

**Additional Funding Request**  
**INVOICE**

VA049	CSS# 31551 WO# 14549 Asset# NA									
Description of Repairs	Tried to measure inlet gas pressure but no pressure port. Installed pressure port, measured pressure, gas is ok. Boilers 2 and 4 have defective touchscreens, can't see any error codes. Tidewater co will replace them. Have to call manufacturer about boiler 1, some issue with modulation. Boiler 3 runs can't ignite. Checked gas, air, cleaned ignitor and flame sensor but still don't ignite. Will return.									
Diagnosis: Initial Work Order	Boilers have faulted out and will not run.									
Diagnostic Fee	\$ 0									
Additional Labor Cost to Perform Repairs	\$ 1,200 Moore's Labor \$120/hr x 10									
Additional Cost	\$ 1,279.17 <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33%;">Materials (see attached detail)</td> <td style="width: 33%;">1</td> <td style="width: 33%;">\$1,279.17</td> </tr> <tr> <td colspan="3" style="text-align: right;">\$1,279.17</td> </tr> </table>				Materials (see attached detail)	1	\$1,279.17	\$1,279.17		
Materials (see attached detail)	1	\$1,279.17								
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Total Cost of Repair	\$ 2,479.17									



Moore's Electrical & Mechanical Construction, Inc.

SERVICE INVOICE: 504353

**BILL TO:**  
TIDEW003  
TIDEWATER, INC  
6625 SELNICK DRIVE SUITE A  
ELKRIDGE, MD 21075

**SHIP TO:**  
8235892  
USARC VA049 CHESTERFIELD  
6700 STRATHMORE ROAD  
NORTH CHESTERFIELD, VA 23237

<u>INVOICE DATE</u>	<u>CUSTOMER PO</u>	<u>PAYMENT TERMS</u>	<u>REFERENCE #</u>	<u>WORKORDER #</u>	<u>CONTRACT ID</u>
08/05/2021	14549	Due in 30 Days		COM0158049	
Pages 1 of 3					
<u>ITEM ID</u>	<u>DESCRIPTION</u>	<u>QTY</u>	<u>SERV DATE</u>	<u>UNIT PRICE</u>	<u>EXT PRICE</u>
CMISCX-NON-STOCK ITEM	3//4 150 BLK MI TEE	1.00		2.07	2.07
CMISCX-NON-STOCK ITEM	34X1//8 BLK STEEL HEX BUSH	1.00		3.15	3.15
CMISCX-NON-STOCK ITEM	CONTROL BOARD	1.00		1,244.60	1,244.60
CLABOR-HVAC-REG	REGULAR HVACR LABOR	5.00	7/27/2021	120.00	600.00
CMISCX-NON-STOCK ITEM	1/8 BLK STEEL SOLID SQ HEAD PLUG	1.00		0.41	0.41
CMISCX-NON-STOCK ITEM	3/4XCLOSE STD BLK STEEL NIPPLE	1.00		1.37	1.37
CMISCX-NON-STOCK ITEM	34 THRD BRASS GAS BALL VALVE W/ L	1.00		11.71	11.71
CMISCX-NON-STOCK ITEM	1/4 GRIP THRD SEALANT	1.00		15.86	15.86
CLABOR-HVAC-REG	REGULAR HVACR LABOR	5.00	7/14/2021	120.00	600.00



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Pages 2 of 3

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WO: 14549

7/12/2021

Checked in with Mark Anderson, got access to the equipment. Found two boilers, 2 and 4, have defective touchscreens and no error codes or boiler information can be accessed. Tidewater tech will have to take care of it and order new touchscreens. Boiler 1 appeared to work ok and started up then error message popped up "call manufacturer". Will call manufacturer tomorrow and try to figure it out. Checked all components at boiler #3, it goes through all safety preignition checks fine with no issues however it has hard time to ignite. Took ignitor and checked spark, spark is strong, gas is flowing too(had to install external tap so gas pressure can be measured. See attached before/after pics). Measured flame sensor amps, all ok. Will have to continue to troubleshoot another day.

EARL WARE: Site Start - 7/14/2021

While on site for the chiller, I checked the boiler #3 for ignition failure. I checked the signal coming from the flame rod and found it to be ok but the control board was not picking up the signal to allow the boiler to proceed into full ignition. Checked electrical and control circuits for continuity and open circuits, none problems were found, checked grounding of the boiler and found that to be ok. Pulled the burner to insure that burner basket were clean and not obstructing flame pattern around the flame rod, all was good. Swapped the flame rod from another boiler that was working and had the same result of not picking up the flame signal. Determined that the board has be the source of not picking up or amplifying the flame signal. While need to quote and order new board, ignitor and flame rod for this boiler, this work order is incomplete.

EARL WARE: Site Start - 7/27/2021

Picked up parts and returned to site. Proceeded with the removal of the old board and all of the wiring harnesses. Installed new board and harnesses along with new flame rod and ignitor. Powered up the boiler and set the parameters that matched the boilers use and setpoints. Attempted start up and found the boiler continuing to short cycle and lock out on flame signal failure. Research and diagnostics revealed that there is a hidden code that is not in service manuals that cause this same issue due to a faulty high limit switch. I checked the sensors and switched outputs through the display and did see that the high limit was open. The switch itself was closed as it is supposed to be during normal operations. I checked the harness from the high limit back to the board and found that the factory had shifted the wires by one slot over to incorrect connections on the board. I corrected the harness pin connections and restored operations. Once restored, the boiler ran through the start up sequences properly, made adjustments to the gas valve air fuel ratio to provide consistent flame. At this time all operations are ok with boiler number 3. This work order is complete.



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For questions regarding commercial invoices please contact our Accounts Receivables Department at 434-309-2480. Past 30 Days invoices are subject to 1.5% monthly interest charge. Additional charges for payments made by credit card may apply. We accept VISA, Master Card, Discover and American Express. Late payments sent to collections or legal process will also result in additional charges.

Sales Total	2,479.17
Disc.	0.00
Tax Total	0.00
<b>Net Amount Due</b>	<b>\$2,479.17</b>

## CERTIFICATION OF WORK SERVICE CALL

(To be completed by the Contractor and saved in the Contractor's CMMS)

FACID/Building: 80th tr.command Date of Visit: 7/12/21

Contractor Personnel on Site:

1. Mark Anderson 4. \_\_\_\_\_  
2. \_\_\_\_\_ 5. \_\_\_\_\_  
3. \_\_\_\_\_ 6. \_\_\_\_\_

### Service Call Number

CSS# 31551 WO# 14549

### Description of Repairs

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Boilers 2 and 4 have defective touchscreens, cant see any error codes. Tidewater co will replace them.

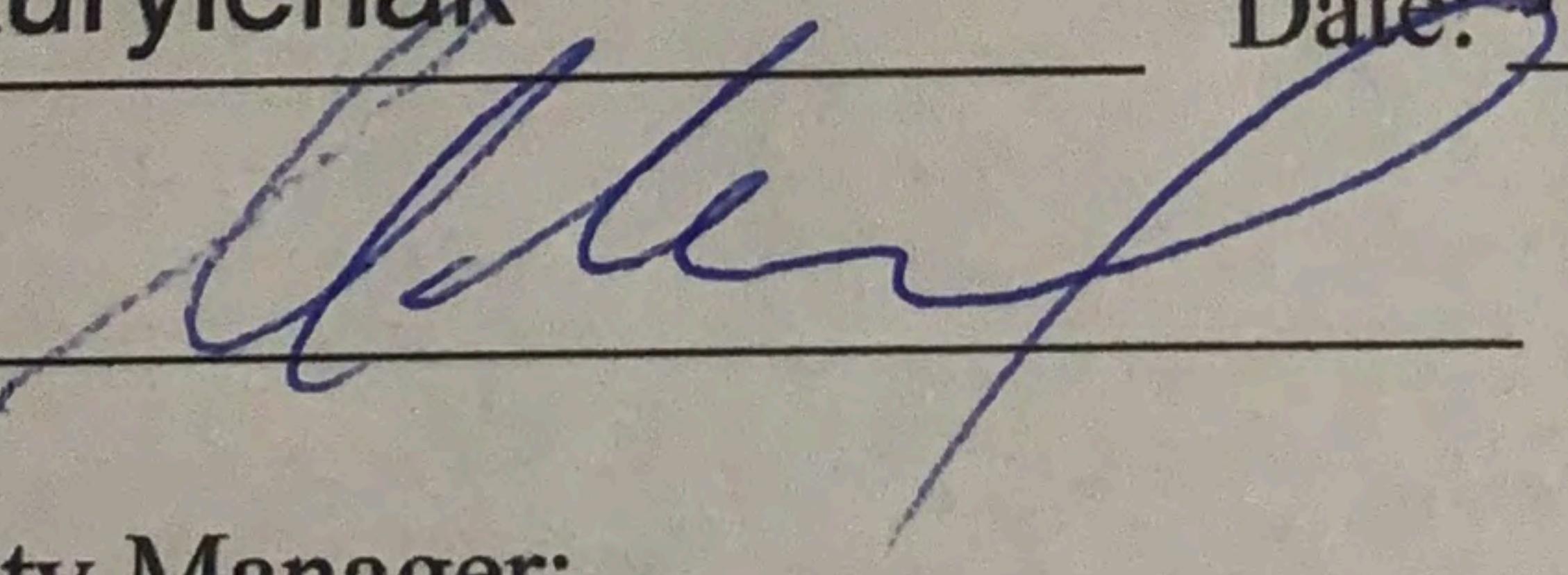
Have to call manufacturer about boiler 1, some issue with modulation.

Boiler 3 runs cant ignite. Checked gas, air, cleaned ignitor and flame sensor but still dont ignite. Will come back.

## CERTIFICATION OF WORK

To be signed by the Contractor:

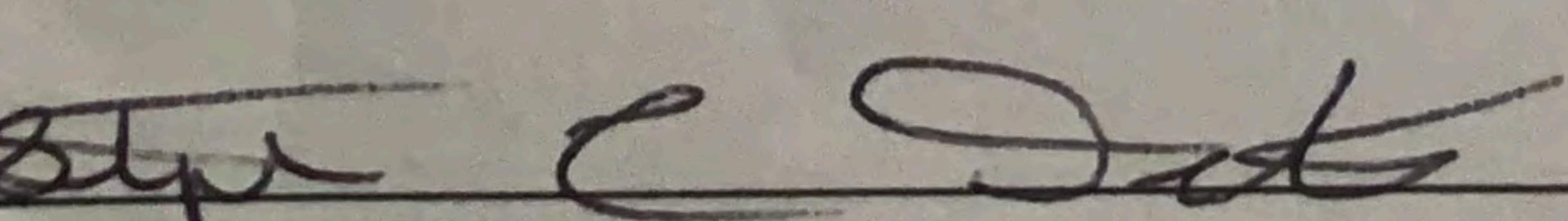
Print Name: Mike Kurylenak Date: 7/12/21

Signed: 

To be signed by Facility Manager:

By signing the Certification of Work, the said government representative signature does not constitute acceptance of any work performed by the contractor, it only acknowledges that the contractor was on-site during the identified timeline:

Print Name/Rank: Stephen C. Detrick MSG Date: 7/12/21

Signed: 

E-Mail: Stephen.c.Detrick.mil@mail.mil





