the Chief Finance Officer of the Authority which states that there are available and sufficient legally appropriated funds for the purposes set forth above. A copy of said certification shall be filed in the office of the Secretary of the Authority with the original resolution.

3. The Authority accepts the attached memorandum from Dennis Smith dated December 12, 2017 as the certification required by N.J.A.C. 5:30-11.9(b), explaining the need for the contract amendment and the circumstances surrounding its issuance.

4. Pursuant to N.J.A.C. 5:30-11.9(c)(b) a notice shall be printed in the Authority's designated official newspaper stating the amount to be expended, the original contract price, the nature of the original and additional work and why it is necessary to spend the additional funds. A copy of the advertisement shall be filed with the Secretary of the Authority and shall be available for inspection by the public.

5. Pursuant to N.J.A.C. 5:30-11.9(d) this contract amendment shall be reported in the annual audit of the Authority filed with the Division of Local Government Services and shall be appended to the Authority's annual budget and shall be reported to said Division in accordance with N.J.A.C. 5:30-11.9(d).

6. This resolution shall take effect upon approval by the Atlantic County Executive pursuant to law.

ATLANTIC COUNTY UTILITIES AUTHORITY


MARVIN EMBRY, CHAIRMAN

(SEAL)


BRIAN G. LEFKE, SECRETARY

Date adopted: December 21, 2017



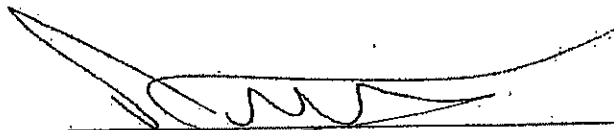
DATE: December 11, 2017
TO: Chairman Marvin Embry and Authority Board Members
FROM: Dennis Smith – Maintenance Resource Coordinator
RE: Contract Amendment Exceeding 20% Limitation
Bid 2017-WW-12
Amount of Increase Requested - \$17,345.00
Total Contract Amendments to date: \$17,345.00

Re: Bid 2017-WW-12 Amendment #1 -Vertical Pump Repair 1250HP 48CMC-1 (Longo Electrical)

Additional repairs were found on this particular vertical pump once the entire the pump was broken down and the ACUA was contacted and visited Longo Electrical to verify. The total cost of this additional work will be \$17,345.00.

The Engineering/Centralized Maintenance Department is hereby recommending approval of this Amendment in the total amount of \$17,345.00

I certify that the foregoing statements made by me are true. I am aware that if any of the foregoing statements made by me are willfully false, I am subject to punishment.

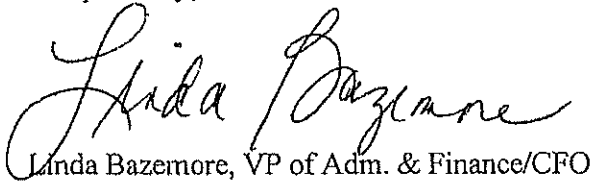
A handwritten signature in black ink, appearing to be 'Dennis Smith', written over a horizontal line.

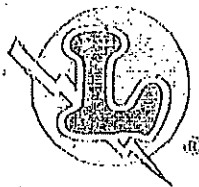
DATE: December 12, 2017
TO: Chairman Marvin Embry and Authority Board Members
FROM: Linda Bazemore, VP of Adm. & Finance/CFO
RE: Contract Amendment Exceeding 20% Limitation
Bid 2017-WW-12
Original Contract Amount - \$69,930.00
Amount of Increase Requested - \$17,345.00
Total Contract Amendments to date: \$17,345.00

This contract amendment is requested in accordance with the requirements of N.J.A.C. 5:30-11.9(b). The ACUA sent out a vertical pump 1250HP for repair. When the entire pump was disassembled it was determined that additional repairs were required prior to placing the pump back into service. The original contract amount totaled \$69,390 for various repairs. The total cost for the additional work associated with the 1250HP pump repair will amount to \$17,345.00 resulting in a total revised contract amount of \$87,275.00.

This amendment will allow the ACUA to ensure that the pump is properly repaired and therefore enable the Wastewater Plant to continue to operate effectively and efficiently.

Respectfully,


Linda Bazemore, VP of Adm. & Finance/CFO



LONGO
Electrical-Mechanical, Inc.

Wharton Servicenter



November 1, 2017

Atlantic County Utilities Authority
6700 Delilah Road
Egg Harbor Twp., NJ 08234-5623

Attn: William Bill

Re: Contract C7-00032: Johnston 30MS-1 & 48CMC-1 Vertical Pump Repair
Additional Findings

William,

Per our conversations and your shop visit today, below are the recommended repair options and associated costs for the above referenced pumps for your consideration.

Johnston 30MS-1 and 48CMC-1 Vertical Pumps

Finding: Both pumps were received heavily rusted.

- Required Repair: Blast all pump parts to clean metal.
- Your cost will be \$2,930.00

Johnston 30MS-1 Pump:

Finding: Split Rings were not received with pump parts (missing)

- Required Repair: Manufacture new split rings.
- Your cost will be \$530.00

Johnston 48CMC-1 Pump:

Finding: Pump shaft impeller area is off center by 0.007".

- Recommended Repair Options:

Option 1: Chrome plate and finish grind impeller area.

- Your cost will be \$2,390.00

Option 2: Manufacture new pump shaft.

- Your cost will be \$5,125.00

"Service Through Knowledge"

Johnston 48CMC-1 Pump (cont'd):

Finding: Bowl has an additional 8 cracked vanes on discharge side. Mounting flange is heavily eroded on back side.

- Recommended Repair: Excavate 8 cracks in discharge side vanes 8" long, pre-heat and weld vanes, slow cool and blend to contour. Skim Bearing bore concentric.
- Your cost will be \$7,850.00

Option: Machine back face of mounting flange flat (1/4" max):

- Your cost will be \$890.00

Finding: Suction Bell support gussets and adjacent areas are severely eroded.

- Recommended Repair:

Option 1: Leave as is. (Not recommended)

Option 2: Fill in eroded areas with Belzona. Coat entire inner surface with ceramic epoxy.

- Your cost will be \$2,960.00

Option 3: Remove the 4 support gussets, manufacture and install new gussets, skim bearing bore concentric.

- Your cost will be \$4,750.00

We look forward to reviewing these findings with you, and await your approval to proceed.

We recognize that on occasion you may decline the repairs we recommended to restore the unit to fully-restored condition. However, the lack of full restoration may result in higher long-term unit costs due to a greater frequency of repairs and a shorter service life. Our warranty will be limited to components repaired or replaced within the authorized workscope.

Regards,

Andrew N. Fuls
Vice President

extension 750

Cc: John Latorre

Certification Of Availability of Funds

This is to certify to the UTILITY AUTHORITY of the ATLANTIC COUNTY UTILITIES AUTHORITY that funds for the following resolutions are available.

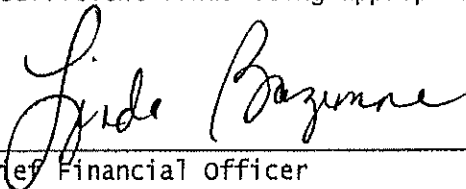
Contract Amount: 87,275.00
Resolution Date: 12/21/17
Resolution Number: 17-12-279

Vendor: L1216 LONGO ELECTRICAL-MECHANICAL, IN
PO BOX 511
WHARTON, NJ 078850511

Contract: C7-00032 JOHNSON 48CMC-1 VERTICAL PUMP
REPAIR

Account Number	Amount	Department Description
7-W1- -00E-909	17,345.00	
Total	17,345.00	

Only amounts for the 2017 Budget Year have been certified. Amounts for future years are contingent upon sufficient funds being appropriated.



Chief Financial Officer



LONGO ELECTRICAL-MECHANICAL, INC.

Industrial Electrical and Mechanical Service and Sales Specialists

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829 E. 144th ST.
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1400 ADAMS RD. - UNIT F
BENSALEM, PA 19020
Phone (215) 638-1333
Fax (215) 638-1366

FED. I.D. # 22-1621590

BILL TO:

004530
ATLANTIC COUNTY UTILITIES AUTH
P.O. BOX 996
PLEASANTVILLE, NJ 08232-0996

SHIP TO:

ATLANTIC CITY UTILITIES AUTH
1801 ABSECON BLVD.
ATLANTIC CITY, NJ 08401

William Bill (609) 313 7746

DATE	CUSTOMER ORDER NO.	Customer JOB TICKET NO.	SHIPMENT NO.
5/15/88	C7-00032	01824200	01824200

SHIPMENT NO.

DATE SHIPPED:

SALESPERSON:

00N TERMS:

NET 30

HP/KW:

RPM:

MFG:

JOHNSTON

PH/HZ:

VOLTS:

AMPS:

FRAME:

SERIAL NO:

TJ1211

MOD/TYPE:

48CMC-1

DESCRIPTION:

48CMC-1 VERTICAL TURBINE PUMP

ORDER	SHIP	B/O	DESCRIPTION
1	1		Pump Repaired ① BOWL / TAPER COL. ASSEMBLY ① BOWL / TAPER COL. ASSEMBLY ① COLUMN PIPE - SHORT ① DISCHARGE HEAD ② SHAFTS W/ COUPLINGS ① SKID W/ BOLTING, MOTOR COUPLING 1/2, ADJUSTING NUT, & STUFFING BOX

DELIVERY DATE

DRIVER

RECEIVER

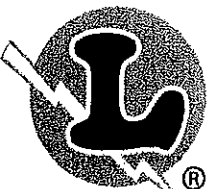
X *[Signature]* KEVIN EMES

We hereby certify that these goods were produced in compliance with all applicable requirements of Section 6, 7 and 12 of the Fair Labor Standards Act, as amended, and of regulations and orders of the United States Department of Labor issued under Section 14 thereof.

SUBJECT TO TERMS & CONDITIONS ON REVERSE SIDE

SIGN & RETURN

CSFJML950103.1



LONGO ELECTRICAL-MECHANICAL, INC.

Industrial Electrical and Mechanical Service and Sales Specialists

ENGINEERS • REBUILDERS • DISTRIBUTORS

FED. I.D. # 22-1621596

829 E. 144th ST.
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Fax (215) 638-1366

BILL TO: 004530
ATLANTIC COUNTY UTILITIES AUTH
P.O. BOX 996
PLEASANTVILLE, NJ 08232-0996

SHIP TO: ATLANTIC CITY UTILITIES AUTH
1801 ABSECON BLVD.
ATLANTIC CITY, NJ 08401

Customer ID# 48CMC 1 STG VERT PMP

DATE 5/18/18	CUSTOMER ORDER NO. 01824200	JOB TICKET NO. 01824200	SHIPMENT NO. 01824200
SHIPMENT NO.	DATE SHIPPED:	SALESPERSON: JOHNSTON	TERMS:
HP/KW:	RPM:	MFG:	PH/HZ: TJ1211
VOLTS:	AMPS:	FRAME:	SERIAL NO:
MOD/TYPE:	48CMC-1 VERTICAL TURBINE PUMP		
DESCRIPTION:			

ORDER	SHIP	B/O	DESCRIPTION
	1		PUMP COLUMN
	1		DISCHARGE RING

DELIVERY DATE

DRIVER

RECEIVED

X

We hereby certify that these goods were produced in compliance with all applicable requirements of Section 8, 7 and 12 of the Fair Labor Standards Act, as amended, and of regulations and orders of the United States Department of Labor issued under Section 14 thereof.

SUBJECT TO TERMS & CONDITIONS ON REVERSE SIDE

SIGN & RETURN

CSFJML950103.1



LONGO
Electrical-Mechanical, Inc.

Longo Electrical Mechanical, Inc.

Wharton Corporate Center



FINAL ENGINEERING REPORT

**FOR THE ACUA JOHNSTON
VERTICAL TURBINE PUMP
MODEL: 48CMC, 1 STAGE
SERIAL # TJ-1211**

**AT THE ATLANTIC CITY
REGIONAL WASTEWATER FACILITY**

Prepared for: Mr. William Bill

Prepared by: Lee C. Ma
Pump Engineer
Tel: 973-537-0400
Fax: 973-537-0404
Ima@elongo.com
www.elongo.com

Dated: June 20, 2018

"Service Through Knowledge"®

REPAIR OF THE JOHNSTON VTP MODEL: 48CMC, 1 STAGE

Customer: ATLANTIC COUNTY UTILITIES AUTHORITY

Location: Atlantic City, NJ

Customer PO # C7-00032

INCOMING:

Reason for Service: Pump Major Repair and Overhaul

Seal Type: Split Type Mechanical Seal ; (Not Received)

Flush Line: Yes; (Not Received)

PUMP PARTS RECEIVED IN SHOP
(Disassembled by others):

This Johnston Vertical Turbine Pump was received at Longo's Wharton Facility disassembled by Ruhrpumpen, Inc.

Longo Repair Job Number: 018242.

NOTE:

Longo verified Ruhrpumpen Findings Report (Ref: Ruhrpumpen Job # 16VA0329, Rev 2) dated December 14, 2017 as basis of this repair.

REPAIR OF THE JOHNSTON VTP MODEL: 48CMC, 1 STAGE

Summary of Repaired and Replaced Pump Parts:

DISCHARGE HEAD, STUFFING BOX, PUMP-HALF COUPLING & ADJUSTING NUT:

Reused and Replaced Parts:

- 1- The Repaired Pump Half Coupling Adjusting Nut is being reused.
- 2- The Repaired Discharge Head was sandblasted clean and coated inside and painted outside surfaces for reuse
- 3- The Repaired Stuffing Box is being reused.
- 4- The Stuffing Box Bearing is replaced.
- 5- **NOTE:** The pump-to-motor Coupling Bolts & Nuts were not received

Repaired Details:

- 1- The Stuffing Box face was re-machined to accept new mechanical seal.
- 2- The Pump Half Coupling bore was remachined, then cleaned and Painted outside surface for reuse.
- 3- The Discharge Head was remachined at face for Stuffing Box Mounting.

COLUMNS ASSEMBLY:

Reused and Replaced Parts:

- 1- All Three (3) Repaired Column Pipes are being reused.
- 2- Replaced the Two (2) Column Spider Cutless Rubber Bearings

Repaired Details:

- 1- The Top Short Column, Intermediate Long Column & Lower tapered Column Pipes with all male and female Register Fits have been weld repaired and re-machined to fit their mating parts. Plus, remachined the Bearings fit.
- 2- Sandblasted all Column Pipes clean and then coated for reuse.

REPAIR OF THE JOHNSTON VTP MODEL: 48CMC, 1 STAGE

BOWL, IMPELLER & SUCTION BELL ASSEMBLY:

Reused and Replaced Parts:

1. The Repaired Bowl is being reused.
2. The Repaired Suction Bell is being reused.
3. The Remachined Impeller is being reused.
4. The Retaining Rings are being reused.
5. The Bowl and Suction Bell Assembly Fasteners are being reused.

Repaired Details:

1. The Bowl was Repaired by Excavated 8 cracks in discharge side vanes 8" long, pre-heat and weld vanes, slow cool and blend to contour. Plus, remachine back face of Mounting Flange flat and remachined registered fits and skim-cut Bearings bores concentric.
2. The Suction Bell was Repaired by removed the four (4) severely corroded support gussetts, manufactured and welded four (4) new gussetts, and weld repaired the two (2) cracks plus remachined registered fits and skim-cut bearing bore concentric.
3. The Impeller was remachined at the Wear Ring OD and then Dynamic Balanced for reuse.

SHAFTS & SHAFT COUPLING:

Reused and Replaced Parts:

1. The Repaired Pump Shaft is being reused.
2. The Repaired Lower Intermediate Shaft is being reused.
3. The Repaired Upper Intermediate Shaft is being reused.
4. The Repaired Head Shaft is being reused.
5. The Repaired Three (3) Shaft Couplings are being reused
6. Replaced the shaft keys, thrust studs and shaft coupling set screws.

Repaired Details:

1. The Pump Shaft Impeller fit area has been stripped of old chrome plating and was Re-Chrome Sprayed and ground to size for reuse.
2. The Two (2) Intermediate Shafts have been stripped of old chrome plating and were Re-Chrome Sprayed and ground to size for reuse.
3. The Head Shaft has been stripped of old chrome plating and was Re-Chrome Sprayed and ground to size for reuse.

REPAIR OF THE JOHNSTON VTP MODEL: 48CMC, 1 STAGE

4. All Three (3) Sleeve type Shaft Couplings bores were repair welded and ground to size for reuse.

PUMP RE-ASSEMBLY & FINAL REPORT

Cleaned, Coated, Painted & Inspected all finished parts; Assemble pump complete, match mark and then Partially Disassembled for pump delivery and field re-assembly.

Record all "as built" dimensions and provide customer with a Final Engineering Report

Summary of Final Dimensional Measurements:

Re-Chromed Pump Shafts:

Head Shaft: 4.500" diameter x 107.687" Long with run-out of 0.001"/ 0.003" FIM	GOOD
Upper Line Shaft: 4.500" diameter x 120.00" Long with run-out of 0.001"/ 0.003" FIM	GOOD
Lower Line Shaft: 4.500" diameter x 60.00" Long with run-out of 0.001"/ 0.0015" FIM	GOOD
Pump Shaft: 4.500" diameter x 78.00" Long with run-outs of 0.001"/ 0.002" FIM	GOOD

Fit at Pump Half Coupling:

Shaft OD:	4.497" diameter	
Coupling ID:	4.501" diameter	
Fit:	0.004" Loose Fit	GOOD

Final Impeller Fit to Shaft:

Pump Shaft OD:	4.499" diameter (located by split ring)	
Impeller Bore:	4.504" diameter	
Fit:	0.005" Loose Fit	GOOD

REPAIR OF THE JOHNSTON VTP MODEL: 48CMC, 1 STAGE

Final Impeller Wear Ring versus Bowl Wear Ring Fit:

Impeller Wear Ring OD	28.266" diameter	
Bowl Wear Ring ID	28.205" diameter	
Fit (running clearance)	0.061" diameter	GOOD

Upper (short) Flanged Column Pipe:

62" Pipe x 60.00" Long Flange to Flange

Intermediate (long) Flanged Column Pipe:

62" Pipe x 120.00" Long Flange to Flange

Lower Tapered Flanged Column Pipe:

62" Pipe Tapered x 61.00" Long Flange to Flange

Final Repaired Register Fits:

Discharge Head ID	6.997"	Female fit	
Stuffing Box OD	6.993"	Male fit	
Total Clearance:	0.004"	Diametrical	GOOD
Discharge Head	49.030"	Female fit	
Upper Column	49.020"	Male fit	
Total Clearance:	0.010"	Diametrical	GOOD
Upper Column	48.905"	Female fit	
Interm Column	48.898"	Male fit	
Total Clearance:	0.007"	Diametrical	GOOD
Interm Column	48.902"	Female fit	
Tapered Column	48.895"	Male fit	
Total Clearance:	0.007"	Diametrical	GOOD
Tapered Column	36.898"	Female fit	
Bowl	36.887"	Male fit	
Total Clearance:	0.011"	Diametrical	GOOD
Bowl	38.720"	Female fit	
Suction Bell	38.712"	Male fit	
Total Clearance:	0.008"	Diametrical	GOOD

REPAIR OF THE JOHNSTON VTP MODEL: 48CMC, 1 STAGE

Final Bearing Running Clearance:

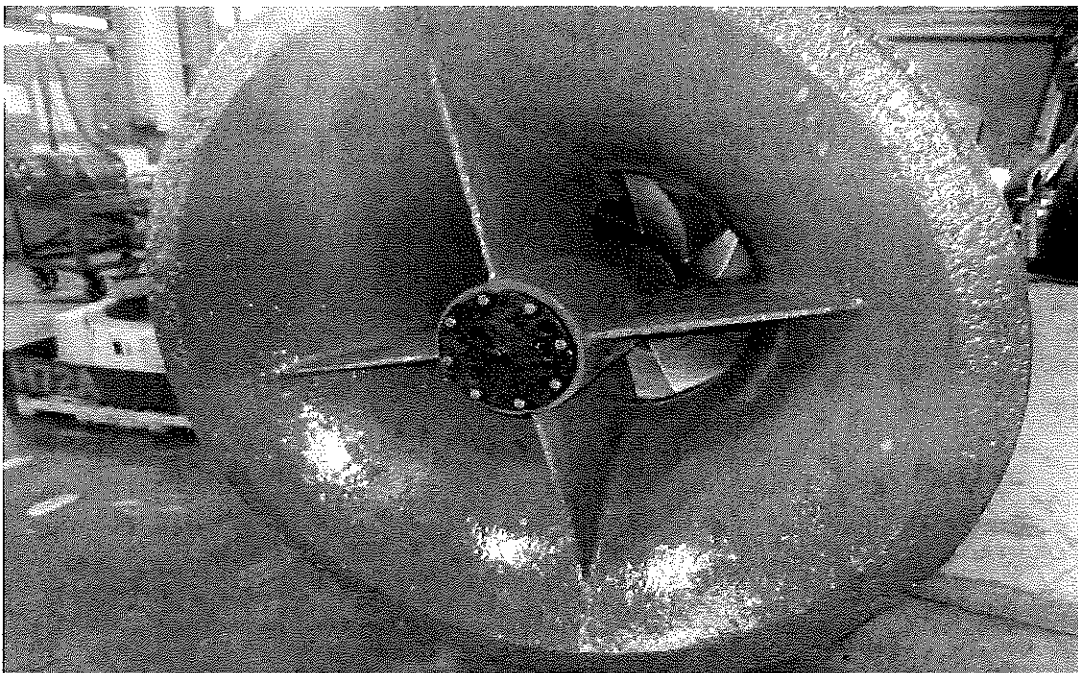
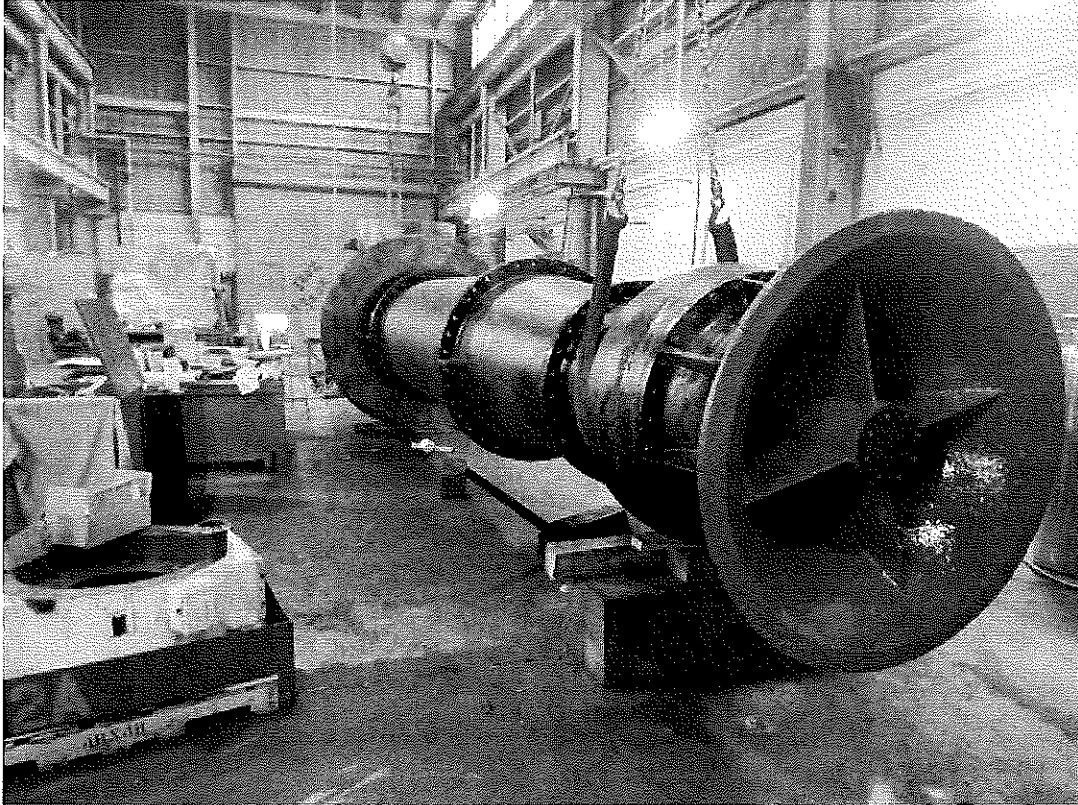
Bearing	Shaft OD	Brg ID	Radial Clearance	Result
Stuff Box	4.499"	4.514"	0.0075"	GOOD
Spider 1	4.499"	4.520"	0.0105"	GOOD
Spider 2	4.499"	4.520"	0.0105"	GOOD
Bowl 1	4.499"	4.515"	0.008"	GOOD
Bowl 2	4.499"	4.515"	0.008"	GOOD
Bell	4.498"	4.515"	0.0085"	GOOD

NOTE: The Final Pump Vertical Lift measured: 2.750"

The following photographs are to show Final Assembled Pump at Longo Facility and then Disassembled Pump Components & Parts shipped loose to ACUA, Atlantic City, NJ Facility.

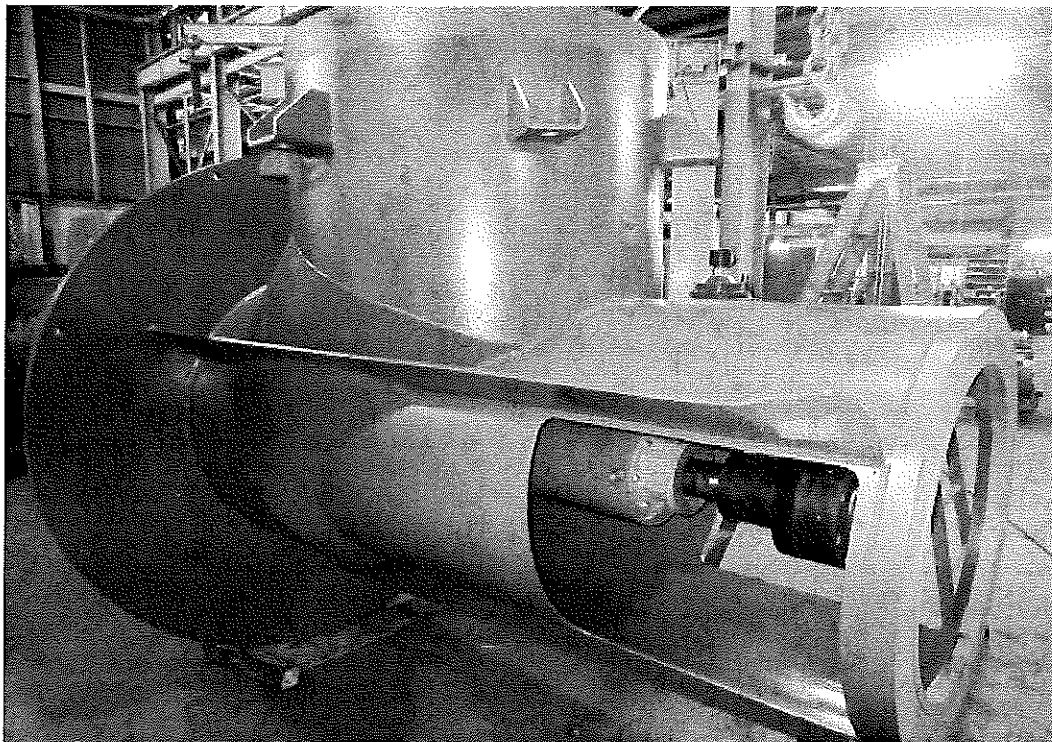
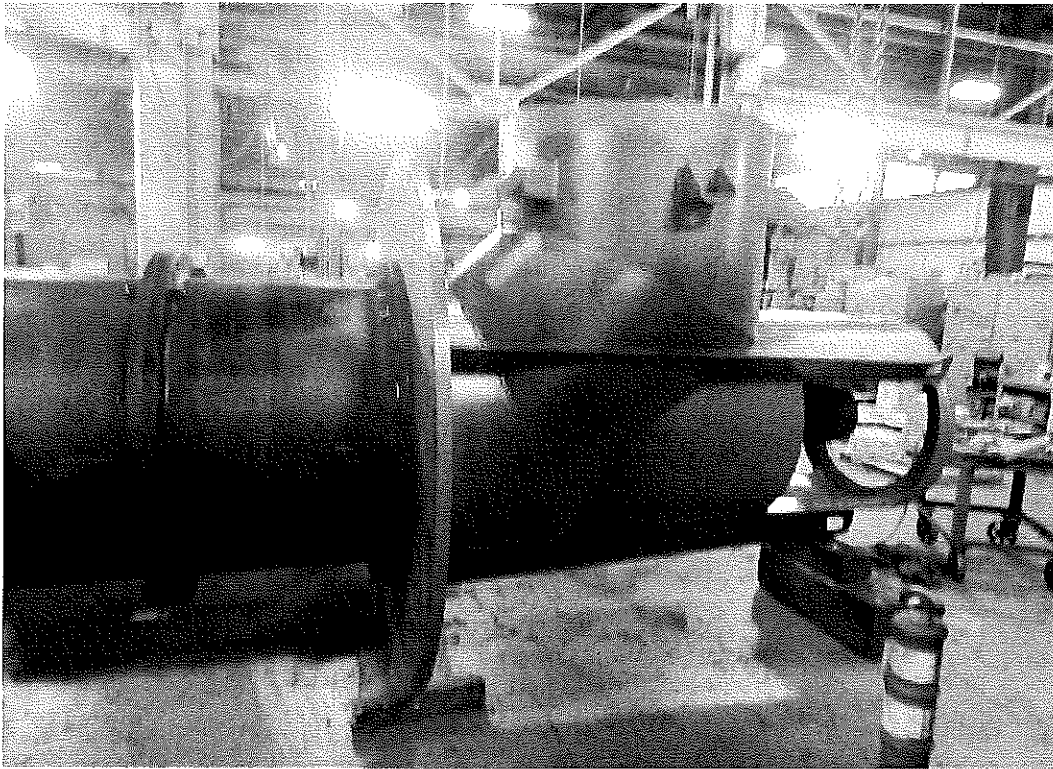
REPAIR OF THE JOHNSTON VTP MODEL: 48CMC, 1 STAGE

**FINAL ASSEMBLED PUMP AT LONGO
VIEWED FROM SUCTION BELL END**



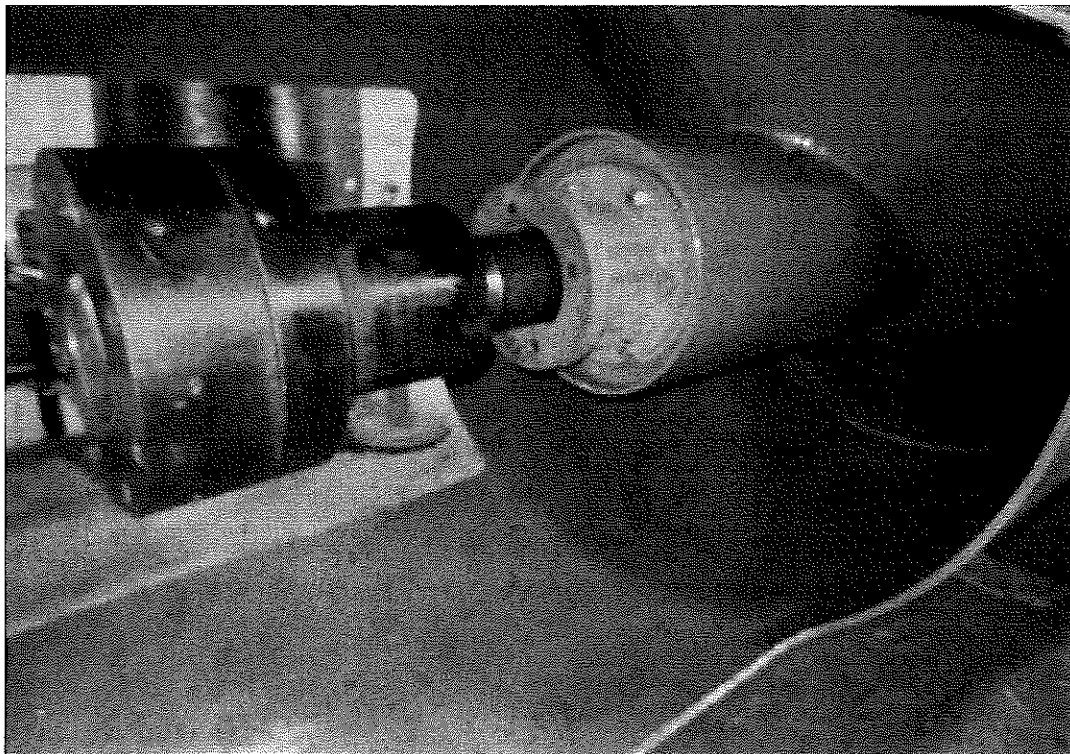
REPAIR OF THE JOHNSTON VTP MODEL: 48CMC, 1 STAGE

**FINAL ASSEMBLED PUMP AT LONGO
VIEWED FROM DISCHARGE HEAD END**

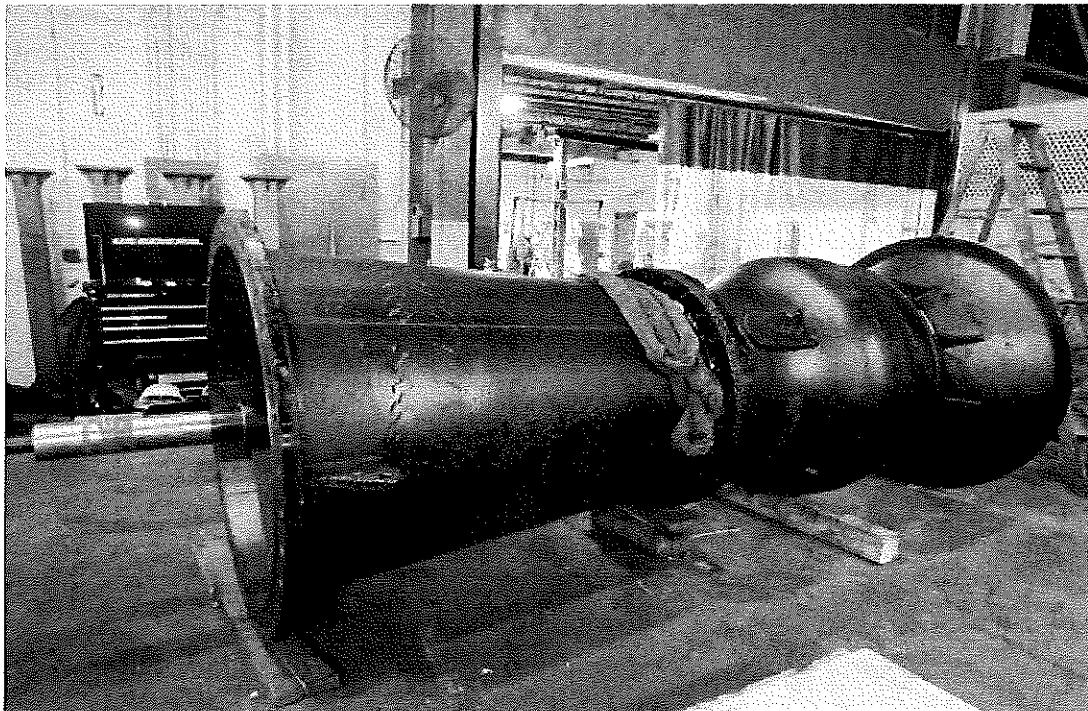


REPAIR OF THE JOHNSTON VTP MODEL: 48CMC, 1 STAGE

ASSEMBLED STUFFING BOX AND PUMP HALF COUPLING AREA

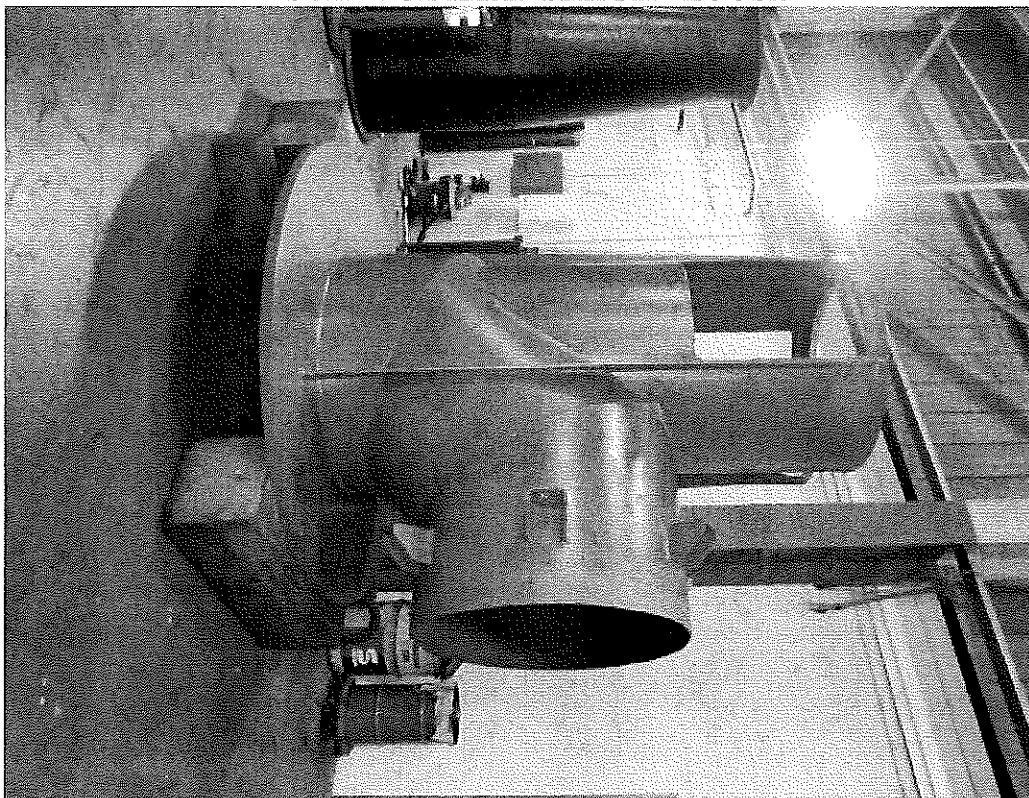


PUMP WET END ASSEMBLY WITH TAPERED COLUMN SHIPPED LOOSE



REPAIR OF THE JOHNSTON VTP MODEL: 48CMC, 1 STAGE

DISCHARGE HEAD SHIPPED LOOSE

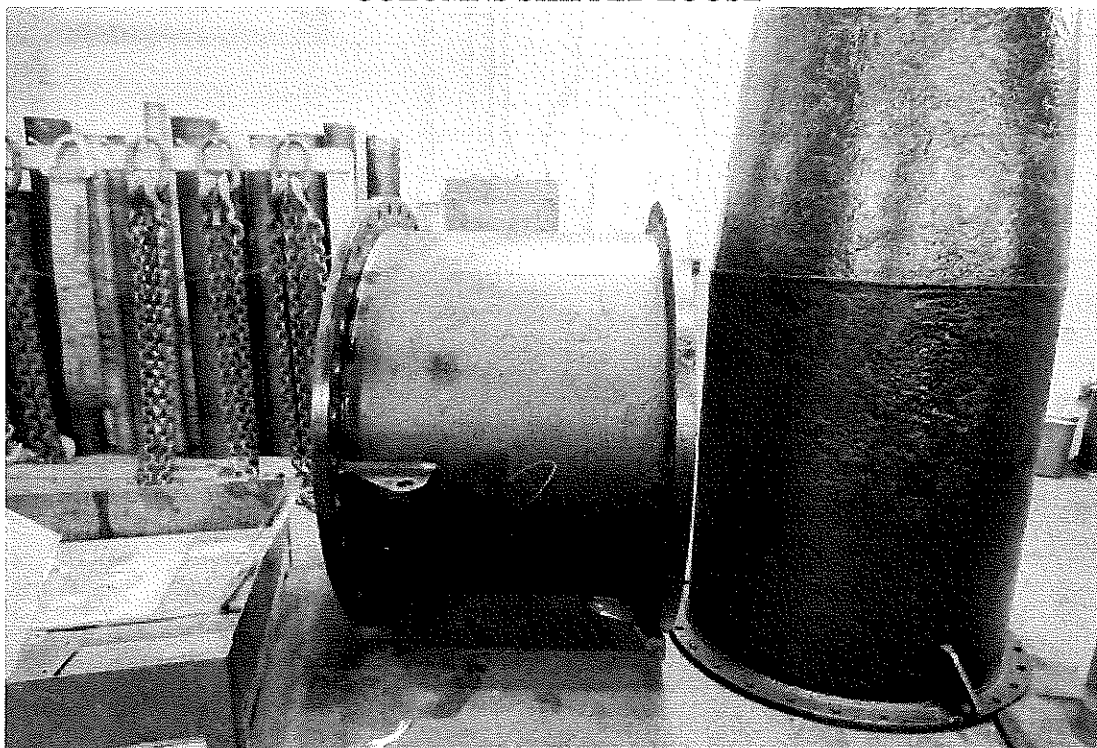


SHAFTS WITH SHAFT COUPLINGS SHIPPED LOOSE



REPAIR OF THE JOHNSTON VTP MODEL: 48CMC, 1 STAGE

COLUMNS SHIPPED LOOSE



REPAIR OF THE JOHNSTON VTP MODEL: 48CMC, 1 STAGE

OTHER PUMP PARTS SHIPPED LOOSE

